THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

YONGE STREET REHABILITATION – PHASE 2

EXP PROJECT NO. NTB-24015164-00

TENDER NO. 2025-10-06

OCTOBER 2025

CONSULTING ENGINEERS:

EXP SERVICES INC.
757 Main Street East
North Bay, Ontario
P1B 1C2

Tel: (705) 474-2720

OWNER:

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS
172 Ontario Street
Burk's Falls, Ontario
P0A 1C0

Tel: (705) 382-3138
Fax: (705) 382-2273

I N D E X

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

YONGE STREET REHABILITATION – PHASE 2

TENDER NO. 2025-10-06

Sealed Tenders, properly marked, will be received by The Village of Burk's Falls, 172 Ontario Street, Burk's Falls, ON, P0A 1C0, until **2:00 p.m.** local time on:

Wednesday, December 10, 2025

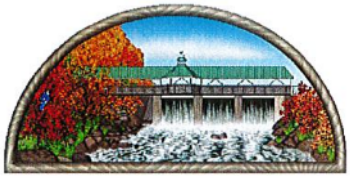
Major items and quantities are as follows:

- 4,420 m^2 of Granular "A"
- 4,420 m^2 of Granular "B" Type II
- 3,710 m^2 of Asphalt Roadway
- 888 m of Asphalt Gutter
- 22 m of Concrete Sidewalk
- 422 m of Storm Sewers
- 488 m of Watermain

Tenders will be opened and read publicly after 2:00 p.m. local time on the above date at the Village office.

The successful Tenderer will be required to provide a 100% Contract Bond upon execution of the Contract Agreement.

The lowest or any Tender will not necessarily be accepted.



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Before submitting your tender, check the following points:

1. Has your tender been signed, sealed, and witnessed?	☐
2. Have you enclosed the Tender Deposit, i.e., Certified Cheque, Bank Draft or Money Order?	☐
3. Have you enclosed the Agreement to Bond, signed and sealed by your proposed Surety?	☐
4. Have you completed all schedules and prices in the Form of Tender?	☐
5. Have you indicated the number of addenda included in the tender price?	☐
6. Have you shown the time for completion of the work? (if applicable)	☐
7. Have you listed the Sub-Contractors (if applicable)?	☐
8. Have you listed your Experience in Similar Work?	☐
9. Have you listed your Senior Staff?	☐
10. Have you listed the Tenderer's plant?	☐
11. Have you included your Traffic Management Plan and Construction Schedule?	☐
12. Are your documents complete?	☐
Your tender will be informal and may be disqualified if ANY of the foregoing points (if applicable) have not been complied with. **ENSURE THAT THE TENDER ENVELOPE IS SEALED AND PROPERLY IDENTIFIED.**	

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

YONGE STREET REHABILITATION – PHASE 2

EXP PROJECT NO. NTB-24015164-00

TENDER NO. 2025-10-06

INSTRUCTIONS TO TENDERERS

CONSULTING ENGINEERS:

EXP SERVICES INC.
757 Main Street East
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P1B 1C2

Tel: (705) 474-2720

OWNER:

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1. Location and Scope of the Work

The Village of Burk's Falls is a single tier Village, located 165 miles north of Toronto on the Highway 11 corridor between Huntsville and North Bay at the junction of Highways 11 and 520 in the District of Parry Sound.

The project involves reviewing the current drawings for the portion of Yonge Street from Centre Street to Yonge Street Bridge. Complete the tender for having the rehabilitation work performed, review the received tenders (pricing and quantities), and be the contract administrator for the project. The work to be rehabilitated will include watermain replacement and services to the curb stop, removals and installation of storm water infrastructure, and removals and installation of asphalt surface of the street.

2. Pre-Tender Meeting, Delivery and Opening of Tenders

A Pre-Tender Meeting is scheduled for **10:00am**, **November 12, 2025.** Please meet at the intersection of Yonge Street and Centre Street where attendance will be taken. A site visit and review of the tender documents / project will follow.

Attendance at the meeting is **mandatory**. Subsequently, failure to attend the Pre-Tender Meeting will result in disqualification of a submitted Tender.

Tenders for the project listed above are to be submitted electronically through MERX or sealed in an envelope, and clearly marked as to contents, and submitted to the Village of Burk's Falls, 172 Ontario Street, Burk's Falls, Ontario, P0A 1C0, until **2:00pm.** local time on:

Wednesday, December 10, 2025

Each Tender will be marked with the date and time of receipt by the Public Works Manager or his authorized representative.

Following the closing time, bids will be opened and reviewed by the engineering consultant and unofficial results will be provided to Bidders by end of day.

3. Request for Information, Omissions and Discrepancies

Should a Tenderer have inquiries, find discrepancies in, or omissions from, the drawings, specifications, or other Tender documents, or should he be in doubt as to their meaning, he should notify EXP, **via email,** not later than eight (8) business days before the closing date for the Tenders. The deadline for such requests shall be **1:00pm, Wednesday, November 26, 2025**.

Any such request must be submitted by **email only** to:

Attention: Codey Munshaw
Email: codey.munshaw@exp.com

Questions or inquiries via phone call will not be answered.

If the Engineer considers that a correction, explanation, or interpretation is necessary or desirable, he will issue a written Addendum to all who have taken out Tender documents. Any requests for information or clarification received by the deadline above will be responded to by **4:00pm, Wednesday, December 3, 2025,** via email.

4. Tendering Requirements

Tenderers are required to conform to the conditions listed below and those failing to do so may be subject to disqualification.

(a) The correct Tender Form, as supplied by the Village must be used and must be in the possession of the Official designated to receive tenders, or his duly authorized representative on or before the Tender Closing Date and Time. *Tenders received after closing time will not be considered.*

(b) The Tender must be legible, written in ink or by typewriter, and *all items must be tendered,* where stipulated, with the unit price for every item and other entries clearly shown. Unit prices shall not include the Harmonized Sales Tax (HST).

(c) Alternative proposals will not be considered unless requested in the tender documents.

(d) The Tender must not be qualified by a statement added to the Tender Form or a covering letter, or alterations to the Tender Forms provided by the Village.

(e) Adjustments by telephone, facsimile, or letter to a Tender already submitted will not be considered. A Tenderer desiring to make adjustments to a Tender must withdraw the Tender and/or supersede it with a later tender submission.

(f) The Tender Form must be signed in the space(s) provided on the form, with the signature of the Tenderer or of a responsible official of the organization tendering. If a joint tender is submitted, it must be signed on behalf of each of the Tenderers and if the signing authority for both Tenderers is vested in one individual he shall sign separately on behalf of each Tenderer. In the case of an incorporated company, the corporate seal must be affixed to the Tender Form.

(g) Erasures, overwriting or strikeouts must be initialed by the person signing on behalf of the organization tendering.

(h) *The Tender shall be accompanied by a tender deposit in the form of a certified cheque, bank draft, money order or bid bond.* It shall be payable to the Village of Burk's Falls for an amount equal to or greater than that specified below and must be enclosed in the same envelope as the Tender.

(i) The Tender Deposit will vary depending on the value of the Tender, and will be in accordance with the following table:

TOTAL TENDER AMOUNT	MIN DEPOSIT REQUIRED
20,000.00 or less	500.00
20,000.01 to 50,000.00	1,000.00
50,000.01 to 100,000.00	2,000.00
100,000.01 to 250,000.00	9,000.00
250,000.01 to 500,000.00	19,000.00
500,000.01 to 1,000,000.00	40,000.00
1,000,000.01 to 2,000,000.00	75,000.00
2,000,000.01 and over	150,000.00

5. Acceptance/Rejection of Tender

Following the public tender opening, the Consulting Engineer will review the Tenders and select one (1) bid to present to their representatives for review and approval.

The Consulting Engineer will then submit a report to the Village with recommendation for the award of the Contract. If the recommendation is to award the Contract and the recommendation is accepted by the Village, the Village will pass a resolution accepting the Tender and will immediately notify the successful Tenderer that their tender has been accepted.

Wherever in a Tender, the amount for any item does not agree with the extension of the estimated quantity and tendered unit price, the unit price shall govern, and the amount and the total tender price shall be corrected accordingly.

The Owner reserves the right in its absolute discretion to accept the tender which deems most advantageous to itself and the right to reject any or all tenders. The lowest quoted price may not necessarily be accepted by the Owner. In determining which tender provides the best value to the Owner, consideration may be given to past performance of the Tenderer. The Owner reserves the right to verify the validity of information submitted in the tender and may reject any tender where the contents appear to be incorrect, inaccurate, or inappropriate in the Owner's estimation. The Owner reserves the right to assess the ability of the Tenderer to perform the contract and may reject any tender where the personnel and/or resources of the Tenderer appear insufficient in the Owner's estimation.

Tenders which are incomplete, conditional, unclear or which contain alterations of any kind or otherwise fail to conform to the instructions to Tenderers, may be rejected. The Owner reserves the right in its sole discretion to reject or retain for consideration tenders which are nonconforming because they do not contain the content or form required by the instructions to Tenderers or fail to comply with the process for submission set out in the instructions to Tenderers.

Changes will not be permitted after the tenders have been opened, unless negotiated by the Owner with the Tenderer. The Owner may modify or cancel the tender process prior to accepting any proposal. Should the Owner not receive any tender which is in its sole and absolute discretion satisfactory, the Owner reserves the right to reissue a request for tenders or negotiate a contract for the whole or any part of the project with any person, including one or more of the Tenderers.

In submitting a tender, the Tenderer agrees that it will not claim damages against the Owner for matters relating to the project, the contract, or the competitive process. In submitting a tender, the Tenderer waives any claim for loss or profits if no agreement is entered into with the Tenderer.

6. Bid Review and Evaluation

Tenders will be evaluated by the criteria outlined below:

Pricing (60 Points): The Contractor's tendered price as submitted in the sealed tender envelope.

Experience and Performance on Projects (20 Points): Previous experience and satisfactory references on similar completed projects. The references provided will be contacted during the evaluation process.

Project Team (15 Points): Proposed supervisory staff, experience and qualifications.

Schedule (5 Points): Contractors will be evaluated on their commitment to meet the project schedule.

Tenders will be evaluated by the Consulting Engineer, who will submit a report to the Village with the total scores of each bidder provided.

7. Disqualification of Bidders

The Owner, in its sole discretion, may exclude a Bidder from eligibility to submit Bids or a submitted Bid may be summarily rejected and returned to a Bidder where one of the following circumstances has occurred:

a) The Bidder is in breach of point of contact instructions.

b) The Bidder has failed to pay an amount owed to the Owner when due and owing.

c) The Bidder is or has been involved in Litigation with the Owner, its elected officials, officers, or employees.

d) There is documented evidence of poor performance, non-performance, or default by the Bidder in respect to any Contract.

e) The Bidder has withdrawn its Bid on a previous Bid Solicitation after Bids have been opened by the Owner.

f) The Bidder or its personnel has demonstrated abusive behavior or threatening conduct towards Owner employees, their agents, or representatives.

g) The Bidder has been convicted of a criminal or quasi-criminal offence including but not limited to fraud or theft; or

h) The Bidder has been convicted of an offence pursuant to the Occupational Health and Safety Act, as amended, where the circumstances of that conviction demonstrate a disregard on the part of the Bidder for the health and safety of its Workers or the public.

8. Disposition of Tender Deposit

Following the checking of the tenders, all tender deposits, other than the successful Tenderer and one alternate Tenderer, will be destroyed unless specifically requested by the Tenderers.

When copies of the executed Contract are returned and found acceptable to the Village, the Tender Deposits of the successful Tenderer and the alternate Tenderer will be returned by Registered Mail.

9. Execution of Contract

Tenders shall be open for acceptance for a period of thirty (30) days after the closing date. After this time the tender may only be accepted with the consent of the successful Tenderer.

The successful Tenderer shall be allowed *ten (10) calendar days* between the date of faxing the notification of acceptance of his Tender and the Form of Agreement, and the date the executed Contract must be returned to the Village.

The blank Form of Agreement bound in the Specimen Forms is for the Tenderer's information only; an original version will be provided to the successful Tenderer for signature.

Pending approval from their representatives, the commencement date for work under this Contract shall be fourteen (14) calendar days after receipt of the Engineer's written order to commence work.

10. Failure by Successful Tenderer to Execute Contract

If the Contract has been awarded and the successful Tenderer fails to sign the Contract within the specified time, the Consulting Engineer may grant additional time to fulfill the necessary requirements or may recommend:

(i) that the Contract shall be awarded to the next alternate Tenderer, or
(ii) that the Contract shall be cancelled.

In the case of (i) or (ii) above, the tender deposit of the successful Tenderer shall be forfeited. If the Contract is to be awarded to the alternate Tenderer, his tender deposit will be retained until he has executed the Contract.

If the alternate Tenderer fails, or declines, to execute the Contract, if awarded to him, his tender deposit shall be forfeited.

11. Bonding Requirements

The successful Tenderer, when notified in writing of the acceptance of his Tender, shall furnish a Contract Bond (100% Performance; 100% Payment) for the proper completion of the Contract and the payment of all creditors, OR 100% of the amount of the tender in cash or certified cheque. In the case of a Contract Bond, the said Bond shall be for 100% of the amount of the tender and must be issued by a Bonding Company satisfactory to the Owner and authorized by law to carry on business in the Province of Ontario. The security shall be maintained in force until the Final Release of Holdback Payment Certificate is issued.

If he intends to provide a Contract Bond, the Tenderer shall include the Agreement to Bond with his tender, using a form similar to that bound in the Form of Tender. In the case of cash or certified cheque, the Tenderer shall provide a letter, stating his intent in accordance with the details above, in lieu of the Agreement to Bond.

12. Omissions, Discrepancies, Interpretations and Addenda

Should a Tenderer find discrepancies in, or omissions from, the drawings, specifications or other tender documents or should he be in doubt as to their meaning, he should notify the Consulting Engineer who may send written instructions to all Tenderers in the form of an Addendum to the Contract.

No oral interpretation shall be made to the Tenderer as to the meaning of any of the tender documents or be effective to modify any of the provisions of the contract documents. Every request for an interpretation shall be made in writing, addressed, and forwarded to the Consulting Engineer.

13. Proof of Ability

In order to aid the Village in determining the responsibility of the Tenderer, the Tenderer shall complete the following statement sheets, which are bound herein.

Statement A -	Summary of Tenderer's Experience in successfully completed works.
Statement B -	Qualification of Tenderer's Senior Supervisory Staff to be employed on this contract.
Statement C -	Traffic Management Plan.
Statement D -	Construction Schedule.
Statement E -	Contractor's Methodology of Construction Plan.
Statement F -	Contractor's Dewatering Plan.

14. Subcontractors

The Tenderer shall provide in the Form of Tender, the name and address of each proposed subcontractor used in making up the tender and shall state the portion of the work allotted to each. Only one subcontractor shall be named for each part of the work sublet. The Contractor shall not be allowed to substitute other subcontractors in place of those named without the written approval of the Engineer.

15. Construction Schedule

The Tenderer shall submit a schedule with his bid indicating how they intend to keep Yonge Street accessible during construction for the duration of the project.

16. Taxes

All unit prices are to exclude the Harmonized Sales Tax. Such tax will be shown as a separate entry on the Schedule of Items and Prices.

17. Acceptance of Tenders

Tenders will only be accepted by bidders that are in compliance with the Village's Purchasing Bylaw (current bylaw as of the date of this tender).

END OF INSTRUCTIONS TO TENDERERS

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

YONGE STREET REHABILITATION – PHASE 2

EXP PROJECT NO. NTB-24015164-00

TENDER NO. 2025-10-06

FORM OF TENDER

CONSULTING ENGINEERS:

EXP SERVICES INC.
757 Main Street East
North Bay, Ontario
P1B 1C2

Tel: (705) 474-2720

OWNER:

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS
172 Ontario Street
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P0A 1C0

Tel: (705) 382-3138
Fax: (705) 382-2273

THE VILLAGE OF BURK'S FALLS
YONGE STREET REHABILITATION – PHASE 2
TENDER NO. 2025-10-06

TENDER BY _____

ADDRESS _____

TEL NO.: _____ FAX NO.: _____

PERSON SIGNING _____

A COMPANY DULY INCORPORATED UNDER THE LAWS OF _____

AND HAVING ITS HEAD OFFICE AT _____

HEREINAFTER CALLED "THE TENDERER".

NOTE: The Tenderer's name and residence must be inserted above and in the case of a firm, the name and residence of each and every member of the firm must be inserted.

TO: The Corporation of the Village of Burk's Falls
172 Ontario Street, Burk's Falls, Ontario, P0A 1C0

I/WE, _____ having carefully examined the locality of the proposed work, and having read, understood and accepted the Provisions, Plans, Specifications and Conditions, Form of Agreement and Addendum/Addenda No. ___ to ___* inclusive, attached hereto, each and all of which forms part of this Tender, hereby offer to furnish all machinery, tools, labour, apparatus, plant and other means of construction, all material to complete the work in strict accordance with the Provisions, Plans, Specifications and Conditions attached hereto, for the sum of (exclude HST):

_____

_____/100 ($_____),
or such other sum as may be ascertained in accordance with the Contract. The aforesaid sum is derived from the Schedule of Items and Prices following.

*The Tenderer shall insert here the number of Addenda received by him during the tendering period and taken into account by him in preparing his tender.

Attached to this Tender is a certified cheque, or other form of security, in the amount specified in the "Information for Tenderers", made payable to the ***Corporation of the Village of Burk's Falls,*** the proceeds of which, upon acceptance of this Tender, shall constitute a deposit which shall be forfeited to the Owner if I/WE fail to file with the Owner the executed Form of Agreement for the performance of the work within ten (10) calendar days from the date of notification of the acceptance of this tender by the Owner.

I/WE hereby agree that notification of acceptance of this Tender shall be in writing and may be sent by prepaid post or by fax, and if sent by prepaid post, acceptance shall be deemed to have been made on the date of the mailing of such notification.

The commencement date for work under this Contract shall be fourteen (14) calendar days after receipt of Engineer's written order to commence work, and to complete the work on or before_____, as set out in the Special Provisions, Liquidated Damages.

The Tenderer agrees that this Tender is subject to a formal contract being prepared and executed.

The Tenderer declares that no person, firm or corporation, other than the Tenderer, has any interest in this Tender or in the proposed contract for which the tender is being made.

The Tenderer declares that this Tender is made without any connection, comparison of figures, or arrangements with or knowledge of, any other person, firm or corporation making a tender for the same work.

The Tenderer agrees that they are not entitled to payment of the Provisional Items except for additional materials supplied and stored or additional work carried out by them in accordance with the Contract and as directed by the Engineer and only to the extent of such additional materials or works.

The "Agreement to Bond" of the _____, a company lawfully doing business in the Province of Ontario, to furnish a Contract Bond in the form bound herein and appended hereto, in an amount equal to 100% of the Contract Price; or a letter agreeing to supply a certified cheque (or cash), if this Tender is accepted, is enclosed herewith.

Herewith is the Consent of Surety of the Tender submitted.

The Tenderer agrees that he will furnish to the Owner copies of all required subcontractor Performance Bonds and Labour and Material Payments Bonds forthwith upon execution of subcontracts with his Owner-Approved subcontractors.

The Tenderer agrees to have all works Completed by the Time of Completion as stated in the Contract Documents.

The "Agreement to Bond" of the _____ (Company), a Company lawfully doing business in the Province of Ontario, to furnish a Performance Bond and a Labour and Material Payments Bond each in an amount equal to 100 percent of the Contract Price, or in such greater amount as may be required by the Contract Documents, if this Tender is accepted, is attached herewith.

A tender deposit in the amount of $_____is attached hereto.

SCHEDULE OF ITEMS AND PRICES

Item No.	Item	Unit	Tender Quantity	Unit Price	Amount
PART A – ROAD AND INFRASTRUCTURE RECONSTRUCTION					
1	Earth Excavation for Roadway	m^3	4,000		
2	Asphalt Removal & Disposal including Saw Cutting	m^2	4,159		
3	Concrete Sidewalk Removal and Disposal	m	22		
4	Catch Basin Removal and Disposal	Ea.	7		
5	Existing Storm Sewer Removal and Disposal	m	295		
6	Existing Watermain Removal and Disposal	m	174		
7	Water Service Removal to Property Line	Ea.	26		
8	Existing 300mm CSP Removal and Disposal	m	5		
9	Existing 450mm CSP Removal and Disposal	m	18		
10	Existing 600mm CSP Removal and Disposal	m	33		
11	Removal and Disposal of Hydrants	Ea.	3		
12	Removal and Disposal of Valves	Ea.	7		
13	Superpave 12.5 or HL4 Surface 50 mm	m^2	3710		
14	Hand Placed Asphalt – Driveways and Spillways Superpave 12.5 Surface 50 mm Thick	m^2	255		
15	Reinstatement of Gravel Driveways and Other Gravel Surfaces (Granular "A" 150mm)	m^2	294		
16	Granular "A" Asphalt Base (150mm Compacted)	m^2	4420		
17	Granular "B" Type II Asphalt Base (600mm Compacted)	m^2	4420		
18	Granular "A" Shouldering (50mm compacted)	m^2	90		
19	Concrete Sidewalk including 150mm Compacted Granular "A"	m	22		
20	Asphalt Gutter Including Ditch Outlets	m	888		
21	150mm Pipe Subdrain including Connection to Existing and new Catch Basins and Storm Manholes	m	883		
22	Connect to Existing Storm Sewer Main or Structure	Ea.	1		
23	Precast 600mm x 600mm Storm Catch Basins	Ea.	7		
24	Precast 1200mm Dia. Storm CB Manhole	Ea.	2		
25	250mm DIA HDPE Storm Sewer including bedding materials	m	10		
26	450mm DIA HDPE Storm Sewer including bedding materials	m	412		
27	150 mm PVC Watermain including bedding materials and tracer wire	m	13		
28	200 mm PVC Watermain including bedding materials and tracer wire	m	475		
29	Water Service Lateral and Connection	Ea.	31		
30	Connect Watermain to existing system	Ea.	4		
31	150 mm Dia. Watermain Valves	Ea.	1		

SCHEDULE OF PROVISIONAL ITEMS AND PRICES

Item No.	Item	Unit	Tender Quantity	Unit Price	Amount
PART A – ROAD AND INFRASTRUCTURE RECONSTRUCTION - CONTINUED					
32	200 mm Dia. Watermain Valves	Ea.	7		
33	Hydrant including 150 mm Dia. Service and Valve	Ea.	3		
34	Watermain Anodes	L.S.	1		
35	Adjust Sanitary Manholes, Storm Manholes and Catch Basins, and Watermain to Finished Grade	Ea.	5		
36	Lawn/Grass Re-Grading	m^2	1753		
37	Topsoil Imported	m^2	1753		
38	Sodding	m^2	1753		
39	Temporary Water Service	L.S.	1		
40	Traffic and Pedestrian Control Management and Signage	L.S.	100%		
41	Dewatering	L.S.	100%		
42	Bonding	L.S.	100%		
43	Mobilization / Demobilization	L.S.	100%		
44	Remove and Re-Instate Traffic Signs	L.S.	1		
45	CCTV of New Sewers	L.S.	100%		

TOTAL PART A:…… ***$_____***

SCHEDULE OF PROVISIONAL ITEMS AND PRICES

Item No.	Item	Unit	Tender Quantity	Unit Price	Amount
	PART B – PROVISIONAL AND ALLOWANCE ITEMS				
46	Compaction Testing	Allow	100%	$10,000.00	
47	Geotextile	m^2	400		
48	Building Condition Survey	L.S.	100%		
49	Environmental Protection	L.S.	100%		
50	Tree Removal	Ea.	2		
51	Hydro-Vac Rental	Hr	10		
52	Contingency	L.S.	100%	$180,000.00	

TOTAL PART B PROVISIONAL:….. ***$_____***

TOTAL PART A (EXCLUDING HST):……	***$_____***
TOTAL PART B PROVISIONAL (EXCLUDING HST):….	***$_____***
TOTAL COMBINED PRICE (EXCLUDING HST):……	***$_____***
HST (13%):……..	***$_____***
TOTAL COMBINED PRICE (INCLUDING HST):……	***$_____***

SUB-CONTRACTOR LIST

Herewith is the list of Subcontractors that will be retained to perform the appropriate work indicated. **No Subcontractor will be changed without written approval from the Owner.**

For the Tenderer's convenience and to ensure that a complete list is submitted with the Tender, a list of possible sub-trades has been printed below. The Tenderer shall make an entry against each possible sub-trade listed either by naming the proposed sub-Contractor or be entering "by own forces", whichever applies. No blank spaces are to be left.

If in addition, the Tenderer proposes to sub-let part of the work which is not listed below, they shall add the sub-trade and the proposed sub-Contractor's name to the list.

Failure by a Tenderer to comply with the foregoing requirements may result in their Tender being disqualified by the Owner.

Section of Work:	**Subcontractor's Name or "Own Forces"**
Asphalt Paving	
Excavation	
Topsoil / Sod	
Sewers & Watermain	

TENDERER'S EQUIPMENT LIST

Herewith is the list of equipment that will be used on the project during the course of the work.
List ALL equipment that will be used and fill in all information.

YR	Equipment	Size	Model	Make	Condition
Example					
2001	Backhoe	1 cu. Yd.	330	John Deere	Overhauled 2006

We, the undersigned, assure the Village of Burk's Falls that all our staff are properly trained, and our equipment is in safe working order and all work done under this Contract will be in strict accordance with all safety standards established by law, industry practice and the terms, conditions and specifications of this Tender document.

_____
Authorized Official

_____
Company

LABOUR AND EQUIPMENT RATES

Herewith is the list of Labour and Equipment Rates:

Labour & Equipment Rates

Additional Labour Requirements:

Foreman		_____
Tradesman:	Instrumentation Technician	_____
	Skilled Labour	_____
	Labourer	_____
	Flag Persons	_____
Heavy Equipment Operators		_____

Additional Equipment Requirements: (list all equipment available to project with hourly and daily rates)

Description	size	price/hr	price/day

STATEMENT "A"
SUMMARY OF TENDERER'S EXPERIENCE
IN SUCCESSFULLY COMPLETED WORKS

Herewith is the list of the Tenderer's experience in similar work which they have successfully completed. A minimum of three (3) references from the past five (5) years are required for each of Civil works and Directional Drilling Works.

Year	Description of Contract	For Whom Work Performed	Value of Contract	Reference Contact Information

STATEMENT "B"
QUALIFICATIONS OF TENDERER'S
SENIOR SUPERVISORY STAFF
TO BE EMPLOYED ON THIS CONTRACT

Herewith is the list of the Tenderer's Senior Supervisory Staff and summary of experience of each.

Name	Appointment	Qualification and Experience

STATEMENT "C"
TRAFFIC MANAGEMENT PLAN

Herewith is the Traffic Management Plan to be provided by the contractor to complete the work. Contractor shall illustrate the Traffic Management Plan with the use of drawing(s), details and descriptions. Additional pages and drawings should be attached in Contractor's submission for evaluation.

STATEMENT "D"
CONSTRUCTION SCHEDULE

Herewith is the Construction Schedule to be provided by the contractor to complete the work. Construction Schedule shall be presented in a **Gantt Chart format**. The Gantt Chart Schedule shall be attached in Contractor's submission for evaluation.

STATEMENT "E"
CONTRACTOR'S METHODOLOGY OF CONSTRUCTION PLAN

Herewith is the Contractor's Methodology of Construction Plan to complete the work. Please provide as a separate document to the Tender Package. The Contractor's Methodology of Construction Plan shall be attached in Contractor's submission for evaluation.

STATEMENT "F"
CONTRACTOR'S DEWATERING PLAN

Herewith is the Contractor's Dewatering Plan to complete the work. Please provide as a separate document to the Tender Package. The Contractor's Dewatering Plan shall be attached in Contractor's submission for evaluation.

Ontario Municipal and Provincial General and Construction Specifications

- OPSS 100 General Conditions of Contract (Municipal Oriented) Nov. 2024

Ontario Municipal and Provincial Standard Specifications

- OPSS 102 Nov.2018 – Weighing of Materials
- OPSS 180 Nov. 2016 – Management of Excess Materials
- OPSS 201 Apr. 2019 – Clearing, Close Cut Clearing, Grubbing and removal of surface and piled Boulders
- OPSS 206 Muni Nov. 2019 – Grading
- OPSS 212 Muni Nov. 2013 - Borrow
- OPSS 310 Nov. 2017 – Hot Mix Asphalt
- OPSS 314 Nov. 2016 – Untreated Granular 'A', Subbase, Base, Surface Shoulder, and Stockpiling.
- OPSS 351 Nov. 2015 – Concrete Sidewalk
- OPSS 353 Nov. 2016 – Concrete Curb and Gutter Systems
- OPSS MUNI 355 Nov. 2014 – Installation of Interlocking Concrete Pavers
- OPSS 401 Nov. 2018 – Trenching, Backfilling and Compacting
- OPSS 402 Nov. 2016 – Excavating, Backfilling, and Compacting for Maintenance Holes, Catch Basins, Ditch Inlets, and Valve Chambers
- OPSS 404 Nov. 2017 – Support Systems
- OPSS 405 Nov. 2017 – Pipe Subdrains
- OPSS 407 Nov. 2015 – Maintenance Holes, Catch Basins, Ditch Inlet, and Valve Chamber Installation
- OPSS 408 Nov. 2015 – Adjusting or Rebuilding Maintenance Holes, Catch Basins, Ditch Inlets, and Valve chambers
- OPSS 409 Nov. 2017 – Closed-Circuit Television Inspection of Pipelines
- OPSS 410 Nov. 2018 – Pipe Sewer Installation in Open Cut
- OPSS 412 Nov 2018 – Sewage Forcemain Installation in Open Cut
- OPSS 441 Nov. 2016 – Watermain Installation in Open Cut
- OPSS 450 Nov. 2018 – Pipeline and Utility Installation in Soil by Horizontal Directional Drilling
- OPSS 490 Nov. 2018 – Site Preparation for Pipelines, Utilities, and Associated Structures
- OPSS 491 Nov. 2017 – Preservation, Protection, and Reconstruction of Existing Facilities
- OPSS 492 Nov. 2018 – Site Restoration Following Installation of Pipelines, Utilities, and Associated Structures
- OPSS 493 Nov. 2015 – Temporary Potable Water Supply Services
- OPSS 501 Nov. 2017 – Compacting
- OPSS 506 Nov. 2017– Dust Suppressants
- OPSS 510 Nov. 2018 – Removal
- OPSS 517 Nov. 2018 – Dewatering for Excavation
- OPSS 518 Apr. 2017 – Control of Water from Dewatering Operations
- OPSS 539 Nov. 2014 – Temporary Protection Systems
- OPSS 703 Apr. 2019 – Permanent Small Signs and Support Systems
- OPSS 706 Apr. 2018– Temporary Traffic Control Devices
- OPSS 710 Nov. 2010 – Pavement Marking
- OPSS 802 Nov. 2010 – Topsoil
- OPSS 803 Nov. 2010 – Sodding

- OPSS 804 Nov. 2014 – Seed and Cover
- OPSS 805 Nov. 2018 – Temporary Erosion and Sediment Control Measures
- OPSS 904 Mun1 Nov. 2012 – Concrete Structures
- OPSS 919 Nov. 2011 – Formwork and Falsework

Current OPSS – All material specification referenced in the above.

Ontario Provincial Standard Drawings (OPSDs)

- OPSD 100.010 Nov. 2010 Rev. 4 – Abbreviations, General A-C
- OPSD 100.011 Nov. 2006 Rev. 1 – Abbreviations, General D-J
- OPSD 100.012 Nov. 2009 Rev. 2 – Abbreviations, General L-R
- OPSD 100.013 Nov. 2009 Rev. 4 – Abbreviations, General S-W
- OPSD 100.050 Nov. 2006 Rev. 1 – Abbreviations, Building Descriptions
- OPSD 100.060 Nov. 2006 Rev. 1 – Abbreviations, Geotechnical
- OPSD 101.010 Nov. 2006 Rev. 1 – Topography Plan Features, Monument Features
- OPSD 101.011 Nov. 2006 Rev. 1 – Topography Plan Features, Ground Features
- OPSD 101.012 Nov. 2006 Rev. 1 – Topography Plan Features, Road Features
- OPSD 101.013 Nov. 2006 Rev. 1 – Topography Plan Features, Barrier and Vegetation Features
- OPSD 101.014 Nov. 2006 Rev. 1 – Topography Plan Features, Utility Features
- OPSD 101.015 Nov. 2006 Rev. 1 – Topography Plan Features, Drainage Features
- OPSD 101.016 Nov. 2006 Rev. 1 – Topography Plan Features, Miscellaneous Features
- OPSD 101.017 Nov. 2008 Rev. 3 – Topography Plan Features, Right-Of-Way Features
- OPSD 102.010 Nov. 2006 Rev. 1 – Removals, Legend
- OPSD 103.010 Nov. 2006 Rev. 1 – New Construction, Legend 1
- OPSD 103.011 Apr. 2008 Rev. 2 – New Construction, Legend 2
- OPSD 200.010 Nov'09 Rev. 2 – Earth/Shale Grading, Undivided Rural
- OPSD 206.010 Nov'09 Rev. 1 – Granular Courses, Undivided Rural
- OPSD 206.050 Nov'08 Rev. 1 – Subdrain Pipe, Connection and Outlet, Rural
- OPSD 210.010 Nov'10 Rev. 1 – Tangent Shoulders, Rural
- OPSD 210.020 Nov'10 Rev. 1 – Super-elevated Shoulders, Rural
- OPSD 216.021 Nov. 2017 Rev. 3 – Subdrain Pipe, Connection and Outlet, Urban
- OPSD 219.110 Nov. 2015 Rev. 2 – Light-Duty Silt Fence Barrier
- OPSD 219.180 Nov. 2015 Rev. 2 – Straw Bale Flow Check Dam
- OPSD 219.240 Nov. 2015 Rev. 2 – Sediment Trap for Dewatering
- OPSD 219.260 Nov. 2015 Rev. 2 – Turbidity Curtain
- OPSD 219.261 Nov. 2015 Rev. 2 – Turbidity Curtain, Seam Detail
- OPSD 310.020 Nov. 2015 Rev. 2 – Concrete Sidewalk, Adjacent to Curb and Gutter
- OPSD 310.030 Nov. 2015 Rev. 1 – Concrete Sidewalk Ramps at Signalized Intersections
- OPSD 310.050 Nov'05 Rev. 1 – Concrete Sidewalk, Driveway Entrance Details
- OPSD 350.010 Nov. 2018 Rev. 2 – Urban Industrial, Commercial, And Apartment Entrances
- OPSD 400.001 Nov. 2018 Rev. 2 – Hoisting Hook Rib for Cast Iron Frames for Catch Basins, Maintenance Holes, and Valve Chambers
- OPSD 400.020 Nov. 2018, Rev. 3 – Cast Iron, Square Frame with Square Flat Grate for Catch Basins, Herring Bone Openings

- OPSD 401.010 Nov. 2018 Rev. 4 – Cast Iron, Square Frame with Circular Closed or Open Cover for Maintenance Holes
- OPSD 405.010 Nov. 2018 Rev. 4 – Maintenance Hole Steps, Hollow
- OPSD 561.010 Nov. 2016 Rev. 2 – Interlocking Concrete Pavers on Granular Base
- OPSD 600.010 Nov. 2012 Rev. 2 – Concrete Barrier Curb with Wide Gutter
- OPSD 600.020 Nov. 2012 Rev. 2 – Concrete Semi-Mountable Curb with Wide Gutter
- OPSD 610.010 Nov. 2018 Rev. 2 – Catch Basin Frame with Grate Installation at Curb and Gutter
- OPSD 701.010 Nov. 2014 Rev. 5 – Precast Concrete Maintenance Hole, 1200 mm Diameter
- OPSD 701.011 Nov. 2014 Rev. 5 – Precast Concrete Maintenance Hole, 1500 mm Diameter
- OPSD 701.012 Nov. 2014 Rev. 5 – Precast Concrete Maintenance Hole, 1800 mm Diameter
- OPSD 701.021 Nov. 2014 Rev. 4 – Maintenance Hole Benching and Pipe Opening Alternatives
- OPSD 701.030 Nov. 2014 Rev. 4 – Precast Concrete Maintenance Hole Components, 1200 mm Diameter, Tapered Top and Flat Cap
- OPSD 701.031 Nov. 2014 Rev. 2 – Precast Concrete Maintenance Hole Components, 1200 mm Diameter, Riser and Monolithic Base
- OPSD 701.040 Nov. 2014 Rev. 4 – Precast Concrete Maintenance Hole Components, 1500 mm Diameter, Transition Cone and Slabs
- OPSD 701.050 Nov. 2014 Rev. 4 – Precast Concrete Maintenance Hole Components, 1800 mm Diameter, Transition Slabs
- OPSD 701.051 Nov. 2014 Rev. 4 – Precast Concrete Maintenance Hole Components, 1800 mm Diameter, Riser and Base Slab
- OPSD 701.100 Nov. 2018 Rev. 3 – Frost Strap Installation
- OPSD 703.011 Nov. 2014 Rev. 2 – Precast Concrete Single Inlet Flat Cap, 1500 mm Diameter
- OPSD 705.010 Nov. 2014 Rev. 3 – Precast Concrete Catch Basin, 600 X 600 mm
- OPSD 705.030 Nov'14 Rev. 3 – Precast Concrete Ditch Inlet, 600 X 600 mm
- OPSD 708.020 Nov. 2016 Rev. 4 – Support for Pipe at Catch Basin or Maintenance Hole
- OPSD 802.010 Nov. 2014 Rev. 3 – Flexible Pipe, Embedment and Backfill, Earth Excavation
- OPSD 802.013 Nov. 2014 Rev. 3 – Flexible Pipe, Embedment and Backfill, Rock Excavation
- OPSD 810.010 Nov'13 Rev. 2 – General Rip-Rap Layout for Sewer and Culvert Outlets
- OPSD 990.110 Nov. 2014 Rev. 1 – Small Sign Support System, Non-Breakaway U-Flange Post System, Installation - Single Post Assembly
- OPSD 1103.010 Nov. 2018 Rev. 3 – Concrete Thrust Blocks for Tees, Plugs, and Horizontal Bends
- OPSD 1109.011 Nov. 2015 Rev. 2 – Cathodic Protection for PVC Watermain Systems
- OPSD 1109.025 Nov. 2015 Rev. 1– Waterproofing of Splices

AGREEMENT TO BOND

Tender No. 2025-10-06

Date _____

Dear Sirs:

Construction of **YONGE STREET REHABILITATION – PHASE 2**

In the **VILLAGE OF BURK'S FALLS**

In consideration of **THE CORPORATION OF THE VILLAGE OF BURK'S FALLS**
(Hereinafter referred to as "The Owner")

accepting the Tender of and executing an Agreement with

_____

_____

(Hereinafter referred to as "The Tenderer")

subject to the express condition that the Owner receive the Performance Bond and the Labour and Material Payment Bond in accordance with the said Tender, we the undersigned hereby agree with the Owner to become bound to the Owner as surety for the Tenderer in a performance bond in the amount of one hundred percent (100%) and a payment bond in an amount equal to one hundred percent (100%) of the Tender Price or in such greater amount as may be determined by the Owner, in the Owner's forms of Performance Bond and Labour and Material Payment Bond and in accordance with the said bonds within 7 days after notification of the acceptance of the said Tender and execution of the said Agreement by the Owner has been mailed to us.

Yours truly,

Note: This Agreement must be executed on behalf of the surety company by its authorized officers under the company's corporate seal. Of the two forms bound herein, one shall become a part of the Tender and the other shall be retained by the surety company.

Enter name and address of surety company.

STATUTORY DECLARATION RE TENDER

Tender No. 2025-10-06

Dominion of Canada)
District of Almaguin Highlands) In the Matter of a Proposed Contract for the Yonge Street Rehabilitation – Phase 2

Province of Ontario)
TO WIT) The Village of Burk's Falls in the Province of Ontario

---

Do Solemnly Swear that the several matters stated in the foregoing Tender are in all respects true.

And _____ make this solemn declaration,

Conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of "The Canada Evidence Act."

DECLARED before me at

_____

_____
Tenderer

of_____

in the District of _____

this_____day of _____2025.

_____
A Commissioner, Etc. (or Notary Public)

Failure by the Tenderer to include the properly completed Statutory Declaration with this Tender may result in the Tender being ruled invalid by the Owner.

FORM OF AGREEMENT

Tender No. 2025-10-06

THIS AGREEMENT made in triplicate this _____day of _____, 2025

BETWEEN

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

(Hereinafter called the "Owner")

OF THE FIRST PART

and

(Hereinafter called the "Contractor")

OF THE SECOND PART

WITNESSETH
That the Owner and Contractor in consideration of the fulfillment of their respective promises and obligations herein set forth covenant and agree with each other as follows:

ARTICLE 1
The project involves reviewing the current drawings for the portion of Yonge Street from Centre Street to Yonge Street Bridge. Complete the tender for having the rehabilitation work performed, review the received tenders (pricing and quantities), and be the contract administrator for the project. The work to be rehabilitated will include watermain replacement and services to the curb stop, removals and installation of storm water infrastructure, and removals and installation of asphalt surface of the street.

ARTICLE 2
In the event that the Tender provides for and contains a Contingency Allowance, Provisional, or like items, it is understood and agreed that the Contractor is not entitled to payment thereof except for extra or additional work carried out by him in accordance with the Contract and only to the extent of such extra or additional work, as authorized by the Engineer in writing.

ARTICLE 3
In case of any inconsistency of conflict between the provisions of this Agreement and the Plans or Specifications or General Conditions or Tender or any other document or writing, the order of precedence shall be in accordance with **"GC 2.02 Order of Precedence"** from the OPSS Municipal 100 General Conditions of Contract.

ARTICLE 4
The Contractor shall not without the consent in writing of the Engineer and without restricting in anyway the provisions of the General Conditions, may any assignment of any part or the whole of any monies due or to become due under the provisions of this Contract.

ARTICLE 5
The Owner covenants with the Contractor that the Contractor having in all respects complied with the provisions of this Contract, will be paid for and in respect of the works the sum of subject to Article 2 hereof, and subject to such additions and deductions as may properly be made under the terms hereof, subject to the provision that the Owner may make payments on account monthly or otherwise as may be provided in the General Conditions attached hereto.

ARTICLE 6
Where any notice, direction or other communication is required to be or may be given or made by one of the parties hereto to the other or to the Engineer or to his agent, it shall be deemed sufficiently given or made if mailed or delivered in writing to such party or the Engineer at the following addresses:

The Engineer	-	EXP Services Inc. 757 Main Street East North Bay, ON, P1B 1C2
The Contractor	-	
The Owner	-	The Village of Burk's Falls 172 Ontario Street Burk's Falls, ON, P0A 1C0

Where any such notice, direction or other communication is given or made to the Engineer, a copy thereof shall likewise be delivered to any agent of the Engineer appointed in accordance with the General Conditions of this Contract and where any such notice, direction or other communication is given or made to such Agent a copy thereof shall likewise be delivered to the Engineer.

ARTICLE 7
A copy of each of the following:

- Addendums (If any)
- Instructions to Tenderers
- Form of Tender
- Form of Agreement
- Performance Bond
- Labour and Material Payment Bond
- Special Provisions
- Special Provisions Specific
- General Conditions OPSS.Muni.100
- Detail Drawings

- Labour Conditions
- Ontario Provincial Standard Drawings and Specifications (not attached)

Is hereto annexed and together with the Plans relating thereto and listed in the Specifications, are made part of this Contract as fully to all intents and purposes as though recited in full herein.

ARTICLE 8
No implied Contract of any kind whatsoever, by or on behalf of the Owner, shall arise or be implied from anything in this Contract contained nor from any position or situation of the parties at any time, it being clearly understood that the express covenants and agreements herein contained made by the Owner shall be the only covenants and agreements upon which any rights against the Owner may be founded.

ARTICLE 9
Time shall be deemed the essence of this Contract.

The date of completion of this contract shall be **October 31, 2026.**

ARTICLE 10
The Contractor declares that in Tendering for the works and in entering into this Contract he has either investigated for himself the character of the work and all local conditions that might affect his Tender or his acceptance of the work, or that not having so investigated, he is willing to assume and does hereby assume all risk of conditions arising or developing in the course of the work which might or could make the work, or any items thereof, more expensive in character, or more onerous to fulfill than was contemplated or known when the Tender was made or the Contract signed.

The Contractor also declares that he did not and does not rely upon information furnished by any methods whatsoever by the Owner or its officers or employees, being aware that any information from such sources was and is approximate and speculative only and was not in any manner warranted or guaranteed by the Owner.

ARTICLE 11
This Contract shall apply to and be binding on the parties hereto and their successors, administrators, executors and assigns and each of them.

IN WITNESS WHEREOF the parties hereto have hereunto set their hands and seals, the day and year first above written or caused their corporate seals to be affixed, attested by the signature of their proper officers, as the case may be.

CONTRACTOR

_____
Business Name

_____
Signature of Contractor

Date of Signing _____

_____
Witness as to Signature of Contractor

COMPANY SEAL

OWNER
THE CORPORATION OF THE
VILLAGE OF BURK'S FALLS

_____
Signature of designated Municipal Officer

Date of Signing _____

PERFORMANCE BOND

Bond No. _____

Amount $_____

KNOW ALL MEN BY THESE PRESENTS, that we

_____

hereinafter called "the Principal"

and

_____

hereinafter called "the Surety",

are jointly and severally held and firmly bound unto

_____

hereinafter called "the Obligee", its successors and assigns, in the sum of

_____

_____ Dollars ($_____)

of the lawful money of Canada, to be paid unto the Obligee, for which payment well and truly to be made, we the Principal and Surety jointly and severally bind ourselves, our and each of our respective heirs, executors, administrators, successors and assigns by these presents.

SIGNED AND SEALED with our respective seals and dated this _____ day of _____, 2025.

WHEREAS by an agreement in writing dated the _____ day of _____, 2025, the Principal has entered into a Contract with the Obligee, hereinafter called "the Contract", for the "Review Yonge Street Rehabilitation Drawings and Contract Administrator in the Village of Burk's Falls" as in the Contract provided, which Contract is by reference herein made a part hereof as fully to all intents and purposes as though recited in full herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that if the Principal shall at all times duly perform and observe the Contract or as the same be changed, altered or varied as hereinafter provided, to the satisfaction of the Obligee and shall at all times fully indemnify and keep indemnified the Obligee from and against all and any manner of loss, damage, expense, suits, actions, claims, liens, proceedings, demands, awards, payments, and liabilities arising out or in any manner based upon or attributed to the Contract and shall fully reimburse and repay the Obligee for all outlay, expense, liabilities, or payments incurred or undertaken to be made by the Obligee pursuant to the Contract, then

his obligation shall be void, but otherwise it shall be and remain in full force and effect.

Provided further and it is hereby agreed and declared that there shall be no liability under this instrument of the Principal and Surety for payment of any claims for labour, material or services used or reasonably required for use in the performance of the Contract.

Provided always and it is hereby agreed and declared that the Obligee and the Principal have the right to change, alter and vary the terms of the Contract and that the Obligee may in its discretion at any time or times take and receive from the Principal any security whatsoever and grant any extension of time thereon or on any liability of the Principal to the Obligee.

Provided further and it is hereby agreed and declared that the Principal and the Surety shall not be discharged or released from liability hereunder and that such liability shall not be in any way affected by any such changes, alterations, or variations, taking or receiving of security, or extension of time, as aforesaid, or by the exercise by the Obligee of any of the rights or powers reserved to it under the Contract or by its forbearance to exercise any such rights or powers, including (but without restricting the generality of the foregoing) any changes in the extent or nature of the works to be constructed, altered, repaired or maintained under the Contract, or by any dealing, transaction, forbearance or forgiveness which may take place between the Principal and the Obligee.

Provided further and it is hereby agreed and declared that the Surety shall not be liable for a greater sum than that specified in this bond.

In Witness Whereof the Principal and the Surety have executed these presents.

SIGNED AND SEALED BY THE PRINCIPAL

In the presence of

_____
Witness

_____
Occupation

_____
Principal

_____
Surety

Address:

LABOUR AND MATERIAL PAYMENT BOND

Amount $_____

KNOW ALL MEN BY THESE PRESENTS, that we

_____

hereinafter called "the Principal",

and

_____

hereinafter called "the Surety",

are jointly and severally held and firmly bound unto

_____

hereinafter called "the Obligee", and its successors, in the sum of

_____

_____ Dollars $_____)

of lawful money of Canada, for the payment of which sum well and truly to be made, we the Principal and Surety jointly and severally bind ourselves, our and each of our respective heirs, executors, administrators and assigns by these presents.

WHEREAS by an agreement in writing dated the _____ day of _____, 2025, the Principal entered into a Contract with the Obligee, hereinafter called "Review Yonge Street Rehabilitation Drawings and Contract Administrator in the Village of Burk's Falls" which Contract is by reference herein made a part hereof as fully to all intents and purposes as though recited in full herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall make payment to all claimants for all labour and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A Claimant for the purpose of this Bond is defined as one having a direct Contract with the Principal for labour, material, or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment, directly applicable to the Contract provided that a person, firm or Corporator who rents equipment to the Principal to be used in the performance of the Contract, under a Contract which provides that all or any part of the rent is to

be applied towards the purchase price thereof shall only be a Claimant to the extent of the prevailing industrial rental value of such equipment for the period during which the equipment was used in the performance of the Contract.

2. The Principal and the Surety hereby jointly and severally agree with the Obligee, as Trustee, that every Claimant who has not been paid as provided for under the terms of his Contract with the Principal, before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labour was done or performed or materials were furnished by such Claimant, may as a beneficiary of the trust herein provided for, sue on this Bond, prosecute the suit to final judgement for such sum or sums as may be justly due to such Claimant under the terms of his Contract with the Principal and have execution thereon. Provided that the Obligee is not obliged to do or take any act, action or proceeding against the Surety on behalf of the Claimants, or any of them, to enforce the provisions of this Bond. If any act, action or proceeding is taken either in the name of the Obligee or by joining the Obligee as a party to such proceeding, then such act, action or proceeding, shall be taken on the understanding and basis that the Claimants, or any of them, who take such act, action or proceeding, shall indemnify and save harmless the Obligee against all costs, charges and expenses or liabilities incurred thereon and any loss of damage resulting to the Obligee by reason thereof. Provided still further that, subject to the foregoing terms and conditions, the Claimants or any of them may use the name of the Obligee to sue on and enforce the provisions of this Bond.

3. No suit or action shall be commenced hereunder by any Claimant:

   (a) Unless such Claimant shall have given written notice within the time limits hereinafter set forth to each of the Principal, the Surety and the Obligee, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail or served in any manner in which legal process may be served in the Province of Ontario, to the Principal and Surety at any place where an office is regularly maintained for the transaction of business by such persons, and to the Obligee.

      (1) In respect of any claim for the amount of any portion thereof required to be held back from the Claimant by the Principal under either the terms of the Claimant's Contract with the Principal or under the Construction Lien Act and amendments thereto applicable to the Claimant's Contract with the Principal, whichever is the greater within one hundred and twenty (120) days after such Claimant should have been paid in full under the Claimants Contract with the Principal.

      (2) In respect of any claim other than for the holdback, or portion thereof, referred to above, within one hundred and twenty (120) days after the date upon which such Claimant did, or performed, the last of the work or labour or furnished the last of the materials for which such claim is made, under the Claimant's Contract with the Principal.

   (b) After the expiration of one year following the date on which the Principal ceased work on the Contract, including work performed under the guarantees provided in the Contract.

(c) Other than in a Court of competent jurisdiction in the Province of Ontario, and the parties hereto agree to submit to the jurisdiction of such Court.

4. The amount of this Bond shall be reduced by, and to the extent of any payment or payments made in good faith, and in accordance with the provisions hereof, inclusive of the payment by the Surety of claims under the Construction Lien Act as amended, whether or not such claims be presented under and against this Bond.

PROVIDED ALWAYS and it is hereby agreed and declared that the Obligee and the Principal have the right to change, alter and vary the terms of the Contract, and that the Obligee may in its discretion at any time or times take and receive from the Principal any security whatsoever and grant any extension of time thereon or on any liability of the Principal to the Obligee.

PROVIDED FURTHER and it is hereby agreed and declared that the Principal and the Surety shall not be discharged or released from liability hereunder and that such liability shall not be in any way affected by any such changes, alterations, or variations, taking or receiving of security, or extension of time, as aforesaid, or by the exercise by the Obligee of any of the rights or powers reserved to it under the Contract or by its forbearance to exercise any such rights or powers, including (but without restricting the generality of the foregoing) any changes in the extent or nature of the works to be constructed, altered, repaired, or maintained under the Contract, or by any dealing, transaction, forbearance or forgiveness which may take place between the Principal and the Obligee.

PROVIDED FURTHER and it is hereby agreed and declared that the Surety shall not be liable for a greater sum than that specified in this Bond.

IN WITNESS WHEREOF the Principal and the Surety have **AFFIXED THEIR SIGNATURES**

AND CORPORATE SEALS this _____ day of _____, 2025.

SIGNED AND SEALED BY THE PRINCIPAL

in the presence of

_____
Witness

_____
Occupation

_____
Principal

_____
Surety

Address:

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

YONGE STREET REHABILITATION – PHASE 2

EXP PROJECT NO. NTB-24015164-00

TENDER NO. 2025-10-06

GENERAL PROVISIONS

CONSULTING ENGINEERS:

EXP SERVICES INC.
757 Main Street East
North Bay, Ontario
P1B 1C2

Tel: (705) 474-2720

OWNER:

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS
172 Ontario Street
Burk's Falls, Ontario
P0A 1C0

Tel: (705) 382-3138
Fax: (705) 382-2273

INDEX

1. REFERENCES

1.1 References - Ontario Provincial Standards

Ontario Provincial Standard Specifications (OPSS), Ontario Provincial Standard Drawings (OPSD), Ministry of Transportation of Ontario (MTO) Drawings and Specifications form part of this Contract.

The text of all OPSS's is contained in the Manual "*Ontario Provincial Standard Specifications*":

- Volume 1 - General and Construction Specifications
- Volume 2 - Material Specifications
- Volume 7 - General Conditions of Contract
- Volume 8 - Material Specifications

1.2 OPS General Conditions of Contract

The information for Tenderers and Special Provisions shall be used in conjunction with the OPSS.MUNI 100 "General Conditions of Contract", dated Nov. 2024, which is included in this document.

2. CONTRACT DOCUMENTS

The Drawings and Specifications governing the work under this Contract shall include the following:

2.1 SPECIFICATIONS (Included)

(1) Instructions to Tenderers
(2) Form of Tender
(3) General Provisions
(4) Item Special Provisions
(5) General Conditions (OPSS)

DRAWINGS (attached)

(6) Design Drawings

2.2 DESIGN DRAWINGS

(1) Cover Page
(2) 100 – GENERAL NOTES
(3) 200 – REMOVALS
(4) 400 – PLAN AND PROFILE 5+200 TO 5+370
(5) 401 – PLAN AND PROFILE 5+370 TO 5+540
(6) 402 – PLAN AND PROFILE 5+540 TO 5+710
(7) 500 – CROSS SECTIONS 5+240 TO 5+420
(8) 501 – CROSS SECTIONS 5+436 TO 5+680

The work to be done under this Contract is shown on the Drawings enumerated in the List of Contract Documents, above.

The Drawings referred to herein are the Contract Drawings and are made part of the Contract. Additional drawings, showing details in accordance with which the work is to be constructed will be furnished from time to time by the Engineer if found necessary and shall then become a part thereto.

The Contractor shall be governed by figured dimensions as given on the Drawings. Where required dimensions are not shown in figures, the Contractor shall obtain such dimensions from the Engineer before proceeding with the construction of the work to which they refer. In every case, detailed drawings shall take precedence over general drawings.

The Contract Drawings and Contract Documentation are in Metric S.I. units wherever applicable. The Contractor shall conduct all his survey and layout work including establishing of grades and keeping of records in metric units only.

3. DEFINITIONS

Wherever the term *Owner(s)* or *Village* or *Corporation* is used, it shall be deemed to refer to the Village of Burk's Falls.

Wherever the term *Engineer* or *Consultant* or *Contract Administrator* is used, it shall mean the appointed Engineer by the Village of Burk's Falls, or their representative.

4. DEFINITION OF CONSTRUCTOR

In order to avoid any misunderstanding as to the nature of the work to be performed herein, the Contractor by executing this Contract, unequivocally acknowledges that it is the Constructor within the meaning of the Occupational Health and Safety Act and the Contractor undertakes to carry out the duties and responsibilities of a constructor with respect to the work.

It is specifically drawn to the attention of the Tenderer that the Occupational Health and Safety Act provides in addition to other matters that,

"A constructor shall ensure, on a project undertaken by the constructor that,

(a) the measures and procedures prescribed by this Act and the regulations are carried out on the project.

(b) every employer and every worker performing work on the project complies with this Act and the regulations.

(c) the health and safety of workers on the project is protected."

5. DECISION OF THE ENGINEER

The decision of the Engineer shall be final in all matters pertaining to this Contract. All instructions relative to this work shall be delivered or relayed to the Contractor through the Engineer.

All work herein specified must be carried out in strict accordance with these specifications to the satisfaction of the Engineer and The Village of Burk's Falls.

6. CONTRACTOR SUPERVISION

The Contractor shall maintain on the site at all times a General Superintendent fully qualified to properly direct any progress of the work including the cooperation of work of sub-contractors.

The Contractor shall nominate the Superintendent in writing. Instructions given to the Superintendent shall be deemed given to the Contractor. The Contractor shall also name an alternate employee to act as the superintendent when the above-named superintendent is absent from the site.

During periods when work on this Contract is not being carried out, the Contractor shall maintain competent watchmen at the site, or as noted otherwise by the Village of Burk's Falls.

The Contractor's attention is drawn to Section GC7 *"Contractor's Responsibility and Control of the Work"* of the General Conditions. Should the Contractor cease operations under no circumstances shall sub-contractors be allowed to continue to work on the site unless an authorized representative of the Contractor is present on the site at all times. The Contractor shall notify the Engineer in writing of the names and positions of the person or persons so representing the Contractor.

7. LAYOUT

The Contractor is responsible for all layout, both horizontally and vertically, unless otherwise stated in the Contract documents.

8. SITE PREPARATION

To restrict access by the public to any and all hazardous areas, the Contractor shall erect and maintain temporary fences to close the site each day after work stoppage and on holidays.

9. PRE-CONDITION SURVEY

Prior to the start of construction, the Contractor shall submit to the Village and Engineer a Pre-Condition Survey completed by a professional third-party firm of all structures including buildings, wells and appurtenances of property adjoining the work. The survey shall include but not be limited to internal and external video and photographic and descriptive records, including water levels in all wells within 300m of the construction limits and existing damage or lack of damage. A video of the contract area and abutting properties is to be completed by the Contractor and submitted to the Village and Engineer prior to construction. Failure to provide a pre-conditional survey prior to the start of construction will result in the contractor taking 100% liability for any and all claims received during or after construction. By submitting a bid for this work, the contractor agrees to these terms and conditions.

10. SITE WORKING CONDITIONS

The Contractor shall ensure that rubbish is kept to a minimum and cleared away daily from the work site. After completion of each segment of work, the Contractor is responsible for leaving the site in a condition acceptable to the Village and the Engineer.

11. CONVENIENCE

The Contractor must provide and properly maintain, in clean condition, suitable and convenient privy or water closet accommodation for all workers.

The Contractor shall prohibit the committing of nuisance on site by forces under his control and any employee found violating such provisions shall be removed from the site immediately.

Throughout the period of the Contract, the Contractor shall provide suitable and adequate toilet facilities for all persons employed on this project subject to approval of type, size and location by the local authorities and the Engineer.

The facilities shall be maintained in proper sanitary condition, frequently disinfected and when directed by the Engineer, shall be removed from the work. Any contaminated soil and materials shall be removed and replaced with fresh clean material and the site left in a clean sanitary condition.

12. APPROVALS AND PERMITS

The construction of the works and all operations connected thereto are subject to the approval, inspection, by-laws and regulations of all municipal, provincial and federal and other authorities having jurisdiction in respect to any matter embraced in this Contract.

Unless otherwise specifically stated in the tender document, the Contractor shall obtain and pay the fees for all approvals and permits required for or in respect of the works.

The Contractor shall obtain all necessary work permits to complete the work.

13. FIRST AID

The Contractor shall provide and maintain on site where construction is being carried out, completely equipped first aid facilities in a clean orderly fashion, which shall be readily accessible at all times to his employees, the Engineer, the Owner, and their staff.

The Contractor shall designate certain employees who are properly instructed to be in charge of first aid. At least one such employee shall always be available on site while work is being carried on. A telephone call list for summoning aid, such as doctors, ambulances, and rescue squads from outside sources shall be conspicuously posted.

14. NOTIFICATIONS

The Contractor shall provide the following:

a) When streets or roadways, parks, and parking lots are to be closed, or traffic restricted, notify the appropriate fire and police departments, emergency services as well as waste collection contractor, giving at least seven (7) days' notice prior to the closing or restriction.

b) If bus routes are affected, notify the bus company, giving at least seven (7) days' notice.

c) When streets or roadways, parks and parking lots are to be re-opened, or restrictions removed, immediately notify the fire, police, emergency services, and bus authorities.

d) Give at least 72 hours' notice, not including weekends or statutory holidays, to affected property owners of interruptions to access to properties adjoining the work or interruptions to garbage collection, and sewer or water services as authorized by the Engineer. The Fire Department shall be informed of the status of fire hydrants and watermains frequently as the project progresses. Hydrants out of service are to be covered with a plastic garbage bag and out of service signage. Arrange interruptions so as to create a minimum interference for those affected.

e) Submit a schedule of expected interruptions for approval and adhere to approved schedule.

f) Give notification of unscheduled shutdowns of Village facilities by whatever means determined by the Engineer to all users of the facilities and pay cost of notification.

15. UNDERGROUND UTILITIES

The approximate location of existing utilities has been shown on the plans according to the best available information to permit the Contractor to prepare his Tender with knowledge of the existence of such utilities along and across the line of the excavations to be made.

No responsibility will be assumed by the Owner or Engineer for the correctness or completeness of the drawings with respect to existing utilities and should the Drawings of such be found to be incorrect or incomplete, the Contractor shall have no claim on that account.

Where necessary, the Contractor shall make necessary exploratory excavations to determine location of existing pipes, conduits, etc. This shall include arranging for utility locates on the site. The Contractor shall make all sub-contractors aware, by written letter, of existing utilities prior to commencing any work on this project by the sub-contractor.

The Contractor shall also be responsible for maintenance of services if any utility or underground works are damaged by his operations. No extra compensation shall be allowed for any delays caused by repairs or maintenance of service to existing utilities or underground works.

16. ROAD AND BUISNESS SIGNS

The Contractor shall carefully remove and replace all signs which must be removed in order to carry out the work. The contractor is to coordinate with the Village and Engineer to verify relocation points.

All legal traffic signs must be maintained. Should they be relocated the local road authority shall review and approve new location.

All cost associated with the removal, protection and relocation of signs shall be deemed to be included in the contract price.

17. TREE PROTECTION

Trees not designated for removal shall be protected by not removing or depositing sediment within the dripline area. When the Contractor is required to work within the dripline of a tree not designated for removal, operation of the equipment shall be kept to the minimum necessary to complete the work.

Equipment shall not be stored, parked, refueled, repaired, nor shall construction materials be stored within the dripline of trees not designated for removal.

18. ENVIRONMENTAL CONSTRAINT

Areas Used for the Management of Excess Materials

It shall be the Contractor's responsibility to dispose of all excess materials in accordance with OPSS 180. The Contractor is responsible for all costs associated with the removal and disposal of excess and waste materials including tipping fees at landfill sites. Waste materials shall be transported to the following disposal sites, at no additional cost to the Owner:

a) Bituminons Pavement - Municipal Landfill site.
b) Earth - Municipal Landfill site.
c) Pipe, damaged manholes, and sewage contaminated soil, from the removal of sanitary sewers, storm sewers and watermains – Municipal Landfill Site.
d) Waste from clearing and grubbing – Municipal Landfill site.

The areas worked by the Contractor shall be trimmed and graded to a neat and satisfactory condition.

The Contractor shall submit, to the Contract Administrator, signed "Permission to Enter" forms for all proposed disposal sites, prior to the placement of any excess material. At the conclusion of the work, he shall submit, to the Contract Administrator, signed "Property Owner's Release" forms.

No separate payment will be made for any of the above work.

Ontario Regulation 406-19: On-Site and Excess Soil Management

It is understood that due to the volume of excavated soil during this project, soil testing and disposal may be required under Ontario Regulation 406-19. It is recommended that the Contractor reuse the excess material on a similar type of infrastructure project, however if this is unachievable then the Contractor will be responsible for testing and disposing of materials as outlined in the above-mentioned regulation.

The Contractor shall satisfy the criteria of Section 3. Subsection (2) that the soil is not designated as waste. If the Contractor is unable to satisfy the above criteria, the Contractor shall incur any and all additional costs pertaining to the aforementioned regulation.

Watercourse/Fisheries Protection-General

At all times, the Contractor's operations shall be controlled so as to prevent the entry of deleterious materials to watercourses. Controls shall include, but not be restricted to, the following:

(a) Erosion and sedimentation control, and protection of environmentally sensitive areas shall be in compliance with requirements that may be specified elsewhere in the Contract.

(b) Watercourses shall not be diverted, or blocked, and temporary watercourse crossings shall not be constructed or utilized, unless otherwise specified in the Contract.

(c) Where the Contract does not require work in watercourses or on watercourse banks, equipment shall not be operated within such areas.

(d) Where the Contract requires work in watercourses or on watercourse banks, such work shall comply with operational constraints specified elsewhere in the Contract.

(e) Construction material, excess material, construction debris, and empty containers shall be stored away from watercourses and watercourse banks.

(f) All equipment maintenance and refueling shall be controlled so as to prevent any discharge of petroleum products. Vehicular maintenance and refueling shall be conducted away from watercourses and watercourse banks.

In the event that the Contract Administrator determines that controls are unacceptable, the Contractor shall cease those operations, as identified by the Contract Administrator, which are causing the entry of deleterious material to watercourses. Such operations shall remain suspended until otherwise directed by the Contract Administrator in writing. This will not require the cessation of work required for such essential operations as continuous concrete pours for structures, unless otherwise directed by the Contract Administrator.

19. EROSION AND SEDIMENT CONTROL

The erosion and sedimentation control items detailed in the Contract address the requirements of regulatory authorities needed to obtain authorizations, permits and/or approvals in order to proceed to construction, and erosion and sedimentation controls not related to contractor construction methods and operations such as final slopes and final ditches.

The Contractor shall, as part of the Contract price, control erosion and sediment caused by their construction methods and operations including but not limited to incomplete earth slopes, ditches and designated disposal areas, stockpiles, access and service roads, storage and work areas, and non-designated disposal areas so as to meet all legislative requirements, to prevent entry of sediments into watercourses and environmentally sensitive areas and to prevent damage to property inside or outside of the right-of-way.

The time interval between commencement and completion of any work that disturbs earth surfaces shall be a maximum of 40 calendar days. Commencement of such work shall be considered to have occurred when the original stabilizing ground cover has been removed,

including grubbing, or has been covered with fill material. Completion of such work shall be considered to have occurred when the cover material (seed and mulch, seed and erosion control blanket, sod, riprap, etc.) has been applied.

Where the timing of the operation results in a conflict with the application requirements of the specified cover, the Contractor shall determine appropriate interim measures that afford temporary protection until such a time as final cover can be applied.

These timing constraints apply regardless of timing of Contract award.

Where interceptor ditches or subsurface drains are specified in the Contract, they shall be constructed before commencement of any related cut or fill.

Run-off from construction materials and any stockpiles shall be contained and discharged so as to prevent entry of sediment to watercourses.

Where dewatering is required, and where culverts are cleaned by hydraulic means, effluent shall be discharged to prevent entry of sediment to watercourses.

Erosion and sedimentation control measures shall not be placed in watercourses unless otherwise specified in the Contract or directed by the Contract Administrator.

A 200m stand-by supply of prefabricated light duty silt fence barrier, in addition to silt fence barrier which may be specified elsewhere in the Contract, shall be maintained at the Contract site prior to commencement of grading operations and throughout the duration of the Contract.

20. OPERATIONAL CONSTRAINTS – SPECIES AT RISK

Special Provision No. 100S14 **(M)** June 2010

Subsection GC.3.07.01, Delays, of the OPS General Conditions of Contract is amended by the addition of the following:

g) The unexpected presence of Species at Risk protected under the federal *Species at Risk Act* or the provincial *Endangered Species Act* that was not specified in the Contract Documents.

Section GC.3.07 is further amended by the addition of the following subsection:

.04 If the Contractor encounters Species at Risk as defined in clause GC 3.07.01 during operations:

a) The Contractor shall be aware of the requirements and prohibitions of the federal *Species at Risk Act, 2002* and the provincial *Endangered Species Act, 2007* for which information is available on the Environmental Canada website and the Ministry of Natural Resources website respectively.

b) The Contractor shall immediately notify the Contract Administrator and suspend operations within the area identified by the Contract Administrator.

c) Work shall remain suspended within that area until otherwise directed by the Contract Administrator in writing, according to subsection GC 7.10, Suspension of Work.

d) Any delay in the completion date of the Contract that is caused by such a cessation of construction operations shall be considered to be beyond the Contractor's control according to paragraph GC 3.07.01.

e) Any increases in the cost of the work to be done that are caused by such a cessation of construction operations shall be considered as a Change in the Work according to paragraph GC 3.10.01.01.

f) Any work directed or authorized in connection with the unexpected presence of Species at Risk shall be considered as Changes in the Work according to clause GC 3.10.01, Changes in the Work.

21. PROVISION FOR TRAFFIC

All traffic control signage shall be installed and maintained in accordance with the requirements of Book 7 of the Ontario Traffic Control Manual.

The Contractor shall provide all necessary flag persons, warning lights, signs and barricades necessary to direct vehicular traffic in, out and around the project site, and shall conduct his operations to cause the least possible interruption to the traveling public on streets and roads.

In the event of the Contractor's operation causing delay and inconvenience to the flow of traffic on roads, the Engineer may restrict the number of trucks driving in and out of the project site during certain hours. The Contractor shall have no claim for additional payment as a result of such restrictions.

Trucks hauling excavated material, cement, sand, stone or other loose materials from or to the site shall have their loads trimmed and their bodies shall be tight in order that no spillage of their loads will occur on roads. Contractors shall be responsible for sweeping all adjacent streets regularly, where dirt, gravel, dust, etc. has accumulated due to the construction work or transportation of construction materials. If directed by the Village or Engineer, additional sweeping shall occur within 24 hours and shall clean roads to the condition before construction begins.

Contractor to pay special considerations to pedestrian traffic due to the urban location of the work.

The Contractor shall prevent dust occurring in the work area and becoming a nuisance to property Owners in the vicinity by applying from time-to-time water when directed by the Engineer and when he deems it necessary.

Should the Contractor be negligent in his duties in maintaining proper cleanliness in the opinion of the Engineer, the Owner will take the necessary steps to perform such cleaning and shall charge the Contractor all costs associated.

It is the Contractor's responsibility to maintain a local access for adjacent properties throughout the work. The Contractor shall supply at his expense, all labour, equipment and material to maintain the road in a satisfactory condition.

The Engineer may, at his discretion, instruct the Contractor to place Granular 'A', calcium chloride, bituminous patching materials, etc. to augment normal maintenance. The cost of the additional maintenance work will be paid at the unit price. Where the Contractor has constructed detours, which are not called for in the unit price Tendered Contract and where labour, equipment and material are required to effect repairs to such detours due to failure of the roadbed, the Contractor shall restore the roadway to the satisfaction of the Engineer, at no extra cost to the Contract 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.

The Contractor is advised that access to adjacent properties is to be maintained for local traffic at all times. At no time shall access to a landowner's property be left inaccessible by vehicles, including emergency vehicles, at the end of a workday. During the evening and weekend periods, the traffic is to be permitted on the roadway, using appropriate signage if a detour is not in place.

Provision for pedestrian movement must be maintained in all areas of the Contract at all times. Contractor to ensure pedestrian access to all businesses affected by the work.

Contractor's Supply of Construction Signs
The Contractor is responsible for the supply, erection, maintenance and subsequent removal of all temporary traffic controls, including signs, lights, barricades, delineators, cones, etc., required on the work.

Traffic controls shall be provided in general accordance with the latest edition of the MTO publication "Ontario Traffic Manual", Book 7.

Traffic Controls should be operational before work affecting traffic begins. All roadside traffic delineators shall have flashing lights attached.

Traffic Control, Flagging
Flagging for traffic control on this Contract shall be in conformance with the procedure outlined in the pamphlet entitled "Correct Methods for Traffic Control" issued by the Construction Safety Association of Ontario. Copies of this pamphlet may be obtained from the Ministry of Transportation and Communications' District Office.

Properly trained flag people shall be used during all aspects of this project. Flag people will be used until properly signed detours are in place.

22. TRAFFIC MANAGEMENT

The Contractor shall provide to the Engineer and Village a traffic management plan as part of their tender submission. The traffic management plan must meet "Ontario Traffic Manual", Book 7, detail with drawings, descriptions, dates, etc. how the traffic will be managed for the full duration of the project. Failure to provide a traffic management plan as part of the tender submission may disqualify the tenderer.

23. SURFACE AND GROUND WATER

The Contractor shall maintain the site of the works free of surface and ground water so that construction may be carried out in the dry.

The disposal of surface and ground water from the works shall be the responsibility of the Contractor and shall be carried out to the satisfaction of the Engineer. The Contractor will not be allowed to discharge water from the work onto private lands.

Where existing ditching of any kind is disturbed during the course of the work, they are to be reinstated by the Contractor to the satisfaction of the Engineer, at the expense of the Contractor. All surface water and ground water collected from the project site and from Contractor's operations must be discharged into the existing drainage system.

The costs for any dewatering works, where required, shall be included in the unit price for dewatering and additional payment will not be made for dewatering works.

24. PROTECTION OF PUBLIC TRAFFIC, WORK AND PROPERTY

The Contractor shall accomplish the work with a cooperative attitude towards other utilities and suppliers, the Village Authorities and other Contractors working in the area.

The Contractor shall continuously maintain adequate protection of all work required by the Contract and all adjacent properties. If damages should occur, the Contractor shall be responsible for all restoration at his expense.

The Contractor shall at all times carry on the work in a manner that will create the least interference with traffic, consistent with the faithful performance of the work. The Contractor shall provide, erect, and maintain all necessary guard rails, barriers, night lights, sidewalk and curb protection as may be necessary or as the by-laws may be required for the protection of the work and for the safety of the public and the employees who may be engaged in the work.

All personnel must be familiar with work area protection as outlined in the "Traffic Control Manual for Roadway Work Operations from the Ministry of Transportation of Ontario (MTO). A field edition must be always available on-site.

Restrictions on Construction Operations
Construction and the use of construction accesses, shoulder closures and the loading and unloading of materials and construction equipment onto and from the traveled portion of the roadway shall not be carried out on Holidays, weekends, or the night hours of 7:00pm and 7:00am daily.

Open Excavations
The Contractor shall schedule the Work so that there will be no open excavation adjacent to a lane carrying traffic overnight and on non-working days except where a traffic barrier designed to restrain errant vehicles is located between the traffic and the excavation. Any open excavation required to remain open shall be properly barricaded and comply with MOL and OH&S Act regulations.

Location and Storage of Materials and Equipment
Materials and equipment shall not be stored within 2m of the travel portion of any roadway.

Notwithstanding the foregoing, the Contractor shall, at the Contractor's expense, remove any vehicle, equipment or material that, in the opinion of the Contract Administrator, constitutes a traffic hazard or obstruction to maintenance operations.

Delivery and Trucking
The Contractor shall plan and schedule the routes of vehicles transporting all materials to, from or within the job, so that vehicular movements are accomplished with minimum interference and interruptions to traffic in accordance with this Special Provision and the General Conditions of the Contract.

Holiday Restrictions
The use of construction accesses, shoulder closures, lane closures, ramp closures, and the loading and unloading of materials and construction equipment onto and from the traveled portion of the roadway shall not be carried out on *all* Canadian Statutory or Civic Holidays.

25. OCCUPATIONAL HEALTH AND SAFETY ACT COMPLIANCE

Special Provision No. 101F21	June 2007

List of Designated Substances
In accordance with the Occupational Health and Safety Act, R.S.O. 1990, c. 0.1, the Contractor is advised of the presence of the following Designated Substances:

Substance (Ontario Regulation Number)	Location
Asbestos on Construction Projects and in Buildings and Repair Operations (O. Reg. 278/05)	Sanitary sewer pipes
Benzene (R.R.O. 1990, Reg. 839)	May be present
Mercury (R.R.O. 1990, Reg. 844)	n/a
Vinyl Chloride (R.R.O. 1990, Reg. 846) Coke Oven Emissions (R.R.O. 1990, Reg. 840) Ethylene Oxide (R.R.O. 1990, Reg. 841) Acrylonitrile (R.R.O. 1990, Reg. 835) Isocyanates (R.R.O. 1990, Reg. 842)	n/a
Silica (R.R.O. 1990, Reg. 845)	See below
Arsenic (R.R.O. 1990, Reg. 836)	See below
Lead (R.R.O. 1990, Reg. 843)	See below

The Contractor is further advised that the Designated Substances silica (Ontario Regulation Number R.R.O. 1990, Reg. 845), lead (R.R.O 1990, Reg. 843) and arsenic (R.R.O. 1990, Reg. 836) are generally present throughout the Working Area, occurring naturally or as a result of vehicle emissions. Exposure to these substances may occur as a result of activities by the Contractor such as sweeping, grinding, crushing, drilling, blasting, cutting, and abrasive blasting.

Safety

1. I, the Contractor**,** acknowledge and agree that I will comply with the Occupational Health and Safety Act and Regulations and any other Act or Acts, and I will be responsible for the compliance therewith of myself and any of my drivers, operators or employees, while working on this agreement.

2. I, the Contractor, acknowledge and agree that I will comply and provide all required information and signed documents as specified within the Village of Burk's Falls Contractor Health and Safety Policy prior to the commencement of work. I will be responsible for the compliance therewith of myself and any of my drivers, operators or employees, while working on this agreement. Policy is attached to the back of the tender document as Schedule "E".

26. NIGHT WORK

No night work (between 7:00 PM and 7:00 AM) shall occur for the entire duration of the Contract.

27. NO OPEN BURNING

Open fires shall not be permitted within the limits of this Contract.

28. MAINTENANCE OF HAUL ROUTES

When aggregate or borrow is being hauled from a source which is not a commercial source or is not licensed under the Aggregate Resources Act by MNR, and where the haul roads are damaged, or require upgrading (ie. Widening for safe two-way traffic), due to the hauling operations, the Contractor shall, when directed by the Contract Administrator, place such material and perform such work on the haul road as is required to provide safe passage and control traffic; and shall on

completion of the hauling operations, place such material and perform such work as ordered by the Contract Administrator to restore the haul roads.

All costs incurred by the Contractor to perform the work outlined above will be deemed to have been included in the total tender price and shall include all labour, equipment and material costs to do the work.

29. CONSTRUCTION STAGING

A Construction Staging Plan must be prepared by the Contractor for submission and discussion at the Pre-Construction Meeting.

30. GUARANTEED MAINTENANCE

The Contractor shall guarantee and maintain the entire work called for under this Contract for a period of twelve (12) months from the date of completion thereof, as shown in the "Acceptance of the Work" form as issued by the Owner or the Engineer.

Notwithstanding the requirements of the Construction Lien Act and Statutory Holdback Release Payment, the 10% holdback will be withheld for sixty (60) calendar days and an additional 2.5% Guaranteed Warranty (maintenance security) holdback will be withheld from the date of publication of the Certificate of Substantial Performance. The Contractor is to provide proof of publication of a Certificate of Substantial Performance to the Engineer.

The Contractor shall make good in a permanent manner, satisfactory to the Owner, any imperfections due to the materials or workmanship used in the construction and any damage caused by such imperfections. The Contractor shall commence repairs on any work identified as defective under this clause within 48 hours of receipt of notice from the Owner or the Engineer.

The decision of the Owner and the Engineer shall be final as to the necessity for repairs or for any work to be done under this section.

The Engineer may, in cases of danger or public safety, make such immediate arrangements for repair as he sees fit, and the Engineer will inform the Contractor of such action. The cost of such emergency work shall be borne by the Contractor.

The Village, the Engineer, or their representatives reserve the right to reject any restoration works that are not completed to their satisfaction in restoring the disturbed areas to existing or similar conditions. The Contractor shall promptly correct any works which are rejected, at no additional cost to this Contract, which may include applying additional surface treatments or removing and replacing the restoration works.

In the event the Contractor does not correct the job to the complete satisfaction of the Village and the Engineer, the Village or the Engineer may deduct from the Tender Price an amount equal to the difference in value between the job as performed and the job as called for by the Contract.

31. COMPLETION AND HOLDBACK PAYMENT

For the purposes of this contract, the term "Acceptance of the Work" (form) shall have the same meaning as "Completion Certificate".

After the expiration of sixty (60) calendar days from the date of publication of the Certificate of Substantial Performance, the Owner, subject to Clause GC8.02.03.05 of the General Conditions of Contract, shall pay to the Contractor 97.5% of the Engineer's estimate of the total value of the work completed, less all amounts previously paid to the Contractor.

32. CONTRACTOR RESPONSIBILITY FOR DUST SUPPRESSION AND WATER FOR COMPACTION

OPSS 506 Construction Specification for Dust Suppressants (November 2011) and 501 Construction Specification for Compacting (November 2010) are modified by the following:

Dust Suppression

In accordance with Clause GC 7.06.01 of the General Conditions of Contract, the Contractor shall take such steps as may be necessary to prevent dust nuisance resulting from his operation either within the right-of-way or elsewhere or by public traffic where it is the Contractor's responsibility to maintain a road through the work.

Where the work requires the sawing of asphalt or the sawing or grinding of concrete, blades and grinders of the wet type shall be used together with sufficient water to prevent the incidence of dust wherever dust would affect traffic or wherever dust would be a nuisance to residents of the area where the work is being carried out.

Water, calcium chloride flake or calcium chloride solution may be used for dust suppression and shall conform to OPSS 506.

Water for Compaction

Water shall be used for compaction and shall conform to OPSS 501.

33. SOIL COMPACTION

The Contractor is to retain the services of a third-party consultant to perform materials testing. All locations where tests do not meet the required specifications shall be re-compacted or re-excavated at the contractor's expense. Existing sub-base material to be compacted to 95% of the material's SPMDD, while pipe bedding and road base materials is to be compacted to 98% of the material's SPMDD. Refer to the attached geotechnical report for more information.

Prior to the start of construction, the Contractor is to provide Proctor testing and results, at his cost, to the Engineer for all material intended to be used for this project. The Contractor is to cooperate with the individual doing the compaction testing at all times.

34. GEOTECHNICAL INFORMATION

The geotechnical information provided was obtained for preparation of the design of the project and is provided for general information only. The information identifies the sub-surface conditions where the boreholes are located only. The contractor shall examine the site to satisfy themselves as to the adequacy of the information for construction purposes.

35. CONSTRUCTION NOISE CONSTRAINTS

Noise Sensitive Areas

This special provision covers the requirements for control of construction noise produced by the Contractor's operations. With the exception of any exemptions from municipal noise control bylaws that may be indicated elsewhere in the Contract, these requirements do not relieve the Contractor of other obligations imposed by statute or by municipal bylaw. Noise constraints in noise sensitive areas are as follows:

Noise Sensitive Area Limits	
Contract Limits	
Constraint	Constraint Details
Equipment Maintenance	Equipment shall be maintained in an operating condition that prevents unnecessary noise, including but not limited to non-defective muffler systems, properly secured components, and the lubrication of moving parts.

36. IDENTIFICATION OF LOCAL REGULATORY AUTHORITIES

The following is provided for information only to facilitate contact with and notification to regulatory authorities as specified in the Contract Documents**:**

Regulatory Authority	**Notification Requirement**
MOECC: Spills Action Centre (SAC) 1-800-268-6060	For notification of a spill to the environment under the Environmental Protection Act
Village: Corporation of the Village of Burk's Falls 172 Ontario Street Burk's Falls, ON, P0A 1C0	For notification of a spill to the environment under the Environmental Protection Act
MECP: North Bay Office 191 Booth Road, Units 16 & 17 North Bay, ON, P1A 4K3	For Waste Management Approval under the Environmental Protection Act
MNRF: North Bay District (705) 475-5550	For notification of the release of a deleterious substance to a watercourse under the Fisheries Act
DFO: District Office Sault Ste Marie (705) 942-2848	For notification of the release of a deleterious substance to a watercourse under the Fisheries Act
Local Police: OPP 911 1-888-310-1122	For notification of a Dangerous Occurrence involving dangerous goods under the Transportation of Dangerous Goods Act

37. ADMINISTRATION OF AGGREGATE SOURCES INCLUDING EARTH AND ROCK BORROW

INFORMATION TO BIDDERS REGARDING AGGREGATE SOURCES

Special Provision No. 110F14(M)	May 2009

General

The Contractor must demonstrate the suitability of aggregate in accordance with the appropriate special provision(s) contained elsewhere in this contract.

For inquiries related to a specific commercial and/or private source, Contractors may visit the Aggregate Unit of the appropriate Regional Geotechnical Section by appointment to access available Mineral Aggregate Inventory Data Bank (MAIDB) information, provided they have written consent from the source owner.

Regional Geotechnical Section offices are located in:

Toronto:	Tel. (416) 235-5428 / Fax. (416) 235-3999.
London:	Tel. (519) 873-4400 / Fax. (519) 873-4403.
Kingston:	Tel. (613) 545-4794 / Fax. (613) 547-1760.
North Bay:	Tel. (705) 497-5478 / Fax. (705) 497-5499.
Thunder Bay:	Tel. (807) 473-2090 / Fax. (807) 473-2168.

For enquiries related to Crown sources or sources under permit to MTO, Contractors may visit the appropriate Regional Geotechnical Section by appointment to access available MAIDB information. Access to the information in MAIDB is provided for the convenience of the Contractor only. Since MAIDB information is dated and subject to interpretation, the information is not guaranteed. This is because of revisions to aggregate specifications and inherent source variability.

Earth Borrow, Rock Supply, Granular Base, and Conventional Hot Mix Aggregates

This contract does not include an Aggregate Sources List (ASL) for earth borrow, rock supply, granular base, and conventional hot mix aggregates. For information regarding commercial sources, Contractors may refer to the following sources of information:

i) Commercial Aggregate and Membership Directory, available through Ontario Stone, Sand & Gravel Association (OSSGA).
ii) Aggregate License/Permit List, available through the Ministry of Natural Resources (MNR).
iii) Aggregate Resources Inventory Papers (ARIPs), available through the Ministry of Northern Development and Mines (MNDM).

38. NOTICE TO UTILITY OWNERS

When work on the Contract is to be carried out in the vicinity of gas pipelines, watermains, sewers, telephone, electric power lines, and other works or structures connected with these utilities the Contractor shall, before commencing work, and except in those cases which, in the opinion of the Engineer, are emergencies, give the Owner of the said utilities not less than 48 hours' notice in writing, with a copy to the Engineer.

In the event of an emergency, the Contractor shall advise the utility Owner verbally, but at the earliest opportunity such verbal notice shall be confirmed in writing with a copy to the Engineer.

39. PROTECTION OF UTILITY LINES

Before commencing work in the areas of the Contract, the Contractor shall notify all Utility Companies, of his methods of treatment with regard to utilities and shall have the Utility Companies locate any existing utilities in that area. From this information, the Contractor shall, at his own expense, sustain in their places and protect from direct or indirect injury, except as specified otherwise, any and all poles and posts, overhead wires, watermains, sewers and conduits, cables and all structures or property in the vicinity of his work whether above ground or underground.

The Contractor shall assume all risks and be responsible for all expense, damages and claims, etc., attending the presence or proximity of any water pipes, sewers, electric power and telephone conduits and wires and all other underground, surface or overhead structures which cross, or appear in the trench, tunnel or other excavations or any part of the work or are parallel with or adjacent to, but outside of, the said work.

The Contractor shall protect all utility poles and lines in accordance with the Utility providers requirements and payment for protection, temporary bracing / support, standby and associated work shall be deemed to be included in the contract price.

The Contractor shall be responsible for the protection of all Utilities, fences and private property at the job site during the time of construction.

The Contractor has the responsibility for the prevention of damage to property, 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 work or other requirements. Furthermore, the fact that the Engineer does order precautionary measures, protective work or other requirements shall not relieve the Contractor from any of his responsibilities under this Contract.

The respective utility owner will be responsible for the relocation of their utility where and if required.

However, no claims will be considered which are based on delays or inconvenience resulting from the relocation not being completed before the start of this Contract.

The Contractor will not receive any payments for coordinating utility relocations.

40. CONCRETE AGGREGATE SOURCE LIST

Aggregate Sources List for Concrete in the Vicinity:

a) Those Aggregate sources that have been accepted by the Authority for use in concrete are listed on the Ministry of Transportation of Ontario "Aggregate Sources List for Concrete".

b) The Authority may accept sources that are not shown on this list after they meet the appropriate physical and alkali re-activity requirements of OPSS Forms 1000 and 1002.

41. VALVE OPERATION

The Contractor must contact the Village's Public Works Department in advance of operating any valves. No valves shall be operated without permission from the Public Works Department.

42. OPERATIONAL CONSTRAINT – COMMERCIAL AND INSTATUTIONAL ESTABLISHMENTS

The Contractor shall schedule work so that access to all commercial and institutional establishments by the public is continuously maintained during operating hours.

43. SURVEY MONUMENTS

The Contractor shall protect and preserve Standard Iron Bars during the course of construction and any bars removed or bent, which is attributable to the Contractor's operations must be replaced by an Ontario Land Surveyor and the cost of such replacement borne by the Contractor.

44. WORK ON PRIVATE PROPERTY

In some locations, the Contractor may be required to work on private property. It shall be the Contractor's responsibility to ensure that all private property is restored to pre-construction conditions, and to obtain a property owner's release from each affected owner.

The Contractor shall not enter upon or occupy with men, equipment or materials of any nature or store any material on any private property unless he has obtained consent from the property Owner and a copy of such consent has been furnished to the Engineer.

In the event the Contractor wishes to use the facilities of a property Owner, including water supply or power, a form signed and dated by the Contractor and the landowner must be provided to the Engineer prior to use of the facilities by the Contractor. This form must specify the time frame (i.e. from <date> to <date>) for the use of the facilities.

45. POWER AND WATER

The Contractor shall make their own arrangements for the supply of power and water required for construction and maintenance purposes and such costs shall be deemed to be included in the Total Tender Price for the work.

46. AMENDMENTS TO GENERAL CONDITIONS OF CONTRACT

The Ontario Provincial Standards (OPS) General Conditions of Contract, November 2006, are modified as follows:

SECTION GC1 - INTERPRETATION

GC1.04 Definitions

The definition of "Subcontractor" in subsection GC1.04 is deleted and replaced with the following:

"Subcontractor" means a person, firm or corporation undertaking the execution of a part of the Work by virtue of an agreement with the Contractor which has been approved by the Owner; and for the sole purpose of administering section 33, Holdback, of the Construction Lien Act, means a person, firm or corporation undertaking the execution of one or more complete tender items identified in the Contract Documents by virtue of an agreement with the Contractor which has been approved by the Owner.

Subsection GC1.04 is amended by the addition of the following:

"Aggregate" means gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, or rock other than metallic ores, slag and clinkers.

"Commercial Source" means a place where Aggregate or a product containing Aggregate, is made available for sale.

"Delineator" means a TC-52 construction marker, or TC-54 flexible drum as described in the Ontario Traffic Manual.

Section GC1 is modified by the addition of the following:

GC1.09 Liens

01) A lien is preserved when the claimant has given the Owner a copy of the claim for lien together with the affidavit of verification within the time frame detailed in Section 34 of the Construction Lien Act.

02) A preserved lien is perfected when the claimant commences an action in the courts to enforce the lien prior to the end of the period specified in Section 36 of the Construction Lien Act.

SECTION GC3 - ADMINISTRATION OF THE CONTRACT

GC3.09 Subcontracting by the Contractor

Paragraph 01) of subsection GC3.09 is deleted and replaced by the following:

The Contractor may subcontract any portion of the Work, but the total of all sublets shall not exceed 60% of the total tender value without the written consent of the Contract Administrator, subject to these general conditions and any limitations established by the Owner.

SECTION GC7 - CONTRACTOR'S RESPONSIBILITIES AND CONTROL OF THE WORK

GC7.02 Layout

Subsection GC7.02, Layout, is amended by the addition of the following:

09) The Contract Administrator will provide Typical Sections to establish the grading cross-sections. These documents contain all necessary information relating to lateral distance and elevation for the construction of the Work. During the progress of the work the Contractor shall notify the Contract Administrator forthwith of any errors, omissions or inconsistencies in the geometric information and the controls provided by the Owner.

10) The Contractor shall advise the Contract Administrator of the intended layout schedule weekly by identifying the survey activities planned for the following week, including any miscellaneous surveying items.

11) For the grading layout, stakes 25 x 50 x 600 mm, minimum, shall be installed left and right of centreline at or near the right-of-way limits and in the areas where additional staking is required, such as intersections, bridges, and on horizontal and vertical curves. Staking intervals shall be as specified under the Layout Interval tables. The only data to be shown on these stakes shall consist of profile grade, off-set distance from centreline, and the station location. The Contractor shall erect butterfly rods or batter boards at grade stake locations.

12) The Contractor shall notify the Contract Administrator when the Subgrade is completed. A Subgrade and granular base cross-section, three-point section minimum, will be obtained by the Contract Administrator and the grade accepted if construction is within

the allowable tolerances. No granular material shall be placed until the Subgrade is accepted.

TABLE #1
LAYOUT INTERVALS AND MEASUREMENT ACCURACY
FOR CONSTRUCTION SURVEY – LAYOUT

ACTIVITY	INTERVAL	MEASUREMENT ACCURACY	REMARKS
Layout Rock Earth	 10 m 25 m		With the exception of plus sections, layout is normally at the same interval as the cross sections/grade calculations. This may be varied when extreme changes in horizontal and vertical alignment are encountered.
Maximum for setting structure footing grades	10 m		
Structure grades to be set to		1 mm	
Adjustment to slope stake distances to allow for grubbing losses		300 mm	
Set grades for earth grading to the nearest		10 mm	
Set grades for granular to the nearest		5 mm	
Layout stake offset for curb and gutter			2 m but may be varied to suit conditions
Stake layout for curb and gutter	10 m		May be necessary to reduce for very sharp curves
Set curb and gutter grades to the nearest		1 mm	
Staking maximum for layout of a radius (intersections)	3 m		
Layout stake offset for concrete pavement			2 m offset
Concrete pavement grades to be set to		1 mm	

TABLE #2
LAYOUT INTERVALS AND MEASUREMENT ACCURACY
FOR CONSTRUCTION SURVEY - CROSS SECTIONS

ACTIVITY	INTERVAL	MEASUREMENT ACCURACY	REMARKS
CROSS SECTIONS Back sight and foresight readings to be taken to the nearest		1 mm	
Maximum allowable error between adjacent Benchmarks		5 mm	
Intermediate road readings to be taken to the nearest		10 mm	
earth cut	25 m		
rock cut	10 m		
rock cut with overburden	10 m		
muskeg excavation	25 m		
fills with stripping, sub-excavation or ditching	25 m		
transition from cut to fill	25 m		
fills	25 m		
earth or rock fills	25 m		
borrow pits	25 m		
Maximum transverse interval for cross-section elevations			
earth	25 m		
rock	10 m		
borrow	25 m		
Offset distances to be measured to the closest		100 mm	

GC7.05 Excess Loading of Motor Vehicles

Subsection GC7.05 is amended by the addition of the following:

02) Vehicles hauling materials for use in the Work shall be accompanied by a "Record of Allowable Gross Weight" certificate, Form SR-E-121. The legal limit will be the vehicle's registered gross weight or the allowable gross weight, whichever is less. The Contractor shall ensure that a copy of the "Record of Allowable Gross Weight" form is left with the weigh person for the Owner's use.

GC7.12 Notices by the Contractor

Subsection GC7.12 is amended by the addition of the following:

GC7.12.03 Incident Management Under Legislation Protecting the Environment and Natural Resources

GC7.12.03.01 References:

Environmental Protection Act, RSO 1990
Fisheries Act, RSC 1985
Gasoline Handling Act, RSO 1990
Ontario Pesticides Act, RSO 1990
Ontario Water Resources Act, RSO 1990
Transportation of Dangerous Goods Act, RSC 1992

GC7.12.03.02 Definitions:

Incident: means an event such as a spill, discharge, emission, release or escape of a material, pollutant, contaminant, deleterious substance or dangerous good as defined in the legislation referenced above.

(Note: Allowable emissions or escapes as specified elsewhere in the Contract, are not included in the definition of an incident.)

GC7.12.03.03 Contractor's Responsibilities:

The Contractor shall be in strict compliance with the requirements of the referenced legislation regarding incidents under the control of the Contractor or that are a result of the Contractor's operations.

The requirements include, but are not restricted, to:

a) immediate containment of the material, pollutant, contaminant, deleterious substance or dangerous good.
b) immediate notification of the incident to the proper authority.
c) clean-up and restoration of the environment to pre-incident conditions.

The Contractor shall also be responsible for informing the Contract Administrator forthwith of:

a) an incident when it occurs.
b) any actions taken or intended to be taken by the Contractor regarding the incident.

GC7.12.03.04 Submission Requirements:

Within 48 hours of an incident, the Contractor shall provide a completed Incident Notification Form, included in this special provision, to the Contract Administrator.

GC7.12.03.05 Indemnification:

The Contractor shall indemnify and save the Owner harmless from any additional expense that the Owner may incur to have the Work performed as a result of the Contractor's failure to comply with the requirements of the legislation.

INCIDENT NOTIFICATION FORM

Roadway: Contract No. _____

Location of Contract:

Contractor:

Contract Administrator:

Incident Description

Date/Time of Incident:

Description of the Incident (what happened):

Immediate Actions Taken:

Notification

Date/Time of Notification:

Authority(ies) Notified:

Incident/Spill Report No. (if issued by notified Authority):

Remediation and Restoration

Actions taken or to be taken to remediate and restore the environment:

SECTION GC8 MEASUREMENT AND PAYMENT

GC8.01.02 Variations in Tender Quantities

The last paragraph of clause GC8.01.02 is deleted in its entirety and replaced by the following:

Written requests for unit price revision must be received no later than 30 days after final acceptance of the Work.

GC8.02.03 Certification and Payment

GC8.02.03.07 Completion Payment and Statutory Holdback Release Payment Certificates

The first sentence of paragraph 03) of Clause GC8.02.03.07 is amended to read as follows:

"The Completion Statutory Holdback Release Payment Certificate will be a payment certificate releasing to the Contractor the further statutory holdback, less any maintenance holdback".

47. PARTICIPATION IN THE ANNUAL LABORATORY CORRELATION PROGRAM

Annual Laboratory Correlation Program

Laboratories performing testing for quality control purposes shall participate in the MTO's annual Ministry of Laboratory Correlation Program for the appropriate material(s). There will be no compensation for this participation.

48. AMENDMENTS TO OPSS 401

Clause 401.05 is amended by the addition of the following:

Bedding material shall be Granular 'A'.

Cover Material shall be Granular 'B', Type I, with 100% passing the 26.5 mm sieve.

Backfill in Earth

The trench shall be backfilled with select native material, and shall contain no rock, stones, or boulders larger than 200 mm in its greatest diameter and shall be free from all perishable or objectionable material which would prevent proper consolidation, or which might cause future settlement. The native material shall be replaced in the same order as it was removed and placed in 300 mm layers, mechanically compacted to 95% of the maximum density.

49. AMENDMENT TO OPSS 501, APRIL 2013

Special Provision No. 105S21	May 2013

Water Requirements and Quality Control for Compaction - Method B

501.05 MATERIALS

501.05.02 Water

Subsection 501.05.02 of OPSS 501 is deleted in its entirety and replaced with the following:

Water shall be free of contaminants that could adversely affect fill material or the environment.

501.07.04 Quality Control

501.07.04.01 General

Clause 501.07.04.01 of OPSS 501 is amended by deleting the second paragraph and replacing it with the following:

Two methods for conducting QC for compaction are referred to as Method A and Method B. Method B shall be used.

50. LIQUIDATED DAMAGES

Fixed Completion Date and Charges

1. Time

Time shall be the essence of this Contract.

2. Progress of the Work and Time for Completion

The Contractor shall complete this Contract by ***October 31, 2026***

If the time limit above specified 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 time limit specified. Any additional costs occasioned by compliance with these provisions will be considered to be included in the prices bid for the various items of work and no additional compensation will be allowed, therefore.

3. Liquidated Damages

It is agreed by the parties to the Contract that in case all the Work called for under Part A or Part B of the Contract is not finished or completed within the date(s) of completion specified aforementioned or as extended in accordance with subsection GC3.06, Extension of Contract Time, of OPS General Conditions of Contract, November 2006, a loss or damage will be sustained by the Owner. Since it is and will be impracticable and extremely difficult to ascertain and determine the actual loss or damage which the Owner will suffer in the event of and by reason of such delay, the parties hereto agree that the Contractor will pay to the Owner the sum of **$1,500.00** as liquidated damages for each and every calendar days delay in finishing the work beyond the date of completion prescribed. It is agreed that this amount is an estimate of the actual loss or damage to the Owner that will accrue during the period in excess of the prescribed date of completion.

51. ONTARIO PROVINCIAL STANDARDS

For all references to Ontario Provincial Standards in this contract, where both municipal and provincial versions exist, the municipal version shall apply.

52. OTHER CONTRACTORS WITHIN OR ADJACENT TO THE LIMITS OF THE CONTRACT

Other work may be in progress within or adjacent to the limits of this contract.
The Contractor shall coordinate the work with other Contractors within and/or adjacent to the project limits to ensure that they do not perform work in the same area at the same time, or adversely affect each other's work. The Contractor shall ensure that a minimum separation of 100m is maintained between the operation included in this contract and work within and/or adjacent to this project done by others.

The Contractor shall provide a written submission to the Consultant explaining how the work with other Contractors will be coordinated.

53. PROJECT MEETINGS

Construction Organization and Start-up

Within fifteen (15) days after award of Contract or as directed by the Owner, a construction pre-start meeting of parties in contract to discuss and resolve administrative procedures and responsibilities shall take place.

Senior representatives of the Owner, Consultant, Contractor, major Subcontractors, field inspectors and supervisors are to be in attendance.

Establish time and location of meeting and notify parties concerned a minimum of five (5) days before meeting.

The meeting Agenda shall include the following:

- Appointment of official representative of participants in Work.
- Review of Schedule of Work, progress scheduling as specified within this contract.
- Schedule of submission of shop drawings, if required
- Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences as specified within this contract.
- Delivery schedule of specified.
- Site safety as specified in Health and Safety Act.
- Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
- Owner-furnished Products.
- Take-over procedures, acceptance, and warranties as specified within this contract.
- Monthly progress claims, administrative procedures, photographs, and holdbacks.
- Appointment of inspection and testing agencies or firms.
- Insurances and transcript of policies.

Comply with Consultant's and/or Owner's allocation of mobilization areas of site, for field offices and sheds, access, traffic, and parking facilities.

During construction, coordinate use of site and facilities through Consultant's procedures for intra-project communications: Submittals, reports and records, schedules, coordination of drawings, recommendations, and resolution of ambiguities and conflicts.

Comply with instructions of Consultant for use of temporary utilities and construction facilities.

Progress Meetings
Schedule and administer progress meetings throughout the progress of the Work every week or bi-weekly as necessary as agreed with the Owner and Consultant.

Agenda for progress meetings to include the following:

- Review and approval of the minutes of the previous meeting.
- Review of Work progress since the previous meeting.
- Field observations, problems, and conflicts.
- Problems which impede construction schedule.
- Review of off-site fabrication delivery schedule.
- Corrective measures and procedures to regain projected schedule.
- Revisions to construction schedule.
- Progress, schedule, during succeeding work period.
- Review submittal schedules: expedite as required.
- Maintenance of quality standards.
- Pending changes and substitutions.
- Review proposed changes for effect on construction schedule and on completion date.
- Other business.

The Consultant will distribute written notice of the first meeting four (4) days in advance of meeting date to contractors and other interested parties.

The Contractor will provide physical space, tables and chairs for all participants of meeting.

The Consultant will preside at progress meetings and record the minutes of progress meetings, including significant proceedings and decisions. Minutes will identify "action by" parties and date for completion of duty.

Copies of minutes will be distributed within four (4) working days after each meeting, to meeting participants, affected parties not in attendance and the Owner.

Any amendments to the minutes shall be distributed within five (5) working days of the date of the generation of the amendment.

Representatives of Contractor, Subcontractor and Suppliers attending meetings must be qualified and authorized to act on behalf of the party each represents.

54. CONSTRUCTION SCHEDULE

The Contractor shall provide to the Engineer and Village their proposed construction schedule as part of their tender submission.

The construction schedule shall show dates of commencement and completion of various parts of the Work, ordering and delivery dates of Products, phasing and timing for various subcontracts and all other detailed information to the satisfaction of the Consultant. Failure to provide a construction schedule as part of the tender submission may disqualify the tenderer.

All orders for materials shall be placed in ample time for adherence to the schedule.

Make special note of those times when installation could affect overall water and sewer systems operation and street access.

Prepare definitive schedules for the following specific items:

- Schedule of construction phases

55. PROPERTIES AFFECTED BY THE WORK

The Contractor shall advise, in writing, all affected residents, landowners and businesses of the expected time and location of construction.

Should the schedule change significantly advise, in writing, all affected residents, landowners and businesses as to the new schedule.

Written notices to affected residents, landowners and businesses shall include telephone numbers to call 24 hours per day.

56. SUBMITTAL PROCEDURES

Administrative

Submit to the Consultant submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

Work affected by submittal shall not proceed until review is complete.

Present Shop Drawings and product data in SI Metric units.

Where items or information is not manufactured or produced in SI Metric units, converted values within the metric measurement tolerances are acceptable.

Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents.

Submittals not stamped, signed, dated, identified as to specific project, and attesting to their being reviewed will be returned without being examined and shall be considered rejected.

Notify Consultant, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

Verify field measurements and affected adjacent Work are coordinated.

Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.

Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.

Keep one (1) reviewed copy of each submission on site.

Shop Drawings and Product Data

The term "Shop Drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

Allow ten (10) working days for the Consultant's review of each submission.

Adjustments made on Shop Drawings by Consultant are not intended to change Contract Price. If adjustments affect the value of Work, state such in writing to Consultant prior to proceeding with Work.

Make changes in Shop Drawings as Consultant may require, consistent with Contract Documents. When resubmitting, notify the Consultant in writing of any revisions other than those requested.

Accompany submissions with transmittal letter, containing:

- Date.
- Project title and number.
- Contractor's name and address.
- Identification and quantity of each shop drawing, product data and sample.
- Other pertinent data.
- Submissions shall include:
- Date and revision dates.
- Project title and number.

- Name and address of the Subcontractor, Supplier and Manufacture.
- Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- Details of appropriate portions of Work as applicable.

After Consultant's review, distribute copies.

Submit an electronic copy of Shop Drawings for each requirement requested in specification Sections and as consultant may reasonably request.

Submit an electronic copy of product data sheets or brochures for requirements requested in specification sections and as requested by the Consultant where Shop Drawings will not be prepared due to standardized manufacture of product.

Delete information not applicable to project.

Supplement standard information to provide details applicable to project.

If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, copies will be returned, and fabrication and installation of Work may proceed. If Shop Drawings are rejected, the noted copy will be returned and re-submission of corrected Shop Drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

General

After award of Contract the Consultant will provide a complete set of drawings for the purpose of maintaining record drawings. Accurately record significant deviations from Contract Documents caused by site conditions and changes ordered by the Consultant.

Record locations of all elements, non-concealed and concealed, of the work.

Identify drawings as "Project Record Copy". Maintain in good condition and make available for inspection on site by Consultant at all times.

Not less than two (2) weeks prior to application for a Certificate of Substantial Performance, submit record drawings and complete survey data to Consultant for review.

Level of Detail

The "As-Built" Drawings shall be submitted, in duplicate, with sufficient detail for the Consultant to modify the Contract Drawings without referring to separate information such as RFIs, RFQs, or Shop Drawings.

Site Records

The Consultant will provide one (1) set of Contract Drawings at the beginning of the project for use in producing "As-Built" Drawings. Provide sets of white prints, as required, for each phase of the Work. Mark thereon all changes as the Work progresses and as changes occur including Change Orders.

Transfer all "As-Built" information to the Contract Drawings, revising the Drawings to show all Work as it is actually installed.

Use a different colour waterproof ink for each service.

Make available for reference purposes and inspection at all times. The Village may withhold monthly payments until satisfactory evidence is provided that Site records are being properly maintained.

Store record documents and samples in the field office apart from any documents used for construction.

Label record documents and file in accordance with the Specification Section number. Label each document "CONSTRUCTION RECORD" in neat, large, printed letters.

Maintain record documents in a clean, dry and legible condition. Do not use record documents for construction purposes.

Keep record documents and samples available for inspection by the Consultant on a monthly basis.

Recording Actual Site Conditions

Record information concurrently with the progress of construction. Do not conceal the Work until the required information is recorded.

Contract Drawings and shop drawings: legibly mark each item to record the actual construction, including:

- Measured horizontal and vertical locations of new and existing underground utilities, structures, equipment, Work and appurtenances. Reference to at least two permanent surface points.
- Measured locations of internal utilities and appurtenances shall be referenced to visible and accessible features of the Work.
- Measured locations of existing and new facilities, piping, equipment, and other Work shall be referenced to visible and accessible features of the Work.
- Field changes of dimensions and details.
- Changes made by Contract Change Orders.
- Details not on the original Contract Drawings.
- References to related shop drawings and modifications.

Specifications: legibly mark each item to record actual construction, including, but not limited to:

- Manufacturer, trade name, and catalogue number of each Product actually installed particularly optional items and substitute items.
- Changes made by Addenda and Contract Change Orders.

Other Documents: maintain the manufacturers' certifications, inspection certifications, and field test records, as required by the individual Specification Sections.

Obtain all approvals required for field modifications including ESA Certification for panel modifications.

57. AS-BUILT DRAWINGS

Prior to the start of commissioning, finalize the production of "As-Built" Drawings.
Identify each Drawing in the lower right-hand corner in letters at least 12 mm high as follows: "AS-BUILT DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW SYSTEMS AS INSTALLED" (Signature of Contractor) (date).

Submit to the Consultant for approval and make corrections as directed.
Commissioning is to be performed using "As-Built" Drawings.

Submit completed reproducible "As-Built" drawings with the Operating and Maintenance Manuals.

58. PRODUCT REQUIREMENTS

Product Quality

Products, materials, equipment, parts or assemblies (referred to as Products) incorporated in Work: new, not damaged or defective, of best quality (compatible with specification requirements) for purpose intended. If requested, provide evidence as to type, source and quality of Products provided.

Defective materials, equipment and articles whenever found may be rejected regardless of previous inspection. Inspection by the Consultant or an inspector does not relieve the Contractor of his responsibility but is merely a precaution against oversight or error. Remove and replace defective materials at own expense and be responsible for all delays and expenses caused by rejection.

Should any dispute arise as to the quality or fitness of materials, equipment or articles, the decision rests strictly with the Consultant based upon the requirements of the Contract Documents.

Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout the project.

Permanent labels, trademarks and nameplates on Products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

Product Availability

Immediately upon signing the Contract, review Product requirements and anticipate foreseeable delivery delays in any items. If delays in deliveries of materials, equipment or articles are foreseeable, **propose substitutions or other remedial action in ample time to prevent delays** in performance of the Work.

If such a proposal is not given to the Consultant, **the Consultant reserves the right to substitute more readily available Products later in order to prevent delays** at no additional cost to the Owner.

If delays in supply of Products are foreseeable, notify the Consultant of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

In event of failure to notify Consultant at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Consultant reserves right to substitute more readily available Products of similar character, at no increase in Contract Price or Contract Time.

No substitution of any item will be permitted unless the item cannot be delivered to the job site in time to comply with the Schedule.

To receive approval, proposed substitutes must equal or exceed the quality, finish, and performance of those specified and/or shown and must not exceed the space requirements allotted on the drawings.

Provide documentary proof of equality, difference in price (if any) and delivery dates in the form of certified quotations from suppliers of both specified items and proposed substitutions.

The Contractor shall include all costs in the difference in price (if any) for any required revisions to other structures and products to accommodate such substitutions.

Storage and Protection

Store and protect Products in accordance with manufacturers' written instructions.

Store with seals and labels intact and legible.

Store sensitive Products in weather tight, climate controlled, enclosures in an environment favourable to Product.

For exterior storage of fabricated Products, place on sloped supports above ground.

Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.

Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.

Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

Transportation and Handling

Transport and handle Products in accordance with manufacturer's written instructions.

Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.

Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

Pay all costs for transportation of products required for the Work. Contractor is responsible for ensuring that all sub-contractors are aware of this requirement.

Existing Utilities

When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities.

Protect, relocate, or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

Manufactures Written Instructions

Unless otherwise indicated in specifications install or erect Products to manufacturer's written instructions. Do not rely on labels or enclosures provided with Products. Obtain written instructions directly from manufacturers.

Notify Consultant in writing, of conflicts between specifications and manufacturer's instructions, so that Consultant may establish course of action.

Improper installation or erection of Products, due to failure in complying with these requirements, authorizes Consultant to require removal and re-installation at no increase in Contract Price or Contract Time.

Remedial Work

Perform all cutting and remedial work that may be required to make the several parts of the Work come together properly. Coordinate and schedule the Work to ensure that cutting and remedial work are kept to a minimum.

Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

Should the Owner or anyone employed by him be responsible for ill-timed work necessitating cutting and/or remedial work to be performed, the cost of such work will be valued as provided in the General Conditions and added to the Contract Price.

Employ specialists familiar with the materials affected in performing cutting and remedial work. Perform in a manner to neither damage nor endanger any portion of the Work.

Do not cut, drill, or sleeve any load-bearing members without written approval of the Consultant.

Measurement

Unless otherwise noted, this Project has been designed and is to be constructed in the S.I. metric system of measurements.

Where specified metric elements will not be available when required, submit with Tender proposals for alternative products in accordance with the "Alternatives/Equals" clause of the Instructions to Bidders.

During construction, when specified metric elements are unattainable at the time, they are required to meet the Construction Schedule, the Contractor shall notify the Consultant in writing and suggest alternative substitutions. Costs due to these substitutions shall be borne by the Contractor.

59. PAYMENT

Payment for all work listed within these specifications and associated drawings shall be covered by the quantities and lump sum items listed within the Form of Tender.

Payment clauses listed within the individual OPSS Specifications do not apply for the purposes of this contract. Refer to Item Special Provisions.

Payment procedures listed within the OPSS General Conditions, November 2006, shall apply to this contract.

END OF GENERAL PROVISIONS

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

YONGE STREET REHABILITATION – PHASE 2

EXP PROJECT NO. NTB-24015164-00

TENDER NO. 2025-10-06

ITEM SPECIFIC PROVISIONS

CONSULTING ENGINEERS:

EXP SERVICES INC.
757 Main Street East
North Bay, Ontario
P1B 1C2

Tel: (705) 474-2720

OWNER:

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS
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INDEX

1. ITEM 1 EARTH EXCAVATION FOR ROADWAY

Earth excavation shall be as per OPSS 206. Contract drawings indicate the depth, width and extent of excavations required.

This item is for earth excavation required for placement of the road base granular only. Contractor will not be compensated for any over excavation of the depths and extents of excavation required.

The Contractor is responsible to dispose of all excess material off-site as directed by the Engineer and/or Village.

Basis for payment for this item will be per cubic metres excavated within the extent of excavations required, regardless of the excess material's destination. This item will be paid once the subgrade grades have been verified prior to the placement of Granular 'B' Type II subbase materials.

2. ITEM 2 REMOVAL OF ASPHALT PAVEMENT (ROADS AND DRIVEWAYS) INCLUDING SAWCUTTING

This item is for the removal and disposal of all asphalt at the site necessary for the installation of the new utilities at the site. This includes driveway asphalt and granulars, roadways, shoulders, etc.

Removals shall be in accordance with OPSS 510, Removals.

All excess removals are to be hauled away by the Contractor and disposed of in a site chosen by the Contractor and agreed to by the Engineer.

The Contractor can rough break the feature and then saw cut just prior to placement of the new feature so long as no damage to the remaining feature is realized.

Should a joint exist in the feature close to the proposed limit of removal and the removal and replacement will not cost more than the saw cutting the Contractor can chose to remove to the existing joint.

All saw cutting shall be performed in the wet such that dust occurrence is minimal.

Payment for this item is per square metre of asphalt removed.

3. ITEM 3 CONCRETE SIDEWALK REMOVAL AND DISPOSAL

This item is for the removal and disposal of existing concrete sidewalks at the site necessary for the installation of the new utilities at the site.

Removals shall be in accordance with OPSS 510 and OPSS.MUNI 180.

Remove and dispose of existing concrete sidewalk as indicated on the Contract Drawings and as directed by the Contract Administrator.

Existing sidewalks are to be saw cut at the existing joint closest to the limit of removal.

All excess removals are to be hauled away by the Contractor and disposed of in a site chosen by the Contractor and agreed to by the Engineer.

All saw cutting shall be performed in the wet such that dust occurrence is minimal.

Payment shall be per square metre of sidewalk removed and disposed of offsite.

4. ITEM 4 CATCH BASIN REMOVAL AND DISPOSAL

This item is for the removal and disposal of all existing storm structures as indicated on the Contract Drawings and as directed by the Contract Administrator. Storm structures include maintenance holes and catch basins. Any "PUP catch basin" or catch basin made from a CSP or HDPE pipe will be paid at 50% the removal cost of a concrete CB meeting the OPSD requirements.

All structures to be removed where there will be a new structure installed in approximately the same location shall be removed at the same time of construction of the new structure in the same excavation. There will be no additional payment for backfilling the removed structure and excavating a second time for installation of the new structure.

If encountered, the Contractor shall be responsible for the proper removal, storage, and disposal of asbestos cement in accordance with the Occupational Health and Safety Act, Provincial Regulations and applicable Municipal By-Laws.

Scope of work to include all dewatering to maintain a dry and stable trench to allow construction of all underground works.
Removals shall be in accordance with OPSS.MUNI 180, OPSS 510 and OPSS.MUNI 517 Removals.

Basis of payment for this item shall be per each storm or sanitary structure removed and disposed offsite.

5. ITEM 5 EXISTING STORM SEWER REMOVAL AND DISPOSAL
ITEM 6 EXISTING WATERMAIN REMOVAL AND DISPOSAL

This item is for the removal and disposal of all existing storm sewers and watermains as indicated on the Contract Documents and as directed by the Contract Administrator.

The Contract Drawings show the approximate location and number of existing storm service laterals based on the best information available at the time of the design. If additional storm laterals are encountered during the removal of the storm sewer, they shall be removed and replaced.

All sewers / watermains to be removed where there will be a new service installed in approximately the same location shall be removed at the same time of construction of the new service in the same excavation. This item shall include the removal of all water valves located within the watermain approval. There will be no additional payment for backfilling the removed sewers and excavating a second time for installation of the new sewers.

If encountered, the Contractor shall be responsible for the proper removal, storage and disposal of asbestos cement in accordance with the Occupational Health and Safety Act, Provincial Regulations and applicable Municipal By-Laws.

Scope of work to include all dewatering to maintain a dry and stable trench to allow construction of all underground works.

Work to be in accordance with OPSS 180, OPSS MUNI 491, OPSS.MUNI 510 and OPSS.MUNI 517.

Payment shall be per linear metre of sewer / watermain removed and disposed of offsite.

6. ITEM 7 WATER SERVICE REMOVAL TO PROPERTY LINE

This item is for the removal and disposal of all existing water services and curb stops to property lines as indicated on the Contract Documents and as directed by the Contract Administrator.

All services to be removed where there will be a new service installed in approximately the same location shall be removed at the same time of construction of the new service in the same excavation. There will be no additional payment for backfilling the removed service and excavating a second time for installation of the new service.

Payment shall be per water service removed and disposed of offsite.

7. ITEM 8 EXISTING 300mm CSP REMOVAL AND DISPOSAL
ITEM 9 EXISTING 450mm CSP REMOVAL AND DISPOSAL
ITEM 10 EXISTING 600mm CSP REMOVAL AND DISPOSAL

This item is for the removal and disposal of all existing CSP culverts as indicated on the Contract Documents and as directed by the Contract Administrator.

The Contract Drawings show the approximate location and number of existing CSP culverts based on the best information available at the time of the design. If additional culverts are encountered during the removal of the storm sewer, they shall be removed and replaced as directed by the Contract Administrator.

All culverts to be removed where there will be a culvert installed in approximately the same location shall be removed at the same time of construction of the new service in the same excavation. There will be no additional payment for backfilling the removed sewers and excavating a second time for installation of the new sewers.

Scope of work to include all dewatering to maintain a dry and stable trench to allow construction of all underground works.

Work to be in accordance with OPSS 180, OPSS MUNI 491, OPSS.MUNI 510 and OPSS.MUNI 517.

Payment shall be per linear metre of CSP culvert removed and disposed offsite.

8. ITEM 11 REMOVAL AND DISPOSAL OF HYDRANTS
ITEM 12 REMOVAL AND DISPOSAL OF VALVES

This item is for the removal and disposal of all existing hydrants and valves as indicated on the Contract Documents and as directed by the Contract Administrator.

Payment shall be per hydrant or valve removed and disposed of offsite.

9. ITEM 13 SUPERPAVE 12.5 OR HL4 SURFACE 50mm – HOT MIX ASPHALT PAVING

Surface asphalt placed as part of this project to consist of a Superpave 12.5 or HL4, binder asphalt to consist of Superpave 19.0 or HL8. The asphalt should be placed in a single compacted lift of 50 mm (surface).

All asphalt shall be as per OPSS 310.

Performance Graded Asphalt Cement (PGAC) Grade

Subsection 310.05.01 of OPSS 310, November 2017, is amended by the deletion of the first paragraph and replaced with the following:

Asphaltic concrete shall conform to OPSS 1151, except that clause 1151.05.01 Asphalt Cement of OPSS 1151 is amended by the addition of the following:

Hot Mix Type	PGAC
Superpave 12.5	58-34

The traffic category for the Superpave mix design is Category 'B'.

Reclaimed asphalt pavement shall not be used in Hot Mix Asphalt for this contract.

Quality Control

Subsection 310.07.01 is amended by the addition of the following:

Laboratory Testing

Laboratory Requirements

The laboratory carrying out the testing shall participate in the MTO's correlation programs for gyratory compactors which occur just prior to and during paving operations.

Submission of Test Data

The Contractor shall provide test results from a laboratory meeting the requirements noted above. Test results, either individual or mean values, shall demonstrate conformance of the aggregates with the requirements of this special provision.

All individual test results shall be submitted to the Engineer using MTO Form PH-CC-449, at the time of submission of the mix design. All test data forms must be legible. Faxed copies are acceptable provided that the original form is submitted to the Engineer within 7 days following receipt of the fax.

Subsection 310.07.05.01.01 is amended by the addition of the following:

Amendments to OPSS 1101
Appendix 1101-B shall apply to this contract.

Subsection 310.07.05.02 is amended by the addition of the following:

Sampling of Mix for Acceptance Testing
Random samples of the mix shall be obtained, packaged appropriately, labeled, and delivered by the Contractor as specified. The Contractor shall advise the Engineer or his representative when each sample will be taken. The samples shall not be split up prior to delivery.

The Contractor shall obtain a set of three mix samples from each random location designated by the Contract Administrator. One of these samples shall be for the Contractor's QC testing and the other two will be designated for QA and Referee testing. Each of the three samples shall be taken from the same truckload and at the same transverse offset. The minimum size of each sample shall be in accordance with Table 6 of OPSS 310.

Subsection 310.07.05.02.05 delivery is deleted and replaced with the following:

The Contractor shall deliver all samples designated for QA and Referee testing to a laboratory designated by the Owner, within a 500km radius of the contract limits, within 24 hours of sampling.

Subsection 310.07.11.03 – Transverse Joints
Paragraph (b) is amended by the addition of the following:

The length of the stepped joints shall be as shown on the contract drawings.

Use of Contractor's QC Results for Acceptance of Hot Mix
Subsection 310.08.01 is amended by the addition of the following:

The Contractor's QC results will be used for assessing the acceptability of hot mix, unless either party requests referee testing.

Table 10 of OPSS 310, November 2012 is replaced with the following Table 10:

TABLE 10
Pavement Compaction Requirements Based on Maximum Relative Density

Mix	Acceptable %	Borderline %	Rejectable %
HDBC, Superpave 19.0, 25.0 and 37.5	91.0 to 96.5	96.6 to 97.5	< 91.0 or > 97.5
DFC and Superpave 12.5 FC2	92.0 to 97.5	97.6 to 98.5	< 92.0 or > 98.5
All Other Mixes	92.0 to 96.5	96.6 to 97.5	< 92.0 or > 97.5

Payment Adjustment for Changes in the Ministry of Transportation's Performance Graded Asphalt Cement Price Index
Appendix 310-B of OPSS 310 shall apply.

The mass of asphalt cement for payment adjustment shall be determined by calculating the volume of hot mix placed based upon area and lift thickness as determined by coring multiples by the bulk relative density and % asphalt cement in accordance with the job mix formula.

Basis for payment for this item will be by the square metre. The payment unit price will include any and all additional work to remediate deficient asphalt works.

10. ITEM 14 HAND PLACED ASPHALT – DRIVEWAY & SPILLWAYS (50mm THICK)

Asphalt shall be Superpave 12.5 or HL4 and shall be 50mm following compaction. This includes hand placing asphalt. This item includes 150mm of compacted Granular A for asphalt driveways.

All asphalt shall be as per OPSS 310 and limited to the limits shown on the contract drawings.

Payment for this item will be square metres of hand place asphalt installed and compacted. This item includes the requirements for the construction of asphalt driveways and related works including but not limited to earth excavation, asphalt removal, grading, disposal of removed or excess materials, Granular "A" base and SP12.5 surface asphalt.

11. ITEM 15 REINSTATEMENT OF GRAVEL DRIVEWAYS AND OTHER GRAVEL SURFACES (150mm GRANULAR "A")

Gravel Driveway construction shall include 150mm Granular A compacted to 100% SPMDD.

All granular shall be as per OPSS 314 and OPSS 1010.
Payment shall be all inclusive per square metre at the thicknesses indicated on the contract documents.

This item is for driveway granulars only and is to include but not limited to excavation, removals, grading, disposal of removed or excess materials and Granular "A" base.

12. ITEM 16 GRANULAR 'A' ASPHALT BASE (150mm COMPACTED)
ITEM 17 GRANULAR 'B' TYPE II ASPHALT BASE (600mm COMPACTED)
ITEM 18 GRANULAR 'A' SHOULDERING (50mm COMPACTED)

Road construction shall include Granular A and Granular B, Type I, compacted to 100% SPMDD to the thicknesses indicated on the contract drawings.

Road subbase shall be proof rolled to 100% SPMDD and approved by geotechnical engineer prior to placement of granular materials.

All granular shall be as per OPSS 314 and OPSS 1010.
These items are for road base granulars only. Granulars for pipe bedding, backfill driveways, subdrains, sidewalk, etc. are not included in this item as they are part of their respective items.

Amendment to OPSS 1010 Muni November 2013

OPSS 1010.05.01 is amended by the addition of the following:

The use of air-cooled blast furnace slag, nickel slag or steel slag is prohibited.

OPSS 1010.08.01 General is amended by the addition of the following:

QA testing shall be carried out by the Owner for purposes of ensuring that materials used in the work conform to the physical and production requirements of this special provision. Where materials contain blended or reclaimed aggregates or both, QA samples for testing shall be performed on the final product.

OPSS 1010.08.03 Sampling is amended by the addition of the following:

QA sampling and testing shall be based on lots established for each aggregate type: Granular A, O, B, M and SSM. Where more than one aggregate source is used, separate lots shall also be established for each source. Where aggregates are produced with blended or reclaimed materials or both, QA testing shall be performed on the final product.

Notwithstanding the requirements for QA sampling as indicated in this specification, the Owner reserves the right to obtain a QA sample at any time without notice.

Either QA test results or referee test results, where applicable will be used for the acceptance of physical and production property requirements of this specification. QA testing for physical properties may be waived by the Engineer where the delivered quantity of Granular A, O, B, M, or SSM is less than 5,000 tonnes.

Aggregates may be rejected based on the visual identification of unacceptable materials.

QA samples shall be taken in accordance with LS-625 and shall be road samples or delivery samples obtained from the Work at a location determined by the Contract Administrator. Where required, the Contractor shall provide a front-end loader to obtain material for QA samples.

Where it is not possible to take road or delivery samples, samples of compacted material taken with the permission of the Owner will be used for QA purposes.

In the event that the Contractor is unavailable to take a sample, no further materials shall be placed in the Work until the required QA samples have been taken.

The Contractor shall provide new or clean sample bags or containers that are constructed to prevent the loss of any part of the material or contamination or damage to the contents during shipment. Metal or cardboard containers are unacceptable. QA samples shall be identified both inside and outside of the sample container. Data to be included with QA samples shall conform to the requirements of MTO Form PH-D-10 (Sample Data Sheet).

All QA samples shall have a duplicate sample taken at the same time and location as the QA sample. One of the samples shall be randomly selected for testing by the QA laboratory and the remaining sample shall be retained by the QA laboratory for possible referee testing.

OPSS 1010.08.05 Acceptance is amended by the addition of the following:

The QA laboratory shall carry out testing for each physical property requirement given in Table 1, as applicable for each QA sample.

QA for production properties shall consist of sampling and testing of lots selected from material delivered to the Work. The Engineer shall identify each lot according to the following schedule:

i. One lot consisting of the first 5,000 tonnes of material delivered to the work.
ii. 5,000 tonne lots selected from within the next 15,000 tonnes of delivered material.
iii. 10,000 tonne lots thereafter.

Each lot shall be divided into four equal sublots and one QA sample shall be obtained from each sublot. Sublots from different sources or processes shall not be combined within the same lot.

Where changes in source, production or delivery may result in an incomplete lot, the Engineer shall be given prior notification in order to adjust sublot size. If no notification is given, payment adjustments or rejection shall be based on the number of sublots available for that lot. All lots shall be deemed to be complete at the end of each calendar year.

In the event of an incomplete lot and for sources supplying quantities less than 5,000 tonnes, the lot size will apply to the total quantity of material available. Should the size of the lot exceed the indicated quantities for any reason, any adjusted payment or removal shall apply to the entire quantity of the lot.

Where it is necessary to designate the quantity of material in a lot, or part of a lot for the purposes of rejection, the Contract Administrator's estimate of this quantity shall be used.

1010.08.05.01 Testing of Production Properties

The QA laboratory shall conduct sieve analysis (LS-602) and determine test results for each sieve designated in Table 2. The QA laboratory shall also carry out testing for percent crushed particles (LS-607), particles with two or more crushed faces (LS-617), and amount of asphalt coated particles (LS-621) as applicable.

1010.08.05.02 Acceptance of Production Properties

Test results from each sublot within a lot shall be combined to determine the mean and the range of the Lot for each test. All lot means and ranges for LS-602 and LS-607 (as applicable) will be computed to one decimal place.

A lot will be deemed to meet the applicable requirements of this specification for LS-602 and LS-607 if the mean of the lot is within the limits specified in Table 2. Where the lot does not meet the requirements of this specification, the material is rejectable.

A lot will be deemed to meet the applicable requirements of this specification for LS-617 or LS-621 if the mean value of the lot is within the limits specified in Table 2. Where the lot does not meet these requirements, the Contractor shall ensure all necessary changes required to rectify the deficiency are made. No further materials from the source will be accepted until new QC test results demonstrate that materials conform to the requirements of Table 2 for LS-617 or LS-621 have been provided to the Engineer.

The forms contained in Appendices 1010-D and 1010-E are to be used for the recording and reporting of aggregate test results.

Table 1 of OPSS 1010 is deleted and replaced with the following Table 1.

Table 1. Physical Property Requirements

Laboratory Test	MTO Test Number	Granular O	Granular A	Granular B Types I, II and III		Granular M	Select Subgrade Material
Freeze-Thaw Loss, % Maximum	LS-614	15	-	-	-	-	-
Determination of Permeability	LS-709	(Note 1)					
Micro-Deval Abrasion Coarse Aggregate loss, % maximum	LS-618	21	25	30 (Note 2)	30	25	30 (Note 2)
Micro-Deval Abrasion Fine Aggregate loss, % maximum	LS-619	25	30	35	35	30	-
Amount of Contamination	LS-630	(Note 3)					
Plastic Fines	LS-631	NP					

Note 1: For materials north of the French/Mattawa Rivers only, the coefficient of permeability, *k* shall be greater than 1.0 x 10^{-4} cm/s or alternatively, when past field experience has demonstrated satisfactory performance. Prior data demonstrating compliance with this requirement for *k* shall be acceptable provided that such testing has been done within 5 years of the material being used and field performance has continually been shown to be satisfactory.

Note 2: The coarse aggregate micro-Deval abrasion loss test requirement will be waived if the material has more than 80% passing the 4.75 mm sieve.

Note 3: Granular A, B Type I, B Type III, or M may contain up to 15 percent by mass crushed glass and/or ceramic material. Granular A, O, B Type I, B Type III, and M shall not contain more than 1.0 percent by mass of wood, clay brick and /or gypsum and /or gypsum wall board or plaster. Granular B Type II and SSM shall not contain more than 0.1 percent by mass of wood.

Table 2 of OPSS 1010 is deleted and replaced with the following Table 2.

Table 2. Production Requirements

Lab Test	MTO Test Number	Granular						SSM
		O	A	B (Note 1)			M	
Sieve Analysis, % passing	LS-602 (sieve)			Type I (Note 2)	Type II	Type III (Note 2)		
	150 mm	-	-	100	-	100	-	100
	106 mm	-	-	-	100	-	-	-
	37.5 mm	100	-	-	-	-	-	-
	26.5 mm	95.0-100	100	50.0-100	50.0-100	50.0-100	-	50.0-100
	19.0 mm	80.0-95.0	85.0-100 (87.0-100) Note 3	-	-		100	-
	13.2 mm	60.0-80.0	65.0-90.0 (75.0-95.0) Note 3	-	-		75.0-95.0	-
	9.5 mm	50.0-70.0	50.0-73.0 (60.0-83.0) Note 3	-	-	32.0-100	55.0-80.0	-
	4.75 mm	20.0-45.0	35.0-55.0 (40.0-60.0) Note 3	20.0-100	20.0-55.0	20.0-90.0	35.0-55.0	20.0-100
	1.18 mm	0 –15.0	15.0-40.0	10.0-100	10.0-40.0	10.0-60.0	15.0-40.0	10.0-100
	300 μm	-	5.0-22.0	2.0-65.0	5.0-22.0	2.0-35.0	5.0-22.0	5.0-95.0
	150 μm	-	-		-		-	2.0-65.0
	75 μm	0 -5.0	2.0-8.0 (2.0-10.0) Note 4	0-8.0 (0-10.0 Note 4)	0-10.0	0-8.0 (0-10.0) Note 4	2.0-8.0 (2.0-10.0) Note 4	0-25.0
Percent Crushed, minimum	LS-607	100	60	-	100	-	60	-
2 or more crushed faces, minimum, %	LS-617	85	-	-	-	-	-	-
% Asphalt Coated Particles, Coarse Agg, max.	LS-621	0	30	30	0	30	30	0

Note 1: Where Granular B is used for granular backfill for pipe subdrains, 100 percent of the material shall pass the 37.5 mm sieve.

Note 2: Where RAP is blended with Granular B Type I or Type III, 100 percent of the RAP shall pass the 75 mm sieve. Conditions in Note 1 supersede this requirement.

Note 3: Where the aggregate is obtained from an iron blast furnace slag source.

Note 4: Where the aggregate is obtained from a quarry or blast furnace slag or nickel slag source.

Amendment to OPSS 314

OPSS 314, Construction Specification for Untreated Granular Subbase, Base, Shoulder and Stockpiling is amended as follows:

Subsection 314.03 Definitions of OPSS 314 is amended by the addition of the following:

Tolerance – Minus: a construction working tolerance only which:

a) Means narrower than the contract standard pertaining to horizontal dimensions as measured from centerline; and
b) Means lower in elevation than the contract standard pertaining to vertical dimensions.

Tolerance – Plus: a construction working tolerance only which

a) Means wider than the contract standard pertaining to horizontal dimensions as measured from centerline; and

b) Means higher in elevation than the contract standard pertaining to vertical dimensions.

Subsection 314.07.07 Stockpiling of Granular Materials of OPSS 314 is amended by the addition of the following:

The Contractor must first receive written approval from the Owner before stockpiling material at site(s) not identified in the contract documents.

Payment shall be all inclusive per compacted square metre installed at the thicknesses indicated on the contract documents.

13. ITEM 19 CONCRETE SIDEWALK INCLUDING 150mm COMPACTED GRANULAR "A"

Concrete sidewalk work shall be installed as per OPSS.MUNI 351. Concrete sidewalks shall include Granular A compacted to 150mm thick. The sidewalk width shall be 1.5m minimum and must match existing southern lawn elevations. Concrete thickness shall vary between 125mm standard and 150mm at driveway crossings.

Preparation of subgrade and granular base must be inspected, tested for compaction and approved by the consultant prior to placement of concrete. Concrete shall be minimum 40 MPa following 28-day testing.

Payment shall be per linear metre of concrete sidewalk installed. Payment at the contract unit price shall include all labour, equipment and materials to complete the work. Additional payment for 150mm Granular A will not be provided.

14. ITEM 20 ASPHALT GUTTER INCLUDING ALL DITCH OUTLETS

Concrete curb and gutter work shall be as per OPSS.MUNI. 353.

All asphalt gutters shall be as per OPSD 601.010 as per the contract drawings.

Asphalt gutter ditch outlets shall be as per OPSD 604.020 and OPSD 605.020 located as per the contract drawings.

Repair of gutter during maintenance period shall include the removal and disposal of damaged gutter as required by the Village or Engineer. It shall also include the supply and placement or replacement gutter, restoration of asphalt and grade behind gutter.

No additional payment will be made for hand placement, hand forming or saw cutting of gutter. Granular base of gutter is to be included in asphalt gutter unit price.

Payment shall be per linear metre of concrete curb installed. Payment at the contract unit price shall include all labour, equipment, and materials to complete the work.

15. ITEM 21 150mm PIPE SUBDRAINS INCLUDING CONNECTION TO EXISTING AND NEW CATCH BASINS AND STORM MANHOLES

Pipe subdrains shall be installed as per OPSS 405. Sub-drain shall be encased in 0.30m x 0.30m 19mm clear stone wrapped in 270R geotextile.

Pipe Perforations

Circular Perforations in Plastic Pipe: Circular holes shall be cleanly cut not more than 9.5 mm or less than 4.8 mm in diameter and arranged in rows parallel to the longitudinal axis of the pipe. The spigot or tongue end of the pipe shall not be perforated for a length equal to the depth of the socket, and perforations shall continue at uniform spacing over the entire length of the pipe.

Slotted Perforations in Plastic Pipe: Circumferential slots shall be cleanly cut so as not to restrict the inflow of water and uniformly spaced along the length and circumference of the tubing. Width of slots shall not exceed 3.2 mm nor be less than 0.8 mm. The length of individual slots shall not exceed 10 percent of the inside nominal circumference on 100 to 200 mm diameter tubing.

Construction

Clause 405.07.02 is amended by the addition of the following:

The dimensions of the subdrain excavation shall be according to OPSD 216.021 Nov. 2008 Rev.2.

Clause 405.07.04 is amended by the addition of the following:

Knitted sock geotextile shall meet the physical property requirements shown in Table 1.

Table 1:		
Physical Requirements for Knitted Sock Geotextiles Laboratory Test	**Test Method**	**Acceptance Requirements**
Mullen Diaphragm Burst Strength, minimum, kPa	CAN/CGSB 4.2, Method No. 11.1	600
FOS, maximum, µm	CAN/CGSB 148.1, Method No. 10	500
Permittivity, minimum, s-1	CAN/CGSB 148.1, Method No. 4	2.75

The subdrain trench shall be wrapped in geotextile according to OPSD 216.021 Nov. 2008 Rev.2.

Clause 405.07.05 is amended by the addition of the following:

The depth of the subdrain bedding shall be according to OPSD 216.021 Nov. 2008 Rev.2.

Clause 405.07.04 is amended by the addition of the following:

The embedment and backfill material shall be 19mm clear stone.

Pipe subdrains shall be connected to the nearest storm sewer structure without crossing the road or entering private property.

Pipe Subdrains shall be as per OPSS 405.

Amendments to OPSS 405, November 2008.

Materials

Section 405.05.01 to 405.05.06 of OPSS 405 November 2008 is deleted and replaced with the following:
150mm Dia. Plastic Pipe to be smooth wall, perforated and bell and spigot.

Acrylonitrile-butadiene-styrene (ABS) piping and fittings shall conform to ASTM D2751, with maximum SDR of 35, Joints shall be bell-and-spigot.

Polyvinyl chloride (PVC) pipe and fittings shall conform to ASTM D3034, ASTM F949, ASTM F758, Type PS 46. Joints shall be bell-and-spigot.

Corrugated Polyethylene (PE) and Fittings ASTM F405 and joints shall be bell-and-spigot.

Payment for this item shall be per linear metre. The item includes excavation, labour, material including sub-drain and sock, 19mm clear stone and geotextile required to complete the work as per the contract specifications. Payment for this item shall also include connection to existing and new storm sewer structures.

16. ITEM 22 CONNECT TO EXISTING STORM SEWER MAIN OR STRUCTURE

The unit bid price for the above tender item shall be full compensation for the connection of the new storm/sanitary sewer to the existing storm/sanitary sewer at the locations and to the grades indicated in the contract drawings or as specified by the Engineer. This item is to include any saw cutting of existing asphalt, removal of asphalt, excavation, disposal of surplus material, granular material, placement and compaction of bedding, and backfilling that is necessary (unless already included in other tender items).

All work shall be in accordance with OPSS.MUNI 410, OPSS. MUNI 491 and OPSS. MUNI 517

Where exact locations and inverts of existing storm/sanitary sewer is unknow, the contractor shall be responsible for daylighting as required to locate and make the connection.

Connections to existing sewer mains, pipes, or structures include the removal of all plugs, caps, fittings, etc. from the existing and new pipes and installation of the connection, including all fittings, elbows, reducers or adapters. All connections shall be made under the supervision of the Contract Administrator.

Measurement will be the number of connections installed and shall include full compensation for all labour, materials and equipment to locate the existing pipe and make the connection.

Temporary support, protection, relocation, or providing assistance to the utility companies during construction for all above and below ground utilities and infrastructure that interfere with construction shall be provided by the Contractor at no additional cost to the item.

Trench to be dewatered to maintain a dry and stable condition for construction of all underground works. All dewatering discharge is to be monitored and controlled to prevent erosion and sedimentation.

Any bypassing, pumping or other efforts required to maintain continuous service and conveyance of upstream flows shall be included. The Contractor will use their experience with similar work and similarly sized sewers to determine what is a suitable bypass peak flow.

Payment at the unit bid price for this tender item shall be full compensation for all labour, equipment, and material required to do the work.

Payment will be for each connection made.

17. ITEM 23 PRECAST 600x600mm STORM CATCH BASINS
ITEM 24 PRECAST 1200mm DIA. STORM MANHOLE STRUCTURE

Pre-cast concrete structures shall be as per OPSS 407 and subsequent OPSD drawings.

Catch basins grates shall be raised curb inlet frames with covers as per OPSD 400.082.

Concrete catch basins shall have a minimum 600mm sump. Contractor to install two (2) frost straps on catch basins.

150mm thick Granular "A" base compacted for 100% SPMDD shall be included beneath all storm structure items.

All structure openings for storm sewer pipes shall have Kor-N-Seal boots/gaskets with watertight PVC or polyethylene pipe adaptors for BOSS HDPE pipe.

Maintenance holes shall be fitted with frost straps as per OPSD 701.100 and auto stable covers.

Payment for this item shall be per structure installed.

18. ITEM 25 250mm HDPE SMOOTH WALL STORM SEWER INCLUDING BEDDING MATERIALS
ITEM 26 450mm HDPE SMOOTH WALL STORM SEWER INCLUDING BEDDING MATERIALS

Storm sewers shall be as per OPSS.MUNI 410.

All storm sewer pipes are to be Boss 2000 HDPE manufactured by Armtec, or pre-approved equal or Reinforced Concrete Pipe. All HDPE pipes shall be double walled, smooth inside, corrugated and 320 kPa with Bell and spigot.

Subsection 410.05.01 of OPSS 410 is amended by the addition of the following:
Pipe materials shall be smooth inside wall plastic pipe with bell and spigot joints and elastomeric gaskets. Minimum pipe stiffness shall be 320Kpa.

Subsection 410.07.12.01 is amended by the addition of the following.
Pipes shall be laid straight and true to grade:

- Horizontal Tolerance 0.020m ±
- Vertical Tolerance 0.006m ±

Pipe shall be inspected by CCTV in accordance with OPSS 409. CCTV inspection shall be provided to the Consultant for review prior to substantial completion of the project. Media storage shall be DVD (409.05.01) or USB. Reports storage media shall be CD or DVD (409.07.05.01) or USB. Payment for CCTV inspection for storm sewers shall be made under Item 27.

Pipe bedding shall be granular A as per OPSD 802.010 or 802.013.

Pipe bedding and cover material to be compacted to a minimum dry density of 98% SPMDD. Natives backfill is to be compacted to a minimum of 95% SPMDD.

Cover material shall consist of Granular 'A', to a depth of at least 300mm above the pipe thoroughly rammed and compacted around and above the pipe.

The trench shall be backfilled with select native material, and shall contain no rock, stones, or boulders larger than 200mm in its greatest diameter and shall be free from all perishable or objectionable material which would prevent proper consolidation, or which might cause future settlement. The native material shall be placed in 300mm layers, mechanically compacted to a minimum 98% of the maximum density.

Interruption of storm services

All consumers affected by such operations shall be notified by the Contractor as directed by the Engineer or the service before the operation and advised of the probable time when service will be restored. The Contractor shall advise the Village a minimum of 48 hours prior to interruption. Contractor shall submit detailed spec sheets from each supplier of each type of pipe to the Engineer for approval prior to placing orders.

Payment for this item will be per linear metre of pipe installed. Pipe items shall include all labour, excavation, material including sewer pipe, bedding and backfill to install storm sewers.

19. ITEM 27 150mm DIA. PVC WATERMAIN INCLUDING BEDDING AND TRACER WIRE
ITEM 28 200mm DIA. PVC WATERMAIN INCLUDING BEDDING AND TRACER WIRE

Watermain shall be in accordance with OPSS.MUNI 402, OPSS.MUNI 441, OPSS.MUNI 442, OPSS.MUNI 491 and OPSS.MUNI 517.

The Village of Burks Falls will supply all materials listed in the "Materials Supplied" portion of this contract and will be reviewed by Derek Smith. These materials will be available during normal business hours from the Public Works Yard.

The Village of Burk's Falls has the following hours. Picking up equipment outside of these hours are not permitted.

- Hours are 8:00 am to 4:00 pm

The Contractor must have all the equipment to properly and safely load and unload materials. Any damage caused by loading, unloading of materials will be the responsibility of the Contractor.

The following represents the List of Materials to be supplied by the Owner. A more comprehensive material breakdown will be provided to the contractor awarded.

Material
1. Watermain: 150mm Dia. PVC x 24m 200mm Dia. PVC x 504m 19mm Dia. Blue904 PEX x 330m 25mm Dia. Blue904 PEX x 30m 37.5 mm Dia. Blue904 PEX x 30m 50mm Dia. Blue904 PEX x 30m
2. Gate Valves: 150mm Dia. x 1 200mm Dia. x 7
3. Elbows: 200mm Dia. - 11.25° x 1 200mm Dia. - 45° x 4

Material - Continued
4. Watermain: 150mm Dia. PVC x 24m 200mm Dia. PVC x 504m 19mm Dia. Blue904 PEX x 330m 25mm Dia. Blue904 PEX x 30m 37.5 mm Dia. Blue904 PEX x 30m 50mm Dia. Blue904 PEX x 30m
5. Gate Valves: 150mm Dia. x 1 200mm Dia. x 7
6. Elbows: 200mm Dia. - 11.25° x 1 200mm Dia. - 45° x 4
7. Tees and Saddles: 200mm x 150mm x 200mm x 4 200mm x 200mm x 200mm x 2 200mm x 19mm x 200mm x 31 200mm x 25mm x 200mm x 3 200mm x 37.5mm x 200mm x 2 200mm x 50mm x 200mm x 2
8. Reducers and Caps: 200mm to 150mm Dia. Reducer x 1 200mm x 100mm Dia. Reducer x 2 150mm Dia. Cap x 1 200mm Dia. Cap with Tapped 50mm Dia. x 2
9. Fire Hydrants: Canada Valve Century Fire Hydrants x 3 1m long Cast Iron 150mm Dia. watermain x 3
10. Restraints: 200mm Dia. dual wedge restraints x 116 150mm Dia. dual wedge restraints x 16

Contractors Requirements

The Owner will supply the material identified in the previous table. The Contractor will be responsible to pickup and provide a secured storage area for this material. The Contractor shall pick up all materials, from the Village Public Works Yard. The Contractor shall make every effort to minimize the number of trips to the Public Works Yard. Entry to the Public Works Yard without prior notification and approval will not be permitted.

The Contractor, upon pickup, is to confirm the quantity and quality of material and, once the material leaves the Public Works Yard, the Contractor is fully responsible for it. Any deficiencies or damaged material will be replaced by the Contractor at their costs. Any unused "Materials

Supplied" shall be brought back to the Public Works Yard by the contractor and shall be free of deficiencies or damages.

Watermain shall have a minimum 150mm Granular "A" bedding, a minimum 300mm of granular 'A' side cover, and a minimum 300mm granular 'A' vertical cover above the pipe.

Delivery to site, installation, testing, swabbing and disinfection for all new water main, fittings, valves, appurtenances and services.

Watermain shall include all delivery and installation of watermain, thrust blocking, restraints and testing leads as part of the unit price.

Water supply to all users affected by the removal or construction of watermains, services, valves and hydrants must be maintained without interruption for the duration of construction. The Contractor shall submit a temporary water supply plan sealed by a Professional Engineer licensed in Ontario to the Contract Administrator for approval two weeks before commencing any water works. The cost of the design, construction and decommissioning of the temporary water supply complete will be part of this item.

Testing of the water system shall include continuity testing of trace wire, swabbing, pressure test for leakage, disinfection, gathering and testing of water sample as a condition of Substantial Performance.

The Contractor is responsible for making arrangements with Public Works for a supply of water during testing, swabbing and disinfection operations. The Contractor is responsible for delivering water samples to an approved laboratory for testing including costs of testing to the satisfaction of the Contract Administrator.

Where water main is placed on previously filled and/or disturbed ground the trench bedding shall be compacted to a minimum of 98% of the material's Standard Proctor Maximum Dry Density (SPMDD).

Pipe embedment material under wet conditions for watermain and service connections shall be Granular "A" as directed by the Engineer and at no additional cost to the item. Under dry conditions embedment shall be with Granular 'A' material at no additional cost to the item.

Trench backfill shall be native material unless deemed unsuitable by the Contract Administrator, whereby suitable surplus native material from another location within the contract area shall be used. If all surplus material has been used, imported select subgrade material shall be used. Select subgrade material will be measured and paid for separately under the appropriate provisional item.

Watermain construction will include restoration of roadway subgrade over the trench, including backfill and granular materials as specified in the geotechnical report. Granular depths are to be 150mm Granular "A" and 400mm Granular "B".

Supply, place, fine grade and compact Granular 'A' to 100% of the material's Standard Proctor Maximum Dry Density (SPMDD).

Place backfill and granular material in continuous horizontal layers not exceeding 200mm depth. Compaction of each layer of material shall be verified by the contract administrator.

Granular 'A' that becomes contaminated due to Contractor's activity, shall be removed and replaced at no extra cost to the Contract.

No additional payment will be made for the supply of water and/or calcium chloride required for compaction and/or dust control.

Preparing and proof rolling Granular 'A' to the satisfaction of the Engineer prior to placement of asphalt.

The Contractor shall immediately advise the Contract Administrator if any active watermain, water service laterals, valves or curb stops are damaged during construction. At the discretion of the Contract Administrator, the Owner will complete repairs at the Contractor's expense where damage is found to be the result of construction activity under the contract.

Temporary support, protection, relocation, or providing assistance to the utility companies during construction for all above and below ground utilities and infrastructure that interfere with construction shall be provided by the Contractor.

Scope of work to include all dewatering to maintain a dry and stable trench to allow construction of all underground works.

All dewatering discharge is to be monitored and controlled to prevent erosion and sedimentation.

Tracer Wire
OPSS.MUNI 441 is amended by the addition of the following:

441.05.16 - Tracer Wire
Tracer wire shall be 12 A.W.G. Type T.W.U. 75º 660 V insulated stranded copper rated for underground use.

441.07.01 - General
441.07.01 is amended by the addition of the following after the words "thrust restraints":
"tracer wire".

441.07.12.08 - Installation of Tracer Wire
Tracer wire shall be laid directly above the pipe and brought to the surface along the outside of each valve box then enter inside by means of a hole drilled near the surface. A 450 mm loop shall be left under the cap. All splices shall be wrapped with tape approved for underground use.

Tracer wire shall be connected to any existing tracer wires and provide a zero-resistance electrical connection.

Tracer wire shall be tested by the Owner for zero resistance conductivity for the entire installation. Any costs of retesting shall be borne by the Contractor.

441.09.01.07 - Tracer Wire
Payment at the contract unit prices for various associated items in the Contract shall include full compensation for all labour, equipment and materials required to install the tracer wire.

Disinfection and Bacteriological Testing of New Watermains
Prior to the start of construction of the watermain, the Contractor shall supply the Village and the Contract Administrator with a proposed plan for the flushing and disinfection of the new main.

This shall include but not be limited to:

- connecting to existing mains
- flushing sequence
- chlorination procedure (to ensure complete contact)
- dichlorination and disposal of water.

Such procedures shall be in accordance with AWWA standards.

After the disinfection process has been completed the Village's Public Works staff will test for chlorine residual to determine if all super chlorinated water has been removed. The Contractor will provide 24 hours minimum notice to the Village.

If tests indicate normal line residual, the Contractor shall then take samples for bacteriological analysis. These samples will be sent by the Contractor, the same day, by means of courier for delivery to a laboratory certified to perform such tests.

If the bacteriological test results are negative, the line will be resampled by Public Works staff for chlorine to ensure normal line residual. If this test is satisfactory, an authorization to connect customers to the new line will be issued. Failure of any test in this process may necessitate repeating the flushing and sampling process.

Please note that these sampling procedures will only be undertaken between the hours of 8:00 AM and 12:00 Noon Monday to Wednesday in order to ensure same day pick up by the courier and adequate time for testing at the laboratory. Contractors are advised that this process may take a number of days, and the Village will not be responsible for any costs arising out of lost time due to the sampling process. Contractors shall schedule their operations accordingly.

Basis of payment will be per metre of watermain length installed.

20. ITEM 29 WATER SERVICE LATERAL AND CONNECTIONS

This Contract Item covers payment for connection of new water service to existing service including new curb stop at the property line and connection to new watermain as indicated on the contract drawings. Work shall be in accordance with OPSS.MUNI 441, OPSS.MUNI 491 and Provincial requirements and includes the following:

All corporation main stops shall be ball type taper inlet thread and compression join outlet of warranted no lead brass or bronze construction, with blow out proof stainless steel stems and unfilled Teflon seats, rated for 300 psi conforming to ANSI/AWWA C800-05 and NSF/AMSI 61, Drinking Water System Components – Health Effects.

All service pipes shall be Series 160 polyethylene tubing and shall be fitted with stainless steel plastic tube liners with a flange acceptable to the Contract Administrator at each compression joint.

All curb stops shall be ball type with compression joint inlet and outlet, non-draining unless otherwise specified, of warranted no lead brass or bronze construction, with blow out proof stainless steel stems and unfilled Teflon seats, rated for 300 psi conforming to ANSI/AWWA C800-05 and NSF/ANSI 61, Drinking Water System Components – Health Effects.

Connections To Existing Services
OPSS 441 is amended by the addition of the following:

441.07.20.01 - Connection to Existing Services
The work of connecting to existing services shall include the removal of all plugs, caps, fittings, etc. from the existing and new services and installation of the connection, including all fittings or adapters and flushing the service line.

All connections shall be made under the supervision of the Contract Administrator.

441.09.01.08 - Connection to Existing Services
Measurement will be number of connections installed and shall include full compensation for all labour, materials and equipment to locate the existing pipe and make the connection.

441.10.01 is amended by the addition of the following:
Connections to Existing Services - Item.

Connection to Existing Watermains
OPSS 441, Section 441.07.22 is amended by the addition of the following:

Only Hy-Max or Romac Macro HP fittings, or approved equivalent, shall be used to make the connection where pipe is to be joined end to end. Where restraint is required, a Romac Alpha coupling or approved equivalent shall be used.

Tapping Sleeves

Tapping sleeves shall be stainless steel Smith-Blair 663, Robar 6606, Ford Meter Box FAST, Romac SST, or approved equivalent.

The Contract Price shall include all approved piping, connection hardware, dewatering, and any other equipment necessary to complete the connections.

The Contractor is responsible for locating and exposing existing services and confirming the size, material, elevation and type of sewer before installation of the new pipes.

Payment will be based on each water service and curb stop installed to property line and shall be full compensation for all labour, equipment, and materials required to complete the work.

Tracer Wire

OPSS.MUNI 441 is amended by the addition of the following:

441.05.16 - Tracer Wire

Tracer wire shall be 12 A.W.G. Type T.W.U. 75º 660 V insulated stranded copper rated for underground use.

441.07.01 - General

441.07.01 is amended by the addition of the following after the words "thrust restraints":
"tracer wire".

441.07.12.08 - Installation of Tracer Wire

Tracer wire shall be laid directly above the pipe and brought to the surface along the outside of each valve box then enter inside by means of a hole drilled near the surface. A 450 mm loop shall be left under the cap. All splices shall be wrapped with tape approved for underground use.

Tracer wire shall be connected to any existing tracer wires and provide a zero-resistance electrical connection.

Tracer wire shall be tested by the Owner for zero resistance conductivity for the entire installation. Any costs of retesting shall be borne by the Contractor.

441.09.01.07 - Tracer Wire

Payment at the contract unit prices for various associated items in the Contract shall include full compensation for all labour, equipment and materials required to install the tracer wire.

Service Grounding

It is assumed that there is the possibility for the flow of electricity in all water services. Included in the water service lateral and connection, the Contractor is to include the cost of all equipment and labour required to adequately ground each water service in accordance with the Electrical Safety Authority – Flash 22-26-FL on the following page, or as specified by the Township.

Electrical Safety Authority

FLASH

May 2022

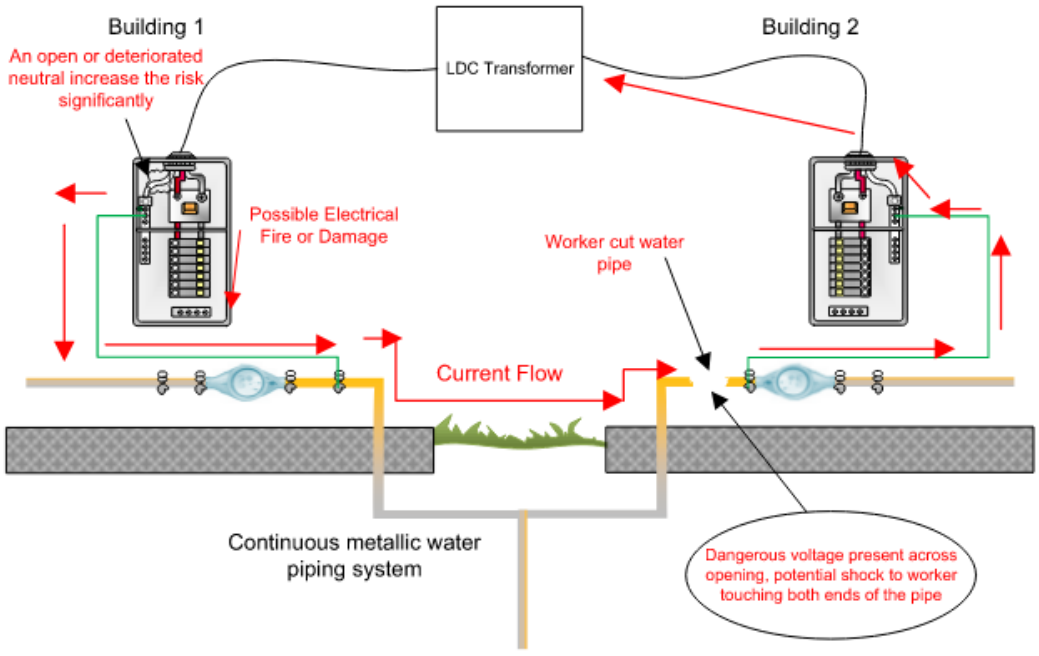
Flash 22-26-FL
Supersedes 20-26-FL

Potential electrical hazards associated with the replacement of metallic water meters or water supply lines

Caution:

Workers who undertake the replacement of a metallic water meter or metallic water piping system should be aware of a possibility of electrical shock or arcing occurring when the continuity of the water piping is interrupted**. Always assume there may be flow of electricity in the piping system and deal with the metallic water pipes as if they are energized**. A latent fault of a disconnected or deteriorated neutral connection in the electrical system will increase the risk significantly, and removing a water meter or cutting the metallic piping system within or exterior to a building may cause an electric shock to the worker.

Diagram F1 - a cut in metallic water pipe may result in dangerous voltage across the opening



Extreme care must be taken when replacing metallic water meters or cutting domestic metallic water supply lines within or exterior to buildings.

Electrical Safety Authority

FLASH

May 2022

Recommendation:

ESA recommends contacting a Licensed Electrical Contractor (LEC) to assess the condition of the existing electrical system including the neutral and grounding electrode connections. In some cases, arcing may be indicative of a more serious problem with the electrical system which requires investigation by an LEC. The Local Distribution Company should be notified if the LEC has determined the arcing is from external sources.

1. Replacement of metallic water meters or repair of metallic piping systems
   An LEC may not be able to detect latent conditions in other premises or within the LDC's infrastructure. For this reason, it is imperative that the continuity of the piping system be kept intact when cutting or replacing a domestic water meter is carried out. The installation of a temporary jumper (minimum No. 6 AWG copper wire) with clamps made for the application across the water meter or between broken sections of metallic pipe would be adequate to ensure the continuity of the grounding electrode is maintained with this type of work.
2. Replacement of continuous metallic supply line with non-conductive water supply line
   When replacing the metallic water supply line to non-conductive water supply line, a new ground electrode is required to be installed by an LEC prior to the existing piping/grounding electrode being removed. **Connection to a grounding electrode is considered electrical work. A notification shall be filed with ESA**.

21. ITEM 30 CONNECT TO EXISTING WATERMAIN

The unit bid for the above tender item shall be full compensation for the connection of the new water main to the existing water main at the locations indicated in the contract drawings or as specified by the Engineer. Any additional connections, bypass, etc. to facilitate Contractor's sequence of construction is to be included in this item at no additional cost.

Temporary watermains are to be installed and in operation prior to the removal of the existing watermain and the installation of the new watermain. Temporary watermains must remain in service until the new watermain is put into service. Payment for temporary watermain will be as per Item 56.

The watermains being replaced may directly affect the municipal supply of water to the storage reservoir. Accordingly, the intent is to minimize disturbances to residents and to the supply and storage of municipal water until the switch over to new works can be made. The Contractor is to familiarize themselves with the work and satisfy themselves that all necessary steps in this process are allowed for and included in the Tender pricing.

All connections to intersecting streets are to be made sufficiently far off Yonge Street so that future watermain upgrades can occur without encroaching onto Yonge Steet.

All new connections to municipal watermains along Yonge Street are to be a minimum of 200mm PVC with diameter and material transitions to match existing. All watermains connecting intersecting side streets are to be 200mm PVC and are to tie into the existing system.

Where possible size changes in 'branches' off the 200mm main line will be made by factory tee. Where a factory tee is not available or a reduction smaller than 200mm is required expansion / reduction fittings will be used and included.

Anticipated connections are as follows:

1) Centre Street
2) Dimsdale Street
3) Yonge Street Sat: 5+661

The unit bid for this tender item shall include saw cutting of asphalt, boulevards, and sidewalks, removal and replacement of asphalt, boulevards, and sidewalks, excavation, installation of watermains and appurtenances (including reducers, tees, restraints, etc.), supply of granular material, placement and compaction of bedding material, backfilling, removal of surplus material, pressure testing, chlorination and flushing to the satisfaction of the Contract Administrator (if not already covered under other tender items). Watermain pipe and gate valves required for connection to the existing watermain are included under other tender items.

Work will be completed per OPSS. MUNI 441: Watermain Installation in Open Cut and OPSS. MUNI 442: Corrosion Protection of New and Existing Watermains.

All watermain elements (main line and service) installations are to be 'traceable'. If pipe material is not naturally traceable, tracer wire is to be installed.

Conductivity and trace tests are to be completed and certified prior to the acceptance of the work.

All metallic watermain and watermain elements are to have their metallic elements protected using galvanic anodes.

Payment at the unit bid price for this tender item shall be full compensation for all labour, equipment, and material required to do the work.

Payment will be by each.

22. ITEM 31 150mm DIA. WATERMAIN VALVES
ITEM 32 200mm DIA. WATERMAIN VALVES

All work to be in accordance with OPSS.MUNI 401, OPSS.MUNI 441 and OPSS.MUNI 442 and includes the following:

OPSS 441, Section 441.05.09 Valves, is modified as follows:

441.05.09.01 **General** is amended by the addition of:
e) ductile iron valves shall be epoxy coated, interior and exterior in accordance with ANSI/AWWA C116/A21.6.

441.05.09.03 **Gate Valves** is amended as follows:
Paragraph 2 is deleted and replaced with "Valves shall have mechanical joint ends and be of the resilient seat type".

441.07.18.01 **General** is amended by the deletion of: "where specified in the Contract Documents." from the first sentence.

Description

a) Supply and installation of new gate valves and boxes, reducers and tees as indicated on the contract drawings. Include mechanical restraints as per DMSP for watermain construction.

b) All operations of existing watermain valves shall be by Municipal Works personnel.

c) A minimum of 48 hours prior to the shutdown of the water system, the Contractor shall notify all affected customers to the operation and advise of the probable time when water services will be restored. All notifications shall be reviewed and approved by District staff prior to being issued.

d) The exterior of all uncoated ductile iron fittings, valves, bolts, restraining glands and associated connectors shall have DENSO petrolatum primer, mastic (where warranted) and tape or approved equivalent applied for corrosion control, installed in accordance

with the manufacturer's instructions.

Any use of the specified DENSO product above, the contractor shall notify the Contract Administrator for verification that this product has been applied prior to backfilling of granular material.

Basis of payment will be per reducer, valves and tee installed.

23. ITEM 33 HYDRANT INCLUDING 150mm DIA. STUB AND VALVE

All work to be in accordance with OPSS.MUNI 441, OPSS.MUNI 442 and District requirements and includes the following:

OPSS 441, Section 441.05.10, is amended by the addition of the following:

Hydrants will be supplied by the Village of Burks Falls.

All hydrants shall be post type, break-away flange, dry top, compression shut-off (with hydrant valve closing against the flow). The operating nut shall be 1½" square and the valve open counterclockwise. All bolts shall be stainless steel. All hydrants shall be fitted with polyurethane valve material in lower valve assembly. When supplying the Clow - Concord Premier model the following modification must be made to the standard lower valve assembly:

a) The standard valve retainer includes a raised edge or lip around the circumference. This raised edge or lip shall be completely removed providing a flat surface for the seating of the polyurethane valve material.

All hydrants shall be pumper type with two 2½" hose nozzles. The pumper nozzle shall be 4" Storz quick connect type. Cap chains are not required.

Hydrants shall be supplied in standard hydrant yellow.

Barrel length and if the self-drain ports are to be disabled shall be specified on the plans. If self-drain ports are not specified to be disabled, the fire hydrants are to be installed as per OPSD 1105.010.

Basis of payment will be per hydrant, stub and valve delivered to the site and installed.

24. ITEM 34 WATERMAIN ANODES

Install anodes as per OPSS.MUNI 442.
Revisions to OPSS 442.MUNI include:
Subsection 442.07.03.03 is amended by deleting the second paragraph and replacing it with the following:

Anodes to be used for this application shall be 2 zinc type Z-24-48.
And by the addition of the following:

The anode lead shall be connected by the thermite weld procedure.

Subsection 442.07.07 is amended by the addition of the following:
After cooling, the completed weld shall be checked to ensure that a secure connection has been achieved. Each weld shall be sealed with T.C. Mastic Tapecoat.

Subsection 442.07.08 is amended by the addition of the following:
Splices shall be by method A or Method D.

OPSS 442 is amended by the addition of Table 6:

Table 6
Anode Locations and Spacing for New Watermains with Metallic Components

Location	Anode Type	Maximum Spacing and Quantity
Less than 50 mm Copper Service	Z-12-24	20.0 m
100 – 300 mm Metallic Fittings and Valves	Z-12-24	1 per fitting and valve
Hydrant Bases	Z-24-48	1 per hydrant
Tracer Wire	Z-12-24	1 per every 1,000 m of tracer wire

Basis of payment will be lump sum for 100% installation of watermain anodes.

25. ITEM 35 ADJUST SANITARY MANHOLES, STORM MANHOLES AND CATCH BASINS, WATERMAIN VALVES AND GAS VALVES TO FINISHED GRADE

Adjustments to sanitary, storm, water, gas, bell, etc. structures shall be as per OPSS 408.

Section 408.07.01 of OPSS 408 is amended by the addition of the following:

Adjustment rings shall be precast concrete.

Section 408.07.09.02 of OPSS 408 is amended by the addition of the following:

Exposed steel reinforcement shall be exposed via removal of concrete and cut off 50mm below the surface of concrete.

Recesses created by the removal of concrete for purposes of cutting off steel reinforcement shall be grouted with non-shrink grout.

Non-shrink grout shall be pre-approved by the Contract Administrator.

Payment shall be per existing and new manhole, catch basin, watermain valve and gas valve adjusted to final grade.

26. ITEM 36 LAWN AND GRASS RE-GRADING

Re-grade lawn and grass areas as per the contract documents. This may include ditch cleanout, lowering or raising the bottom of ditch grade or lawns to provide a constraint grade on the roadside ditches or to the proposed roadway grades.

Payment shall be per square metre of lawn re-graded to final grades.

27. ITEM 37 TOPSOIL IMPORTED

Topsoil shall be installed at a minimum 100mm thick and shall be as per OPSS 802. There will be no compensation for placing topsoil over 100mm thick. Area of topsoil includes areas disturbed by excavation.

Disturbed grass areas due to equipment, materials, parking etc. shall be reinstated by the Contractor at no additional cost to the Owner.

All topsoil placed during the contract that becomes contaminated due to the Contractors activities shall be removed and replaced at no additional cost to the Owner.

The topsoil shall have an organic content by mass of 3-6% and must be capable of sustaining growth.

Topsoil shall be imported and not produced from stripping of the organics onsite.

Payment shall be per square metre. Item shall include all labour, excavation, and materials, including topsoil to be installed.

28. ITEM 38 SODDING

Sodding shall be installed as per OPSS 803.

The Contractor must maintain sod for minimum 30 days following placement, including providing water, fertilizer or cutting as required. The Contractor shall make their own arrangements for the supply of power and water required for construction and maintenance purposes.

All dead sod (not green in leaf color) shall be replaced by the Contractor at their own cost.

Payment shall be per square metre. Item shall include all labour to place sodding and materials, including sodding, water, staking, fertilizer.

29. ITEM 39 TEMPORARY WATER SERVICE

This item is for the temporary water supply plan sealed by a Professional Engineer licensed in the Province of Ontario and the installation of temporary water services.

The temporary water supply plan shall be submitted to the Village for approval two (2) weeks prior to commencing any water work. The cost of the design, construction and decommissioning of the temporary water supply shall be included in this item.

This item shall include all materials (including all necessary saddles or fittings) and equipment necessary to install the temporary water service. The contractor shall verify the exact size and materials of the watermain to supply temporary water prior to connection. No additional payment will be provided to the contractor due to inconsistencies with infrastructure sizes, material types or locations on the contract drawings.

The temporary water service shall be connected to the existing watermain and shall not be supplied from fire hydrants. All temporary water shall be installed on Municipal property with services connecting from the temporary water to all affected houses.

Basis of payment is Lump Sum. 10% shall be paid upon approving the temporary water supply plan and 90% upon completion and decommissioning of all temporary water service works.

30. ITEM 40 TRAFFIC AND PEDESTRIAN CONTROL MANAGEMENT AND SIGNAGE

Traffic Control Signing shall be as per OPSS.MUNI 706.

Amendment to OPSS 706, November 2010

706.02 REFERENCES

Section 706.02 of OPSS 706 is amended by the addition of the following under:

ASTM International

D4956-01a – Standard Specification for Retroreflective Sheeting for Traffic Control

706.03 DEFINITIONS

Construction Signs means all traffic control signs, and associated devices identified in the Ontario Traffic Manual (OTM) including vehicles and sign trailers, required to support signs and equipment to supply sign lighting.

Manual means the "Ontario Traffic Manual, Book 7 - Temporary Conditions (Field Edition)" and "Ontario Traffic Manual, Book 7 – Temporary Conditions (Office Edition)".

As mentioned in the General Special Provision, provision for pedestrian movement must be always maintained in all areas of the Contract. Contractor to ensure pedestrian access to all businesses and residences affect by the work.

The Contractor will be responsible to maintain an open dialogue with the local business owners and residents. The Contractor is to issue bi-weekly construction updates to all those affected by the project. The construction update is to include, at a minimum, the following information:

- Contractor business name and contact information,
- General update of project progress with anticipated project end date,
- Description of the work to be completed in the next 2-4 weeks,
- Provisions outlining how the contractor will be rerouting pedestrian and vehicular traffic affected by the work outlined above,
- Anticipated detours and road closures.

The construction updates are to be hand delivered at a minimum, to all addresses along the construction limits. The contractor is also to share an electronic copy of the update in both PDF and Microsoft Word format to Engineer and the Village.

31. ITEM 41 DEWATERING

Dewatering shall be as per OPSS 517.

The following are amendments and additions to the OPSS 517, November 2010 revision.

1. Design and Submission Requirements (517.04)

1.1 Design Requirements

a) The Contractor shall retain the services of a qualified dewatering specialist to assess the dewatering requirements and to design the dewatering system. Where dewatering involves a watercourse or where there are significant dewatering requirements, a Professional Engineer licensed to practice in the Province of Ontario shall design the dewatering system.

b) The Contractor shall be responsible for obtaining any permits required by the relevant Conservation Authority and shall provide a copy of these permits to the Contract Administrator prior to implementing and dewatering system.

1.2 517.04.01 Submission Requirements

a) The Contractor shall be responsible for obtaining any permits (if required) including a permit to take water and shall provide a copy these permits to the Contract Administrator prior to implementing any dewatering system.

b) A dewatering plan shall be submitted to the Contract Administrator for review at least two weeks prior to the commencement of dewatering operations, and shall include:

i. Design drawings of the proposed dewatering system(s).
ii. Details of the provisions to monitor settlement of adjacent structures.
iii. Details for methods of discharging water and prevention of erosion. The Contractor shall indicate the locations of discharge.
iv. Details of method(s) of controlling silt discharged by the dewatering method used.

1.3 Construction (517.07)

2. Dewatering (517.07.01)

a) The Contractor shall be responsible to assess dewatering requirements at the time of tendering. If a Geotechnical Report has been included with the Contract Documents, the Contractor shall be responsible for any interpretations of the report.

b) The Contractor shall assume responsibility for choice of dewatering method.

c) The Contractor shall take all necessary precautions to prevent uplift of any structure or pipeline, settlement of nearby buildings, or reduction in capacity of local groundwater wells.

d) The Contractor shall protect all excavations against flooding and damage due to surface run-off.

e) To allow minimal disruption of access to adjacent businesses, the length of dewatering pipe installed should be limited to the amount of pipe installed during that day.

f) Well points shall have properly sized screens and filters, with a positive seal.

g) The Contractor shall not commence trench excavation until area is satisfactorily dewatered.

h) The Contractor shall provide all labour, plant, and materials necessary to keep excavations stable and free of water while work is in progress.

i) Stand-by equipment shall be provided as necessary to ensure continued operation of dewatering system in case of breakdown of primary system.

j) Engine driven pumps or generators shall be enclosed in a temporary noise insulated control building to minimize noise during non-daylight hours.

k) Piping and fittings shall be insulated, and shelter and heating shall be provided as necessary to maintain the dewatering system in operation.

l) When dewatering is discontinued, it shall be done in a manner so that disturbance of structures or pipelines is avoided.

m) All dewatering wells and sand point holes shall be backfilled and compacted in such a way as to avoid future settlement.

3. Control of Water (517.07.02)

a) Provisions for the disposal of water shall be subject to Engineer's review.

b) To protect adjacent water bodies from disruption due to silt runoff from dewatering methods, the following methods of silt control must be used either individually or in combination to the satisfaction of the Engineer:

i. All out letting dewatering pipes shall have specifically designed filter socks/bags attached to collect all silt material (or other fine matter). Contractor must continuously monitor and replace the sock/bag as required.
ii. Specifically designed settling ponds (OPSD 219.240) to allow sufficient time for the silt particles to separate from the water prior to out letting into storm drainage system or watercourse.
iii. Specifically designed ponds lined with straw bale filters covered by suitable filter cloth, to collect and trap silt from dewatering operations. (OPSD 219-240)

c) If any silt enters the water body due to dewatering, the Contractor must adjust its methods prior to continuing with dewatering.

4. Basis of Payment

a) No extra payment will be made for measures ordered by the Engineer to correct problems caused by inadequate dewatering.

b) There will be no extension of Working Days due to unsatisfactory dewatering methods.

5. Permit to take water

a) The Contractor is to review the provided Geotechnical reports in conjunction with their anticipated approach concerning excavation practices.

b) The onus of acquiring a Permit to Take Water (PTTW) from the Ministry of the Environment, Conservation and Parks (MECP) rests solely on the Contractor, should they deem it necessary with the reports and practices.

c) The Contractor shall be the applicant of this permit.

d) If a PTTW is deemed unnecessary by the Contractor and the MECP or any other regulatory agency deems that a PTTW is required, all penalties, fines and/or delay implications will be the sole responsibility of the Contractor to pay for and/or incur.

e) Any subsequent penalties/fines resulting from failure to acquire the PTTW (such as Liquidated Damages or failure to complete works within the allotted timeframes) will also rest solely with the Contractor. This includes all restitution to all affected parties.

6. The project Geotechnical Report is provided in Appendix 1 and includes recommendations for dewatering and depth of ground water at the time the report was completed. Contractors are to familiarize themselves with the information provided within the Geotechnical Report.

32. ITEM 42 BONDING

The Contractor shall provide Performance, Labour and Material Payment Bonds for 100% of his Tendered cost to perform this project. All costs associated with Bonding shall be included in the stipulated location in the Form of Tender.

33. ITEM 43 MOBILIZATION / DEMOBILIZATION

This item is to be used for mobilization and demobilization cost incurred by the Contractor during the duration of the Contract.

34. ITEM 44 REMOVE AND RE-INSTATE TRAFFIC SIGNS

All signs shall be as per OPSS 703.

Amendments to OPSS 703 Nov. 2014:

Section 703.07.01 is amended by the addition of the following:
Signs shall be installed with non-breakaway u-flange post system as per OPSD 990.110.

Section 703.07.02.02 is amended by the addition of the following:
Signs shall be supplied by the contractor.

Payment shall be per sign installed.

35. ITEM 45 CCTV INSPECTION OF SEWERS

All new constructed sewer pipes shall be inspected by CCTV in accordance with OPSS 409. CCTV inspection shall be provided to the Consultant for review prior to substantial completion of the project. Media storage shall be DVD (409.05.01) or USB. Reports storage media shall be CD or DVD (409.07.05.01) or USB.

Basis of payment will be lump sum for approved CCTV inspection videos following Village review and approval.

36. ITEM 46 COMPACTION TESTING (PROVISIONAL)

This item is only to be used if directed to do so by the Engineer.

This item is to cover expenses used for compaction testing by a third party to ensure granulars placed are compacted to SPMDD specified in the contract documents.

Compaction testing shall be taken as required by Consultant, Engineer or Village, to be coordinated by Contractor.

Basis of payment is at a time and material basis of third-party consultant.

37. ITEM 47 GEOTEXTILE ON SUBGRADE (PROVISIONAL)

The Contractor shall supply, and place geotextile as detailed on the Contract Drawings. Geotextile shall be placed on the road sub-grade in all locations beneath asphalt except driveways and shall be.

- Terrafix 270R, or
- Approved equal.

Placement of geotextile shall be used where directed by the engineer and approved to be placed by the engineer. No payment will be made to the Contractor for the placement of geotextile without prior approval from the engineer.

Payment shall be by area of placed geotextile in square meters following the contours of the ground with no allowances made for overlaps.

38. ITEM 48 BUILDING CONDITION SURVEY (PROVISIONAL)

A pre-construction and post construction survey shall be prepared for all buildings, Utilities, structures, and facilities that may be affected by construction.

For the purposes of this specification, the following definitions apply.

Pre-Construction Survey consists of a detailed review and record of all property adjacent to the location that construction works are to be completed. The detailed record shall include photos and video, of the condition of private or public property, prior to the commencement of construction.

Post- Construction Survey consists of a detailed review and record of all property adjacent to the location that construction works are to be completed. The detailed record shall include photos and video, of the condition of private or public property, following the Completion of construction.

Pre-Construction Survey

The work for this item shall include, without limitation, the engagement of an Independent Vibration Specialist with a minimum of 5 years' experience in loss control for heavy construction in urban areas. The Independent Vibration Specialist shall provide a certificate as proof of professional Errors and Omissions Liability Insurance in the minimum amount of $1,000,000.00. The certificate of insurance shall be filed with the Owner before commencement of work.

The standard inspection procedure will include the provision of an explanatory letter to the building owner with a formal request for permission to carry out an inspection. The Specialist shall provide a letter to the Contract Administrator confirming that the survey was completed and indicating the address of each of the properties inspected, the refusals received, and an evaluation of any evident or potential hazards that exist prior to commencement of any work by the Contractor.

The Specialist shall conduct a pre-construction survey, which shall include, but not be limited to all structures located on properties abutting the work and the next adjacent properties beyond the limits of the work. If no structures exist on these properties, the survey shall be extended to include the first nearest structure within 200metres. This will include all structures considered to be of potential risk, including, but not limited to, buildings, driveways, sidewalks, swimming pools, patios, wells, etc.

The pre-construction survey report shall include as a minimum the following information:

Type of structure, including type of construction and if possible, the date when built.
Identification and description of existing differential settlements, including visible cracks in walls, floors, and ceilings, including a diagram, if applicable, room-by-room. All other apparent structural and cosmetic damage or defect shall also be noted. Defects shall be described, including dimensions, wherever possible.
Digital photographs or digital video or both, as necessary, to record areas of significant concern.

Any claims received as a result of construction works, shall be received by the Contractors insurance company.

Photographs and videos shall be clear and shall accurately represent the condition of the property. Each photograph or video shall be clearly labelled with the location and date taken.

Two copies of the pre-construction survey limited to a single residence or property, including copies of any photographs or videos that may form part of the report shall be provided to the owner of that residence or property, upon request.

Post-Construction Survey

A post construction survey shall be completed on ALL properties that were surveyed prior to construction.

The Contractor shall record all incidents of damage, which shall be reported immediately to the Contract Administrator. Each complaint report shall include the name and address of the complainant, time received and description of the circumstances that led to the complaint.

Payment shall be 50% for the pre-construction survey and 50% for the post construction survey.

Payment for this tender item shall be full compensation for all labour, equipment, and material required to do the work.

Payment will be by lump sum.

39. ITEM 49 ENVIRONMENTAL PROTECTION (PROVISIONAL)

The Contractor shall supply all labour equipment and material to supply, maintain and remove all environmental components required for the control of construction impact on the construction site, and associated neighboring environments, and as detailed in the Contract.

An environmental protection plan will be required for approval by the Village and the Conservation Authority prior to construction.

The plan shall be detailed and site specific. The plan shall encompass the duration of construction and include all areas related to the work – including on site construction areas and offsite areas where material is stockpiled or otherwise associated with the work. The plan shall detail preventative measures that will be put in place; contingency plans if the preventative measures fail; and end of project clean-up.

Light Duty Silt Fence shall be installed as per OPSD 219.110 and OPSS.Muni 805, and Straw Bale Flow Check Dam as per OPSD 219.180 and OPSS.Muni 805.

Amendment to OPSS 805, November 2010

805.07 CONSTRUCTION

805.07.01.06 Construction and Removal of Measures

Clause 805.07.01.06 of OPSS.Muni 805 is deleted and replaced by the following:

Further to requirements specified in the Contract Documents, the following items shall be installed and removed according to the timing constraints set out in Table A on the following page:

Table A			
Tender Item	**Location**	**Timing Constraints**	
		Installation	**Removal**
Light duty silt fence	Entire contract	Prior to commencement of excavation	After completion of installation of permanent erosion control measures
Straw Bale Flow Check Dam	Storm Sewer/ Surface Runoff Outlets	Prior to commencement of excavation	After completion of installation of permanent erosion control measures

Payment shall be a lump sum, with 50% of the item paid for the installation of erosion control measures, and 50% for the removal of the erosion control measures.

Payment for this tender item shall be full compensation for all labour, equipment, and material required to do the work.

Payment will be by lump sum.

40. ITEM 50 TREE REMOVAL (PROVISIONAL)

The Contractor shall remove all trees directed to be removed by the Contract Administrator or Village with a 150mm diameter or bigger. These trees shall be close cut and the stump grinded to 0.3m below finished grade. The Contractor shall remove and dispose of entire tree off site.

Payment is per tree removed with a diameter greater than 150mm, including all labour, equipment, and materials required to do the work.

41. ITEM 51 HYDRO-VAC RENTAL (PROVISIONAL)

The contractor shall supply a hydro-vac truck for daylighting of infrastructure. All materials removed during the hydro-vac process must be hauled off site by the contractor.

Payment shall be per hour the hydro-vac truck is in operation, including all labour, equipment, and materials required to adequately daylight infrastructure.

END OF ITEM SPECIFIC PROVISIONS

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

REVIEW YONGE STREET REHABILITATION

EXP PROJECT NO. NTB-24015164-00

TENDER NO. 2025-10-06

OPSS.MUNI.100 – NOV 2024

CONSULTING ENGINEERS:

EXP SERVICES INC.

757 Main Street East
North Bay, Ontario
P1B 1C2

Tel: (705) 474-2720

OWNER:

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS
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OPSS MUNI GENERAL CONDITIONS OF CONTRACT

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SECTION GC 1.0 - INTERPRETATION

GC 1.01 Captions

.01 The captions appearing in these General Conditions have been inserted as a matter of convenience and for ease of reference only and in no way define, limit, or enlarge the scope or meaning of the General Conditions or any provision hereof.

.02 In the event of a conflict of a reference to the number and caption of a section, subsection, clause, or paragraph, reference shall be made to the caption.

GC 1.02 Abbreviations

.01 The abbreviations on the left below are commonly found in the Contract Documents and represent the organizations and phrases listed on the right:

AASHTO	-	American Association of State Highway Transportation Officials
ACI	-	American Concrete Institute
ANSI	-	American National Standards Institute
ASTM	-	ASTM International
AWG	-	American Wire Gauge
AWWA	-	American Water Works Association
CCIL	-	Canadian Council of Independent Laboratories
CGSB	-	Canadian General Standards Board
CSA	-	CSA Group - formerly Canadian Standards Association
CWB	-	Canadian Welding Bureau
GC	-	General Conditions
ISO	-	International Organization for Standardization
MECP	-	Ontario Ministry of the Environment, Conservation and Parks
MTO	-	Ontario Ministry of Transportation
MUTCD	-	Manual of Uniform Traffic Control Devices, published by MTO
OHSA	-	Ontario *Occupational Health and Safety Act*
OLS	-	Ontario Land Surveyor
OPS	-	Ontario Provincial Standard
OPSD	-	Ontario Provincial Standard Drawing
OPSS	-	Ontario Provincial Standard Specification
OTM	-	Ontario Traffic Manual
PEO	-	Professional Engineers Ontario
SAE	-	SAE International
SCC	-	Standards Council of Canada
SSPC	-	The Society for Protective Coatings
UL	-	Underwriters Laboratories
ULC	-	Underwriters Laboratories Canada
WHMIS	-	Workplace Hazardous Materials Information System
WSIB	-	Workplace Safety & Insurance Board

GC 1.03 Gender and Singular References

.01 References to the masculine or singular throughout the Contract Documents shall be considered to include the feminine and the plural and vice versa, as the context requires.

GC 1.04 Definitions

.01 For the purposes of the Contract Documents the following definitions shall apply:

Abnormal Weather means an extreme climatic condition characterized by wind speed, air temperature, precipitation, or snow fall depth, that is less than or greater than 1-1/2 standard deviations from the mean determined from the weather records of the 25-year period immediately preceding the tender opening date.

Actual Measurement means the field measurement of that quantity within the approved limits of the Work.

Addenda means any additions or change in the Tender documents issued by the Owner prior to Tender closing.

Additional Work means work not provided for in the Contract Documents and not considered by the Contract Administrator to be essential to the satisfactory completion of the Contract within its intended scope.

Agreement means the agreement between the Owner and the Contractor for the performance of the Work that is included in the Contract Documents.

Base means a layer of Material of specified type and thickness placed immediately below the pavement, driving surface, finished grade, curb and gutter, or sidewalk.

Business Day means any Day except Saturdays, Sundays, and statutory holidays.

Certificate of Subcontract Completion means the certificate issued by the Contract Administrator according to clause GC 8.02.04.02, Certification of Subcontract Completion.

Certificate of Substantial Performance means the certificate issued by the Contract Administrator at Substantial Performance.

Change Directive means any written instruction signed by the Owner, or by the Contract Administrator where so authorized, directing that a Change in the Work or Extra Work be performed.

Change in the Work means the deletion, extension, increase, decrease, or alteration of lines; grades; dimensions; quantities; methods; drawings; substantial changes in geotechnical, subsurface, surface, or other conditions; changes in the character of the Work to be done; or Materials of the Work or part thereof, within the intended scope of the Contract.

Change Order means a written amendment to the Contract signed by the Contractor and the Owner, or the Contract Administrator where so authorized, covering contingencies, a Change in the Work, Extra Work, Additional Work; and establishing the basis for payment and the time allowed for the adjustment of the Contract Time.

Completion means contract completion as set out in the *Construction Act*.

Completion Certificate means the certificate issued by the Contract Administrator at Completion.

Completion Payment means the payment described more particularly in clause GC 8.02.04.07.

Construction Act means as set out in the *Construction Act*, R.S.O. 1990, c. C.30, as amended.

Constructor means, for the purposes of, and within the meaning of the *Occupational Health and Safety Act*, R.S.O. 1990, c.O.1, as amended and amendments thereto, the Contractor who executes the Contract.

Contract means the undertaking by the Owner and the Contractor to perform their respective duties, responsibilities, and obligations as prescribed in the Contract Documents.

Contract Administrator means the person, partnership, or corporation designated by the Owner to be the Owner's representative for the purposes of the Contract.

Contract Documents mean the executed Agreement between the Owner and the Contractor, Tender, General Conditions of Contract, Supplemental General Conditions of Contract, Standard Specifications, Special Provisions, Contract Drawings, Addenda incorporated in a Contract Document before the execution of the Agreement, such other documents as may be listed in the Agreement, and subsequent amendments to the Contract Documents made pursuant to the provisions of the Agreement.

Contract Drawings or **Contract Plans** mean drawings or plans, any Geotechnical Report, any Subsurface Report, and any other reports and information provided by the Owner for the Work, and without limiting the generality thereof, may include soil profiles, foundation investigation reports, reinforcing steel schedules, aggregate sources list, Quantity Sheets, and cross-sections.

Contract Time means the time stipulated in the Contract Documents for Substantial Performance or Completion of the Work, including any extension of time made pursuant to the Contract Documents.

Contractor means the person, partnership, or corporation undertaking the Work as identified in the Agreement.

Control Monument means any horizontal or vertical (benchmark) monument that is used to lay out the Work.

Controlling Operation means any component of the Work that, if delayed, may delay the completion of the Work.

Cut-Off Date means the date up to which payment shall be made for Work performed.

Daily Work Records mean daily Records detailing the number and categories of workers and hours worked or on standby, types and quantities of Equipment and number of hours in use or on standby, and description and quantities of Material utilized.

Day means a calendar day.

Drawings or **Plans** mean any Contract Drawings or Contract Plans, or any Working Drawings or Working Plans, or any reproductions of drawings or plans pertaining to the Work.

End Result Specification means specifications that require the Contractor to be responsible for supplying a product or part of the Work. The Owner accepts or rejects the final product or applies a price adjustment that is commensurate with the degree of compliance with the specification.

Engineer means a professional engineer licenced by the Professional Engineers of Ontario to practice in the Province of Ontario.

Equipment means all machinery and equipment used for preparing, fabricating, conveying or erecting the Work and normally referred to as construction machinery and equipment.

Estimate means a calculation of the quantity or cost of the Work or part of it depending on the context.

Extra Work means work not provided for in the Contract as awarded but considered by the Contract Administrator to be essential to the satisfactory completion of the Contract within its intended scope, including unanticipated Work required to comply with legislation and regulations that affect the Work.

Final Acceptance means the date on which the Contract Administrator determines that the Work has passed all inspection and testing requirements and the Contract Administrator is satisfied that the Contractor has rectified all imperfect Work and has discharged all of the Contractor's obligations under the Contract Documents.

Final Acceptance Certificate means the certificate issued by the Contract Administrator at Final Acceptance of the Work.

Final Detailed Statement means a complete evaluation prepared by the Contract Administrator showing the quantities, unit prices, and final dollar amounts of all items of Work completed under the Contract, including variations in tender items and Extra Work, all as set out in the same general form as the monthly Estimates.

Geotechnical Report means a report or other information identifying soil, rock, and ground water conditions in the area of any proposed Work.

Grade means the required elevation of that part of the Work.

Hand Tools means tools that are commonly called tools or implements of the trade and include small power tools.

Highway means a common and public highway any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.

Inclement Weather means weather conditions or conditions resulting directly from weather conditions that prevent the Contractor from proceeding with a Controlling Operation**.**

Lot means a specific quantity of Material or a specific amount of construction normally from a single source and produced by the same process.

Lump Sum Item means a tender item indicating a portion of the Work for which payment will be made at a single tendered price. Payment is not based on a measured quantity, although a quantity may be given in the Contract Documents.

Major Item means any tender item that has a value, calculated based on its actual or estimated tender quantity, whichever is the larger, multiplied by its tender unit price, which is equal to or greater than the lesser of,

a) $100,000, or

b) 5% of the total tender value calculated based on the total of all the estimated tender quantities and the tender unit prices.

Material means Material, machinery, equipment and fixtures forming part of the Work.

Monument means either a Property Monument or a Control Monument.

Owner means the party to the Contract for whom the Work is being performed, as identified in the Agreement, and includes, with the same meaning and import, "Authority."

Pavement means a wearing course or courses placed on the Roadway and consisting of asphaltic concrete, hydraulic cement concrete, Portland cement concrete, or plant or road mixed mulch.

Performance Bond means the type of security furnished to the Owner to guarantee completion of the Work according to the Contract and to the extent provided in the bond.

Plan Quantity means that quantity as computed from within the boundary lines of the Work as shown in the Contract Documents.

Project means the construction of the Work as contemplated by this Contract.

Proper Invoice has the meaning as set out in the *Construction Act*.

Property Monument means any property bar, concrete pillar, rock post, cut cross or other object that marks the boundary between real property ownership.

Quality Assurance (QA) means a system or series of activities carried out by the Owner to ensure that Work meets the specified requirements.

Quality Control (QC) means a system or series of activities carried out by the Contractor, Subcontractor, supplier, and manufacturer to ensure that Work meets the specified requirements.

Quantity Sheet means a list of the quantities of Work to be done.

Quarried Rock means Material removed from an open excavation made in a solid mass of rock that, prior to removal, was integral with the parent mass.

Quarry means a place where aggregate has been or is being removed from an open excavation made in a solid mass of igneous, sedimentary, or metamorphic rock or any combination of these that, prior to removal, was integral with the parent areas.

Rate of Interest means the prejudgment interest rate determined under subsection 127(2) of the *Courts of Justice Act* or, if the contract or subcontract specifies a different interest rate for the purpose, the greater of the prejudgment interest rate and the interest rate specified in the contract or subcontract.

Records mean any books, payrolls, accounts, or other information that relate to the Work or any Change in the Work, Extra Work, Additional Work or claims arising therefrom.

Roadway means that part of the Highway designed or intended for use by vehicular traffic and includes the Shoulders.

Shoulder means that portion of the Roadway between the edge of the travelled portion of the wearing surface and the top inside edge of the ditch or fill slope.

Special Provisions mean directions containing requirements specific to the Work.

Standard Drawing or Standard Specification means a standard practice required and stipulated by the Owner for performance of the Work.

Statutory Holdback means the holdbacks required under the *Construction Act*.

Subbase means a layer of Material of specified type and thickness between the Subgrade and the Base.

Subcontractor means a person, partnership or corporation undertaking the execution of a part of the Work by virtue of an agreement with the Contractor.

Subgrade means the earth or rock surface, whether in cut or fill, as prepared to support the pavement structure, consisting of Base, Subbase, and Pavement.

Substantial Performance has the meaning as set out in the *Construction Act*, R.S.O. 1990, c. C.30, as amended.

Subsurface Report means a report or other information identifying the location of Utilities, concealed and adjacent structures, and physical obstructions that fall within the influence of the Work.

Superintendent means the Contractor's authorized representative in charge of the Work and who shall be a “competent person” within the meaning of the definition contained in the *Occupational Health and Safety Act*, R.S.O. 1990, c. 0.1, as amended.

Surety means the person, partnership or corporation, other than the Contractor, licensed in Ontario to transact business under the *Insurance Act*, R.S.O. 1990, c.I.8, as amended, executing a bond provided by the Contractor.

Tender means an offer in writing from the Contractor, submitted in the format prescribed by the Owner, to complete the Work.

Time and Material means costs calculated according to clause GC 8.02.05, Payment on a Time and Material Basis.

Utility means an aboveground or underground facility maintained by a municipality, public utility authority or regulated authority and includes services such as sanitary sewer, storm sewer, water, electric, gas, oil, steam, data transmission, telephone, and cable television.

Warranty Period means the applicable time period according to clause GC 7.16.02, Warranty.

Work means the total construction and related services required by the Contract Documents.

Working Area means all the lands and easements owned or acquired by the Owner for the construction of the Work.

Working Day means any Day,

a) except Saturdays, Sundays and statutory holidays;

b) except a Day as determined by the Contract Administrator, on which the Contractor is prevented by inclement weather or conditions resulting immediately therefrom, from proceeding with a Controlling Operation. For the purposes of this definition, this shall be a Day during which the Contractor cannot proceed with at least 60% of the normal labour and Equipment force effectively engaged on the Controlling Operation for at least 5 hours;

c) except a Day on which the Contractor is prevented from proceeding with a Controlling Operation, as determined by the Contract Administrator by reason of,

   i. Any breach of the Contract by the Owner or if such prevention is due to the Owner, another contractor hired by the Owner, or an employee of any one of them, or by anyone else acting on behalf of the Owner.

   ii. Non-delivery of Owner supplied Materials.

   iii. Any cause beyond the reasonable control of the Contractor that can be substantiated by the Contractor to the satisfaction of the Contract Administrator.

Working Drawings or **Working Plans** means any Drawings or Plans prepared by the Contractor for the execution of the Work and may, without limiting the generality thereof, include formwork, falsework, and shoring plans; Roadway protection plans; shop drawings; shop plans; or erection diagrams.

GC 1.05 Ontario Traffic Manual

.01 All references in the Contract Documents to the MUTCD, including all Parts and Divisions thereof, or MTO Traffic Control Manual for Roadway Work Operations, or Traffic Control Manual for Roadway Operations Field Edition are hereby deleted and replaced by all currently available books which make up the Ontario Traffic Manual.

GC 1.06 Final Acceptance

.01 For the purposes of determining whether Final Acceptance has occurred, the Contract Administrator shall not take into account, in determining the discharge of the Contractor's obligations, any warranty obligation of the Contractor to the extent that the warranty extends beyond 12 months after Substantial Performance.

GC 1.07 Interpretation of Certain Words

.01 The words "acceptable," "approval," "authorized," "considered necessary," "directed," "required," "satisfactory," or words of like import, shall mean approval of, directed, required, considered necessary, or authorized by and acceptable or satisfactory to the Contract Administrator, unless the context clearly indicates otherwise.

SECTION GC 2.0 - CONTRACT DOCUMENTS

GC 2.01 Reliance on Contract Documents

.01 The Owner warrants that the information furnished in the Contract Documents can be relied upon with the following limitations or exceptions:

a) Based on available information at the time of the contract, the location of all mainline underground Utilities that may affect the Work shall be shown to a tolerance of:

i. 1.0 m horizontal, and

ii. 0.3 m vertical

.02 The Owner does not warrant or make any representation with respect to:

a) interpretations of data or opinions expressed in any Subsurface Report available for the perusal of the Contractor, that are not included as part of the Contract Documents, and

b) other information specifically excluded from this warranty.

GC 2.02 Order of Precedence

.01 In the event of any inconsistency or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:

a) Agreement

b) Addenda

c) Special Provisions

d) Contract Drawings

e) Standard Specifications

f) Standard Drawings

g) Tender

h) Supplemental General Conditions

i) OPSS.MUNI 100 General Conditions of Contract

j) Working Drawings

Later dates shall govern within each of the above categories of documents.

.02 In the event of any conflict among or inconsistency in the information shown on Drawings, the following rules shall apply:

a) Dimensions shown in figures on a Drawing shall govern where they differ from dimensions scaled from the same Drawing;

b) Drawings of larger scale shall govern over those of smaller scale;

c) Detailed Drawings shall govern over general Drawings; and

d) Drawings of a later date shall govern over those of an earlier date in the same series.

.03 In the event of any inconsistency or conflict in the contents of Standard Specifications the following descending order of precedence shall govern:

a) Owner's Standard Specifications

b) Ontario Provincial Standard Specifications

c) Other standards referenced in OPSSs and OPSDs (e.g., CSA, CGSB, ASTM, and ANSI).

.04 The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all.

SECTION GC 3.0 - ADMINISTRATION OF THE CONTRACT

GC 3.01 Contract Administrator's Authority

.01 The Contract Administrator shall be the Owner's representative during construction and until the issuance of the Completion Certificate or the issuance of the Final Acceptance Certificate, whichever is later. All instructions to the Contractor, including instructions from the Owner, shall be issued by the Contract Administrator. The Contract Administrator shall have the authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

.02 All claims, disputes and other matters in question relating to the performance and the quality of the Work or the interpretation of the Contract Documents shall be referred to the Contract Administrator in writing by the Contractor. The Contract Administrator shall give a decision in writing within a reasonable time.

.03 The Contract Administrator may inspect the Work for its conformity with the Contract Documents, and to record the necessary data to establish payment quantities under the schedule of tender quantities and unit prices or to assess the value of the Work completed in the case of a lump sum price Contract.

.04 The Contract Administrator shall provide an estimate of the amounts owing to the Contractor under the Contract as provided for in section GC 8.0, Measurement and Payment.

.05 The Contract Administrator, to not cause delay in the schedule, shall, with reasonable promptness, review and take appropriate action upon the Contractor's submissions such as shop drawings, product data, and samples according to the Contract Documents. Unless specified otherwise, the Contract Administrator shall respond to submissions requiring approval according to the Contract as soon as possible but not longer than 5 Business Days, or timelines mutually agreed in writing, excluding any requests for extensions of Contract Time.

.06 The Contract Administrator shall investigate all allegations of a Change in the Work made by the Contractor and issue appropriate instructions.

.07 The Contract Administrator shall prepare Change Directives and Change Orders for the Owner’s approval.

.08 Upon written application by the Contractor, the Contract Administrator and the Contractor shall jointly conduct an inspection of the Work to establish the date of Substantial Performance of the Work or the date of Completion of the Work or both.

.09 The Contract Administrator shall be, in the first instance, the interpreter of the Contract Documents and the judge of the performance thereunder by both parties to the Contract. Interpretations and decisions of the Contract Administrator shall be consistent with the intent of the Contract Documents and, in making these decisions, the Contract Administrator shall not show partiality to either party.

.10 The Contract Administrator shall have the authority to reject any part of the Work or Material that does not conform to the Contract Documents.

.11 In the event that the Contract Administrator determines that any part of the Work performed by the Contractor is defective, whether the result of poor workmanship the use of defective Material or damage through carelessness or other act or omission of the Contractor and whether or not incorporated in the Work or otherwise fails to conform to the Contract Documents, then the Contractor shall if directed by the Contract Administrator promptly, as directed by the Contract Administrator, remove the Work and replace, make good, or re-execute the Work at no additional cost to the Owner.

.12 Any part of the Work destroyed or damaged by such removals, replacements, or re-executions shall be made good, promptly, at no additional cost to the Owner.

.13 If, in the opinion of the Contract Administrator it is not expedient to correct defective Work or Work not performed according to the Contract Documents, the Owner may deduct from monies otherwise due to the Contractor the difference in value between the Work as performed and that called for by the Contract Documents amount that will be determined in the first instance by the Contract Administrator.

.14 Notwithstanding any inspections made by the Contract Administrator or the issuance of any certificates or the making of any payment by the Owner, the failure of the Contract Administrator to reject any defective Work or Material shall not constitute acceptance of defective Work or Material.

.15 The Contract Administrator shall have the authority to temporarily suspend the Work for such reasonable time as may be necessary:

a) to facilitate the checking of any portion of the Contractor's construction layout;

b) to facilitate the inspection of any portion of the Work; or

c) for the Contractor to remedy its non-compliance with any provisions of the Contract Documents.

The Contractor shall not be entitled to any compensation for suspension of the Work in these circumstances.

.16 The Owner has the right to terminate the Contract for wilful or persistent violation by the Contractor or its workers of any applicable laws or bylaws, including but not limited to, the *Occupational Health and Safety Act* legislation and regulations, *Workplace Safety and Insurance Board Act*, and Regulation 347 of the *Environmental Protection Act*.

.17 If the Contract Administrator determines that any worker employed on the Work is incompetent, as defined by the *Occupational Health and Safety Act*, or is disorderly, then the Contract Administrator shall provide written notice to the Contractor and the Contractor shall immediately remove the worker from the Working Area. Such worker shall not return to the Working Area without the prior written consent of the Contract Administrator.

GC 3.02 Working Drawings

.01 The Contractor shall arrange for the preparation of clearly identified and dated Working Drawings as called for by the Contract Documents.

.02 The Contractor, to not cause delay in the Work, shall submit Working Drawings to the Contract Administrator with reasonable promptness and in orderly sequence. If either the Contractor or the Contract Administrator so requests, they shall jointly prepare a schedule fixing the dates for submission and return of Working Drawings. Working Drawings shall be submitted in printed form. At the time of submission, the Contractor shall notify the Contract Administrator in writing of any deviations from the Contract Documents that exist in the Working Drawings.

.03 The Contract Administrator shall review and return Working Drawings according to an agreed upon schedule, or otherwise, with reasonable promptness so as not to cause delay in any part of the Work.

.04 The Contract Administrator's review shall be to check for conformity to the design concept and for general arrangement only and such review shall not relieve the Contractor of responsibility for errors or omissions in the Working Drawings or of responsibility for meeting all requirements of the Contract Documents, unless a deviation on the Working Drawings has been approved in writing by the Contract Administrator.

.05 The Contractor shall make any changes in Working Drawings that the Contract Administrator may require to make the Working Drawings consistent with the Contract Documents and resubmit, unless otherwise directed by the Contract Administrator. When resubmitting, the Contractor shall notify the Contract Administrator in writing of any revisions other than those requested by the Contract Administrator.

.06 Work related to the Working Drawings shall not proceed until the Working Drawings have been signed and dated by the Contract Administrator.

.07 The Contractor shall keep one set of the reviewed Working Drawings, marked as above, at the site at all times.

GC 3.03 Right of the Contract Administrator to Modify Methods and Equipment

.01 The Contractor shall, when requested in writing, make alterations in the method, Equipment, or work force at any time the Contract Administrator considers the Contractor's actions to be unsafe, or damaging to either the Work or existing facilities or the environment.

.02 The Contractor shall, when requested in writing, alter the sequence of its operations on the Contract so as to avoid interference with work being performed by others.

.03 Notwithstanding the foregoing, the Contractor shall ensure that all necessary safety precautions and protection are maintained throughout the Work.

GC 3.04 Emergency Situations

.01 The Contract Administrator has the right to determine the existence of an emergency situation and, when such an emergency situation is deemed to exist, the Contract Administrator may instruct the Contractor to take action to remedy the situation. If the Contractor does not take timely action or, if the Contractor is not available, the Contract Administrator may direct others to remedy the situation.

.02 If the emergency situation was the fault of the Contractor, the remedial Work shall be done at the Contractor's expense. If the emergency situation was not the fault of the Contractor, the Owner shall pay for the remedial Work.

GC 3.05 Layout Information

.01 The Contract Administrator shall provide sufficient information, including without limitation, baseline and benchmark information, to facilitate the general location, alignment, elevation and layout of the Work.

.02 The Contract Administrator shall provide pre and post construction inventories of all Monuments, etc. that are located within the Working Area.

.03 The Owner shall be responsible only for the correctness of the layout information provided by the Contract Administrator.

GC 3.06 Extension of Contract Time

.01 An application for an extension of Contract Time shall be made in writing by the Contractor to the Contract Administrator as soon as the need for such extension becomes evident and at least 15 Days prior to the expiration of the Contract Time. The application for an extension of Contract Time shall enumerate the reasons and state the length of extension required.

.02 Circumstances suitable for consideration of an extension of Contract Time include the following:

a) Delays: See subsection GC 3.07, Delays.

b) Changes in the Work: See clause GC 3.10.01, Change in the Work.

c) Extra Work: See clause GC 3.10.02, Extra Work.

d) Additional Work: See clause GC 3.10.03, Additional Work.

.03 The Contract Administrator shall, in reviewing an application for an extension to the Contract Time, consider whether the delays, Changes in the Work, Extra Work, or Additional Work involve a Controlling Operation.

.04 The Contract Time shall be extended for such additional time as may be recommended by the Contract Administrator and deemed fair and reasonable by the Owner.

.05 The terms and conditions of the Contract shall continue for such extension of Contract Time.

GC 3.07 Delays

.01 If the Contractor is delayed in the performance of the Work by:

a) War, blockades, and civil commotions; or

b) Errors in the Contract Documents; or

c) An act or omission of the Owner or Contract Administrator, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the Contract Documents; or

d) A stop work order issued by a court or public authority, provided that such order was not issued as the result of an act or omission of the Contractor or anyone employed or engaged by the Contractor directly or indirectly; or

e) The Contract Administrator giving notice under section GC 7.0, Suspension of Work; or

f) Abnormal Weather provided that in the case of an application for an extension of Contract Time, due to the Abnormal Weather, the Contractor shall, with the Contractor's application, submit evidence from Environment Canada, together with detailed calculations in support of such application; or

g) Archaeological finds, according to subsection GC 3.15, Archaeological Finds,

h) The presence of species at risk as defined in the *Species at Risk Act* (S.C. 2002, c. 29) and/or the *Endangered Species Act*, S.O. 2007, c. 29 not otherwise identified in the Contract Documents, then, the Contractor shall be granted an extension of Contract Time according to subsection GC 3.06, Extension of Contract Time or Interim Completion Dates, and shall be reimbursed by the Owner for reasonable costs incurred by the Contractor as the result of such delay.

.02 If the Work is delayed by labour disputes, strikes or lock-outs, including lock-outs decreed or recommended to its members by a recognized contractor's association, of which the Contractor is a member or to which the Contractor is otherwise bound, which are beyond the Contractor's control, then the Contract Time shall be extended according to subsection GC 3.06, Extension of Contract Time.

.03 In no case shall the extension of Contract Time be less than the time lost as the result of the event causing the delay, unless a shorter extension is agreed to by the Contractor. The Contractor shall not be entitled to payment for costs incurred as the result of such delays unless such delays are the result of actions by the Owner.

.04 The Contractor shall not be entitled to payment for the cost of delays incurred as a result of a dispute between the Contractor and Owner. The Contractor shall execute the Work and may pursue resolution of the dispute according to subsection GC 3.13, Claims, Negotiations, Mediations.

GC 3.08 Assignment of Contract

.01 The Contractor shall not assign the Contract, either in whole or in part, without the prior written consent of the Owner.

GC 3.09 Subcontracting by the Contractor

.01 Subject to clause GC 3.09.03, Subcontracting by the Contractor, the Contractor may subcontract any part of the Work, according to the Contract Documents and any limitations specified therein.

.02 The Contractor shall notify the Contract Administrator in writing in 10 Days prior to the start of construction of the intention to subcontract. Such notification shall identify the part of the Work, and the Subcontractor with whom it is intended.

.03 The Contract Administrator shall, within 5 Days of receipt of such notification, accept or reject the intended Subcontractor. The rejection shall be in writing and shall include the reasons for the rejection.

.04 The Contractor shall not, without the written consent of the Owner, change a Subcontractor who has been engaged according to with this subsection.

.05 The Contractor shall preserve and protect the rights of the Owner under the Contract Documents with respect to that part of the Work to be performed under subcontract and shall:

a) Enter into agreements with the intended Subcontractors to require them to perform their Work according to the Contract Documents; and

b) Be as fully responsible to the Owner for acts and omissions of the Contractor's Subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the Contractor.

.06 The Owner's consent to subcontracting by the Contractor shall not be construed to relieve the Contractor from any obligation under the Contract and shall not impose any liability upon the Owner. Nothing contained in the Contract Documents shall create a contractual relationship between a Subcontractor and the Owner.

GC 3.10 Changes

GC 3.10.01 Changes in the Work

.01 The Owner, or the Contract Administrator where so authorized, may, by order in writing, make a Change in the Work without invalidating the Contract. The Contractor shall not be required to proceed with a Change in the Work until in receipt of a Change Order or Change Directive. Upon the receipt of such Change Order or Change Directive the Contractor shall proceed with the Change in the Work.

.02 The Contractor may apply for an extension of Contract Time according to the terms of clause GC 3.06, Extension of Contract Time.

.03 If the Change in the Work relates solely to quantities, payment for that part of the Work shall be made according to the conditions specified in clause GC 8.01.02, Variations in Tender Quantities. If the Change in the Work does not solely relate to quantities, then either the Owner or the Contractor may initiate negotiations upwards or downwards for the adjustment of the Contract price in respect of the Change in the Work pursuant to subsection GC 3.13, Claims, Negotiations, Mediation or payment may be made according to the conditions contained in clause GC 8.02.05, Payment on a Time and Material Basis.

GC 3.10.02 Extra Work

.01 The Owner, or Contract Administrator where so authorized, may instruct the Contractor to perform Extra Work without invalidating the Contract. The Contractor shall not be required to proceed with the Extra Work until in receipt of a Change Order or Change Directive. Upon receipt of such Change Order or Change Directive the Contractor shall proceed with the Extra Work.

.02 The Contractor may apply for an extension of Contract Time according to the terms of clause GC 3.06, Extension of Contract Time.

.03 Either the Owner or Contractor may initiate negotiations upwards or downwards for the payment for the Extra Work pursuant to subsection GC 3.13, Claims, Negotiations, Mediation, or payment may be made according to the conditions contained in clause GC 8.02.05, Payment on a Time and Material Basis.

GC 3.10.03 Additional Work

.01 The Owner, or Contract Administrator where so authorized, may request the Contractor to perform Additional Work without invalidating the Contract. If the Contractor agrees to perform Additional Work, the Contractor shall proceed with such Additional Work upon receipt of a Change Order.

.02 The Contractor may apply for an extension of Contract Time according to the terms of subsection GC 3.06, Extension of Contract Time.

.03 Payment for the Additional Work may be negotiated pursuant to subsection GC 3.13, Claims, Negotiations, Mediation, or payment may be made according to the conditions contained in clause GC 8.02.05, Payment on a Time and Material Basis.

GC 3.11 Notices

.01 Any notice permitted or required to be given to the Contract Administrator or the Superintendent in respect of the Work shall be deemed to have been given to and received by the addressee on the date of delivery if delivered by hand, email, or by facsimile transmission and on the fifth Day after the date of mailing, if sent by mail.

.02 The Contractor and the Owner shall provide each other with the mail and email addresses; cell phone, and telephone numbers for the Contract Administrator and the Superintendent at the commencement of the Work, and update as necessary.

.03 In the event of an emergency situation or other urgent matter the Contract Administrator or the Superintendent may give a verbal notice, provided that such notice is confirmed in writing within 2 Days.

.04 Any notice permitted or required to be given to the Owner or the Contractor shall be given according to the notice provision of the Contract.

GC 3.12 Use and Occupancy of the Work Prior to Substantial Performance

.01 Where it is not contemplated elsewhere in the Contract Documents, the Owner may use or occupy the Work or any part thereof prior to Substantial Performance, provided that at least 30 Days written notice has been given to the Contractor.

.02 The use or occupancy of the Work or any part thereof by the Owner prior to Substantial Performance shall not constitute an acceptance of the Work or parts so occupied. In addition, the use or occupancy of the Work shall not relieve the Contractor or the Contractor's Surety from any liability that has arisen, or may arise, from the performance of the Work according to the Contract Documents. The Owner shall be responsible for any damage that occurs because of the Owner's use or occupancy. Such use or

occupancy of any part of the Work by the Owner does not waive the Owner's right to charge the Contractor liquidated damages according to the terms of the Contract.

GC 3.13 Claims, Negotiations, Mediation

GC 3.13.01 Continuance of the Work

.01 Unless the Contract has been terminated or completed, the Contractor shall in every case, after serving or receiving any notification of a claim or dispute, verbal or written, continue to proceed with the Work with due diligence and expedition. It is understood by the parties that such action shall not jeopardize any claim it may have.

GC 3.13.02 Record Keeping

.01 Immediately upon commencing Work that may result in a claim, the Contractor shall keep Daily Work Records during the course of the Work, sufficient to substantiate the Contractor's claim, and the Contract Administrator shall keep Daily Work Records to be used in assessing the Contractor's claim, all according to clause GC 8.02.07, Records.

.02 The Contractor and the Contract Administrator shall attempt to reconcile their respective Daily Work Records on a daily basis, to simplify review of the claim, when submitted. If the Contractor and the Contract Administrator fail to reconcile their respective Daily Work Records, then the Contractor shall submit its Daily Work Records as part of its claim, whereby the resolution of the dispute about the Daily Work Records shall not be resolved until there is a resolution of the claim.

.03 The keeping of Daily Work Records by the Contract Administrator or the reconciling of such Daily Work Records with those of the Contractor shall not be construed to be acceptance of the claim.

GC 3.13.03 Claims Procedure

.01 The Contractor shall give verbal notice of any situation that may lead to a claim for additional payment immediately upon becoming aware of the situation.

.02 The Contractor shall provide written notice within 7 Days of the commencement of any part of the Work that may be affected by the situation.

.03 The Contractor shall submit detailed claims as soon as reasonably possible and in any event no later than 30 Days or such time as mutually agreed after completion of the Work affected by the situation. The detailed claim shall:

a) Identify the item or items in respect of which the claim arises;

b) State the grounds, contractual or otherwise, upon which the claim is made; and

c) Include the Records maintained by the Contractor supporting such claim.

.04 Within 30 Days of the receipt of the Contractor's detailed claim, the Contract Administrator may request the Contractor to submit any further and other particulars as the Contract Administrator considers necessary to assess the claim. The Contractor shall submit the requested information within 30 Days of receipt of such request.

.05 Within 90 Days of receipt of the detailed claim, the Contract Administrator shall advise the Contractor, in writing, of the Contract Administrator's opinion regarding the validity of the claim.

GC 3.13.04 Negotiations

.01 The parties shall make all reasonable efforts to resolve their dispute by amicable negotiations and agree to provide, without prejudice, open and timely disclosure of relevant facts, information, and documents to facilitate these negotiations.

.02 Should the Contractor disagree with the opinion given in clause GC 3.13.03.05, with respect to any part of the claim, the Contract Administrator shall enter into negotiations with the Contractor to resolve the matters in dispute. Where a negotiated settlement cannot be reached and it is agreed that payment cannot be made on a Time and Material basis according to clause GC 8.02.05, Payment on a Time and Material Basis, the parties shall proceed according to clause GC 3.13.05, Mediation, or subsection GC 3.14, Arbitration.

.03 Prior to the expiry of 30 Business Days from the date of receipt of the Contractors claim, the Contract Administrator shall provide a written response to the Contractor stating the Contract Administrator's final price for the Change Order and an explanation of the rationale and basis of the Contract Administrator's position which shall be deemed to be the initial site response.

GC 3.13.05 Mediation

.01 If a claim is not resolved satisfactorily through the negotiation stage noted in clause GC 3.13.04, Negotiations, within a period of 30 Days following the opinion given in clause GC 3.13.03.05, and the Contractor wishes to pursue the issue further, the parties may, upon mutual agreement, utilize the services of an independent third-party mediator.

.02 The mediator shall be mutually agreed upon by the Owner and Contractor.

.03 The mediator shall be knowledgeable regarding the area of the disputed issue. The mediator shall meet with the parties together or separately, as necessary, to review all aspects of the issue. In a final attempt to assist the parties in resolving the issue themselves prior to proceeding to arbitration the mediator shall provide, without prejudice, a non-binding recommendation for settlement.

.04 The review by the mediator shall be completed within 90 Days following the opinion given in clause GC 3.13.03.05.

.05 Each party is responsible for its own costs related to the use of the mediation process. The cost of the third-party mediator shall be equally shared by the Owner and Contractor.

GC 3.13.06 Payment

.01 Payment of the claim shall be made no later than 28 Days after the date of resolution of the claim or dispute. Such payment shall be made according to the terms of section GC 8.0, Measurement and Payment.

GC 3.13.07 Rights of Both Parties

.01 It is agreed that no action taken under subsection GC 3.13, Claims, Negotiations, Mediation, by either party shall be construed as a renunciation or waiver of any of the rights or recourse available to the parties, provided that the requirements set out in this subsection are fulfilled.

.02 It is further agreed that the parties may at any time resort to the adjudication procedure contained in the *Construction Act*.

GC 3.14 Arbitration

GC 3.14.01 Conditions of Arbitration

.01 If a claim is not resolved satisfactorily through the negotiation stage noted in clause GC 3.13.04, Negotiations, or the mediation stage noted in clause GC 3.13.05, Mediation, either party may invoke the provisions of subsection GC 3.14, Arbitration, by giving written notice to the other party.

.02 Notification that arbitration shall be implemented to resolve the issue shall be communicated in writing as soon as possible and no later than 60 Days following the opinion given in clause GC 3.13.03.05. Where the use of a third-party mediator was implemented, notification shall be within 120 Days of the opinion given in clause GC 3.13.03.05.

.03 The parties shall be bound by the decision of the arbitrator.

.04 The rules and procedures of the *Arbitration Act*, 1991, S.O. 1991, c.17, as amended, shall apply to any arbitration conducted hereunder except to the extent that they are modified by the express provisions of subsection GC 3.14, Arbitration.

GC 3.14.02 Arbitration Procedure

.01 The following provisions are to be included in the agreement to arbitrate and are subject only to such right of appeal as exist where the arbitrator has exceeded their jurisdiction or have otherwise disqualified themselves:

a) All existing actions in respect of the matters under arbitration shall be stayed pending arbitration;

b) All outstanding claims and matters to be settled are to be set out in a schedule to the agreement. Only such claims and matters as are in the schedule shall be arbitrated; and

c) Before proceeding with the arbitration, the Contractor shall confirm that all matters in dispute are set out in the schedule.

GC 3.14.03 Appointment of Arbitrator

.01 The arbitrator shall be mutually agreed upon by the Owner and Contractor to adjudicate the dispute.

.02 Where the Owner and Contractor cannot agree on a sole arbitrator within 30 Days of the notification of arbitration noted in clause GC 3.14.01.02, the Owner and the Contractor shall each choose an appointee within 37 Days of the notice of arbitration.

.03 The appointees shall mutually agree upon an arbitrator to adjudicate the dispute within 15 Days after the last appointee was chosen or they shall refer the matter to the ADR Institute of Ontario (ADRIO), which may select an arbitrator to adjudicate the dispute within 7 Days of being requested to do so.

.04 The arbitrator shall not be interested financially in the Contract nor in either party's business and shall not be employed by either party.

.05 The arbitrator may appoint independent experts and any other persons to assist them.

.06 The arbitrator is not bound by the rules of evidence that govern the trial of cases in court but may hear and consider any evidence that the arbitrator considers relevant.

.07 The hearing shall commence within 90 Days of the appointment of the arbitrator.

GC 3.14.04 Costs

.01 The arbitrator's fee shall be equally shared by the Owner and the Contractor.

.02 The fees of any independent experts and any other persons appointed to assist the arbitrator shall be shared equally by the Owner and the Contractor.

.03 The arbitration hearing shall be held in a place mutually agreed upon by both parties or in the event the parties do not agree, a site shall be chosen by the arbitrator. The cost of obtaining appropriate facilities shall be shared equally by the Owner and the Contractor.

.04 The arbitrator may, in their discretion, award reasonable costs, related to the arbitration.

GC 3.14.05 The Decision

.01 The reasoned decision shall be made in writing within 90 Days of the conclusion of the hearing. An extension of time to make a decision may be granted with consent of both parties. Payment shall be made according to clause GC 3.13.06, Payment.

GC 3.15 Archaeological Finds

.01 If the Contractor's operations expose any items that may indicate an archaeological find, such as but not limited to building remains, hardware, accumulations of bones, pottery, or arrowheads, the Contractor shall immediately notify the Contract Administrator and suspend operations within the area identified by the Contract Administrator. Notification may be verbal provided that such notice is confirmed in writing within 2 Days. Work shall remain suspended within that area until otherwise directed by the Contract Administrator in writing, according to subsection GC 7.09, Suspension of Work.

.02 Any delay in the completion of the Contract that is caused by such a suspension of Work shall be considered to be beyond the Contractor's control according to clause GC 3.07.01.

.03 Any Work directed or authorized in connection with an archaeological find shall be considered as Extra Work according to clause GC 3.10.02, Extra Work.

.04 The Contractor shall take all reasonable action to minimize additional costs that may accrue as a result of any work stoppage.

SECTION GC 4.0 - OWNER'S RESPONSIBILITIES AND RIGHTS

GC 4.01 Working Area

.01 The Owner shall acquire all property rights that are deemed necessary by the Owner for the construction of the Work, including temporary working easements, and shall indicate the full extent of the Working Area on the Contract Drawings.

GC 4.02 Approvals and Permits

.01 The Owner shall pay for all plumbing and building permits.

.02 The Owner shall obtain and pay for all permits, licences, and certificates solely required for the design of the Work.

GC 4.03 Management and Disposition of Materials

.01 The Owner shall identify in the Contract Documents the Materials to be moved within or removed from the Working Area and any characteristics of those Materials that necessitates special Materials management and disposition.

.02 According to regulations under the *Occupational Health and Safety Act*, R.S.O. 1990, c.O.1, as amended, the Owner advises that:

a) The designated substances silica, lead, and arsenic are generally present throughout the Working Area occurring naturally or as a result of vehicle emissions;

b) The designated substance asbestos may be present in cement products, asphalt, and conduits for Utilities;

c) The following hazardous materials are ordinarily present in construction activities: limestone, gypsum, marble, mica, and Portland cement; and

d) Exposure to these substances may occur as a result of activities by the Contractor such as sweeping, grinding, crushing, drilling, blasting, cutting, and abrasive blasting.

.03 The Owner shall identify in the Contract Documents any designated substances or hazardous materials other than those identified above and their location in the Working Area.

.04 If the Owner or Contractor discovers or is advised of the presence of designated substances or hazardous Materials that are in addition to those listed in clause GC 4.03.02, or not clearly identified in the Contract Documents according to clause GC 4.03.03, then verbal notice shall be provided to the other party immediately with written confirmation within 2 Days. The Contractor shall stop Work in the area immediately and shall determine the necessary steps required to complete the Work according to applicable legislation and regulations.

.05 The Owner shall be responsible for any reasonable additional costs of removing, managing and disposing of any Material not identified in the Contract Documents, or where conditions exist that could not have been reasonably foreseen at the time of tendering. All work under this paragraph shall be deemed to be Extra Work.

.06 Prior to commencement of the Work, the Owner shall provide to the Contractor a list of those products controlled under the Workplace Hazardous Materials Information System (WHMIS), that the Owner may supply or use on the Contract, together with copies of the Safety Data Sheets for these products. All containers used in the application of products controlled under WHMIS shall be labelled. The Owner shall notify the Contractor in writing of changes to the list and provide relevant Safety Data Sheets.

.07 Unless expressly permitted in the Contract Documents, the Contractor shall not bring onto the Work Area any designated substance or hazardous Material per OHSA without the prior written authorization of the Contract Administrator.

.08 The Contractor shall use all reasonable care to avoid spilling or disturbing any designated substances or hazardous Material per OHSA.

GC 4.04 Construction Affecting Railway Property

.01 The Owner shall pay the costs of all flagging and other traffic control measures required and provided by the railway company unless such costs are solely a function of the Contractor's chosen method of completing the Work.

.02 Every precaution shall be taken by the Contractor to protect all railway property at track crossings; or otherwise, on which construction operations are to take place according to the terms of this Contract.

.03 The Contractor shall be required to conduct the construction operations in such a manner as to avoid a possibility of damaging any railway property in the vicinity of the Works. Every reasonable precaution shall be taken by the Contractor to ensure the safety of the workers, Subcontractors, and Equipment, as well as railway property throughout the duration of the Contract.

GC 4.05 Default by the Contractor

.01 If the Contractor fails to commence the Work within 14 Days of a formal order to commence Work signed by the Contract Administrator or, upon commencement of the Work, should neglect to prosecute the Work properly or otherwise fails to comply with the requirements of the Contract and, if the Contract Administrator has given a written statement to the Owner and Contractor that sufficient cause exists to justify such action, the Owner may, without prejudice to any other right or remedy the Owner may have, notify the Contractor in writing that the Contractor is in default of the Contractor’s contractual obligations and instruct the Contractor to correct the default in the 5 Working Days immediately following the receipt of such notice.

.02 If the Contractor is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the Contractor’s insolvency or if a receiver is appointed because of the Contractor’s insolvency, the Owner may, without prejudice to any other right or remedy the Owner may have, by giving the Contractor or receiver or trustee in bankruptcy notice in writing, terminate the Contract.

GC 4.06 Contractor's Right to Correct a Default

.01 The Contractor shall have the right within the 5 Working Days following the receipt of a notice of default to correct the default and provide the Owner with satisfactory proof that appropriate corrective measures have been taken.

.02 If the Owner determines that the correction of the default cannot be completed within the 5 Working Days following receipt of the notice, the Contractor shall not be in default if the Contractor:

a) Commences the correction of the default within the 5 Working Days following receipt of the notice;

b) Provides the Owner with a schedule acceptable to the Owner for the progress of such correction; and

c) Completes the correction according to such schedule.

GC 4.07 Owner's Right to Correct Default

.01 If the Contractor fails to correct the default within the time specified in subsection GC 4.06, Contractor's Right to Correct a Default, or subsequently agreed upon, the Owner, without prejudice to any other right or remedy the Owner may have, may correct such default and deduct the cost thereof, as certified by the Contract Administrator, from any payment then or thereafter due to the Contractor.

GC 4.08 Termination of Contractor's Right to Continue the Work

.01 Where the Contractor fails to correct a default within the time specified in subsection GC 4.06, Contractor's Right to Correct a Default, or subsequently agreed upon, the Owner, without prejudice to any other right or remedy the Owner may have, may terminate the Contractor's right to continue the Work in whole or in part by giving written notice to the Contractor.

.02 If the Owner terminates the Contractor's right to continue with the Work in whole or in part, the Owner shall be entitled to:

a) Take possession of the Working Area or that portion of the Working Area devoted to that part of the Work terminated;

b) Utilize any Material within the Working Area;

c) Withhold further payments to the Contractor with respect to the Work or the portion of the Work withdrawn from the Contractor until the Work or portion thereof withdrawn is completed;

d) Charge the Contractor the additional cost over the Contract price of completing the Work or portion thereof withdrawn from the Contractor, as certified by the Contract Administrator and any additional compensation paid to the Contract Administrator for such additional service arising from the correction of the default;

e) Charge the Contractor a reasonable allowance, as determined by the Contract Administrator, to cover correction to the Work performed by the Contractor that may be required under subsection GC 7.16, Warranty;

f) Charge the Contractor for any damages the Owner sustained as a result of the default; and

g) Charge the Contractor the amount by which the cost of corrections to the Work under subsection GC 7.16, Warranty, exceeds the allowance provided for such corrections.

GC 4.09 Final Payment to Contractor

.01 If the Owner's cost to correct and complete the Work in whole or in part is less than the amount withheld from the Contractor under subsection GC 4.08, Termination of Contractor's Right to Continue the Work, the Owner shall pay the balance to the Contractor as soon as the final accounting for the Contract is complete.

GC 4.10 Termination of the Contract

.01 Where the Contractor is in default of the Contract the Owner shall, without prejudice to any other right or remedy the Owner may have, terminate the Contract by giving written notice of termination to the Contractor, the Surety, and any trustee or receiver acting on behalf of the Contractor's estate or creditors.

.02 If the Owner elects to terminate the Contract, the Owner shall provide the Contractor and the trustee or receiver with a complete accounting to the date of termination.

GC 4.11 Continuation of Contractor's Obligations

.01 The Contractor's obligation under the Contract as to quality, correction, and warranty of the Work performed prior to the time of termination of the Contract or termination of the Contractor's right to continue with the Work in whole or in part shall continue to be in force after such termination.

GC 4.12 Use of Performance Bond

.01 If the Contractor is in default of the Contract and the Contractor has provided a Performance Bond, the provisions of section GC 4.0, Owner’s Responsibilities and Rights, shall be exercised according to the conditions of the Performance Bond.

GC 4.13 Payment Adjustment

.01 If any situation should occur in the performance of the Work that would result in a Change in the Work, the Owner shall be entitled to an adjustment and those adjustments shall be managed according to clause GC 3.10.01, Changes in the Work.

SECTION GC 5.0 - MATERIAL

GC 5.01 Supply of Material

.01 All Material necessary for the proper completion of the Work, except that listed as being supplied by the Owner, shall be supplied by the Contractor. The Contract price for the appropriate tender items shall be deemed to include full compensation for the supply and delivery of such Material.

GC 5.02 Quality of Material

.01 All Material supplied by the Contractor shall be new, unless otherwise specified in the Contract Documents.

.02 Material supplied by the Contractor shall conform to the requirements of the Contract.

.03 As specified in the Contract Documents or as requested by the Contract Administrator, the Contractor shall make available, for inspection or testing, a sample of any Material to be supplied by the Contractor.

.04 The Contractor shall obtain for the Contract Administrator the right to enter onto the premises of the Material manufacturer or supplier to carry out such inspection, sampling, and testing as specified in the Contract Documents or as requested by the Contract Administrator.

.05 The Contractor shall notify the Contract Administrator of the sources of supply sufficiently in advance of the Material shipping dates to enable the Contract Administrator to perform the required inspection, sampling, and testing.

.06 The Owner shall not be responsible for any delays to the Contractor's operations where the Contractor fails to give sufficient advance notice to the Contract Administrator to enable the Contract Administrator to carry out the required inspection, sampling, and testing before the scheduled shipping date.

.07 The Contractor shall not change the source of supply of any Material without the written authorization of the Contract Administrator.

.08 Material that is not specified shall be of a quality best suited to the purpose required, and the use of such Material shall be subject to the approval of the Contract Administrator.

.09 All Material inspection, sampling, and testing shall be carried out on random basis according to the standard inspection or testing methods required for the Material. Any approval given by the Contract Administrator for the Materials to be used in the Work based upon the random method shall not relieve the Contractor from the responsibility of incorporating Material that conforms to the Contract Documents into the Work or properly performing the Contract and of any liability arising from the failure to properly perform as specified in the Contract Documents.

GC 5.03 Rejected Material

.01 Rejected Material shall be removed from the Working Area expeditiously after the notification to that effect from the Contract Administrator. Where the Contractor fails to comply with such notice, the Contract Administrator may cause the rejected Material to be removed from the Working Area and disposed of, in what the Contract Administrator considers to be the most appropriate manner, and the Contractor shall pay the costs of disposal and the appropriate overhead charges.

GC 5.04 Substitutions

.01 Where the Contract Documents require the Contractor to supply a Material designated by a trade or other name, the Tender shall be based only upon supply of the Material so designated, that shall be regarded as the standard of quality required by the Contract Documents. After the acceptance of the Tender, the

Contractor may apply to the Contract Administrator to substitute another Material identified by a different trade or other name for the Material designated as aforesaid. The application shall be in writing and shall state the price for the proposed substitute Material designated as aforesaid, and such other information as the Contract Administrator may require.

.02 Rulings on a proposed substitution shall not be made prior to the acceptance of the Tender. Substitutions shall not be made without the prior approval of the Contract Administrator. The approval or rejection of a proposed substitution shall be at the discretion of the Contract Administrator.

.03 If the proposed substitution is approved by the Contract Administrator, the Contractor shall be entitled to the first $1,000 of the aggregate saving in cost by reason of such substitution and to 50% of any additional saving in cost in excess of such $1,000. Each such approval shall be conveyed to the Contractor in writing or by issuance of a Certificate of Equality on the Owner's standard form of "Certification of Equality" and, if any adjustment to the Contract price is made by reason of such substitution, a Change Order shall be issued as well.

GC 5.05 Owner Supplied Material

GC 5.05.01 Ordering of Excess Material

.01 Where Material is supplied by the Owner and where this Material is ordered by the Contractor in excess of the amount specified to complete the Work, such excess Material shall become the property of the Contractor on completion of the Work and shall be charged to the Contractor at cost plus applicable overheads.

GC 5.05.02 Care of Material

.01 The Contractor shall, in advance of receipt of shipments of Material supplied by the Owner, provide adequate and proper storage facilities acceptable to the Contract Administrator, and on the receipt of such Material shall promptly place it in storage except where it is to be incorporated forthwith into the Work.

.02 The Contractor shall be responsible for acceptance of Material supplied by the Owner, at the specified delivery point and for its safe handling and storage. If such Material is damaged while under the control of the Contractor, it shall be replaced or repaired by the Contractor at no expense to the Owner, and to the satisfaction of the Contract Administrator. If such Material is rejected by the Contract Administrator for reasons that are not the fault of the Contractor, it shall remain in the care and at the risk of the Contractor until its disposition has been determined by the Contract Administrator.

.03 Where Material supplied by the Owner arrives at the delivery point in a damaged condition or where there are discrepancies between the quantities received and the quantities shown on the bills of lading, the Contractor shall immediately report such damage or discrepancies to the Contract Administrator who shall arrange for an immediate inspection of the shipment and provide the Contractor with a written release from responsibility for such damage or deficiencies. Where damage or deficiencies are not so reported, it shall be assumed that the shipment arrived in good condition and order, and any damage or deficiencies reported thereafter shall be made good by the Contractor at no extra cost to the Owner.

.04 The full amount of Material supplied by the Owner in each shipment shall be accounted for by the Contractor and such Material shall be at the risk of the Contractor after taking delivery. Such Material shall not, except with the written permission of the Contract Administrator, be used by the Contractor for purposes other than the performance of the Work under the Contract.

.05 Empty reels, crates, containers, and other type of packaging from Material supplied by the Owner shall become the property of the Contractor when they are no longer required for their original purpose and shall be disposed of by the Contractor at the Contractor’s expense unless otherwise specified in the Contract Documents.

.06 Immediately upon receipt of each shipment, the Contractor shall provide the Contract Administrator copies of bills of lading, or such other documentation the Contract Administrator may require to substantiate and reconcile the quantities of Material received.

.07 Where Material supplied by the Owner is ordered and stockpiled prior to the award of the Contract, the Contractor shall, at no extra cost to the Owner, immediately upon commencement of operations, check the Material, report any damage or deficiencies to the Contract Administrator and take charge of the Material at the stockpile site. Where damage or deficiencies are not so recorded by the Contractor, it shall be assumed that the stockpile was in good condition and order when the Contractor took charge of it, and any damage or deficiencies reported thereafter shall be made good by the Contractor at no extra cost to the Owner.

SECTION GC 6.0 - INSURANCE, PROTECTION AND DAMAGE

GC 6.01 Protection of Work, Persons and Property

.01 The Contractor, the Contractor's agents, and all workers employed by or under the control of the Contractor, including Subcontractors, shall protect the Work, persons, and property from damage or injury. The Contractor shall be responsible for all losses and damage that may arise as the result of the Contractor's operations under the Contract, unless indicated to the contrary below.

.02 The Contractor is responsible for the full cost of any necessary temporary protective Work and the restoration of all damage where the Contractor damages the Work or property in the performance of the Contract. If the Contractor is not responsible for the damage that occurs to the Work or property, the Contractor shall restore such damage, and such Work and payment shall be administered according to these General Conditions.

.03 The Contractor shall immediately inform the Contract Administrator of all damage and injuries that occur during the term of the Contract. The Contractor shall then investigate and report back to the Contract Administrator within 15 Days of occurrence of incident, or as soon as possible. The Contract Administrator may conduct its own investigation and the Contractor shall provide all assistance to the Contract Administrator as may be necessary for that purpose.

.04 The Contractor shall not be responsible for loss and damage that occurs as a result of:

a) War;

b) Blockades and civil commotions;

c) Errors in the Contract Documents; or

d) Acts or omissions of the Owner, the Contract Administrator, their agents and employees, or others not under the control of the Contractor, but within the Working Area with the Owner's permission.

.05 The Contractor and the Contractor’s Surety shall not be released from any term or provision of any responsibility, obligation, or liability under the Contract or waive or impair any of the rights of the Owner, except by a release duly executed by the Owner.

GC 6.02 Indemnification

.01 The Contractor shall indemnify and hold harmless the Owner and the Contract Administrator, their elected officials, agents, officers, and employees from and against all claims, demands, losses, expenses, costs, damages, actions, suits, or proceedings by third parties, hereinafter called "claims", directly or indirectly arising or alleged to arise out of the performance of or the failure to perform the Work, provided such claims are:

a) Attributable to bodily injury, sickness, disease, or death or to damage to or destruction of tangible property;

b) Caused by negligent acts or omissions of the Contractor or anyone for whose acts the Contractor may be liable; and

c) Made in writing within a period of 6 years from the date of Substantial Performance of the Work as set out in the Certificate of Substantial Performance of the Work or, where so specified in the Contract Documents, from the date of certification of Final Acceptance.

.02 The Contractor shall indemnify and hold harmless the Owner from all and every claim for damages, royalties or fees for the infringement of any patented invention or copyright occasioned by the Contractor in connection with the Work performed or Material furnished by the Contractor under the Contract.

.03 The Owner expressly waives the right to indemnity for claims other than those stated in clauses GC 6.02.01 and GC 6.02.02.

.04 The Owner shall indemnify and hold harmless the Contractor, their elected officials, agents, officers, and employees from and against all claims, demands, losses, expenses, costs, damages, actions, suits, or proceedings arising out of the Contractor's performance of the Contract that are attributable to a lack of or defect in title or an alleged lack of or defect in title to the Working Area.

.05 The Contractor expressly waives the right to indemnity for claims other than those stated in clause GC 6.02.04.

GC 6.03 Contractor's Insurance

GC 6.03.01 General

.01 Without restricting the generality of subsection GC 6.02, Indemnification, the Contractor shall provide, maintain, and pay for the insurance coverages listed under clauses GC 6.03.02 and GC 6.03.03. Insurance coverage in clauses GC 6.03.04, GC 6.03.05, and GC 6.03.06 shall only apply when so specified in the Contract Documents.

.02 The Contractor shall provide the Contract Administrator with an original Certificate of Insurance for each type of insurance coverage that is required by the Contract Documents. The Contractor shall ensure that the Contract Administrator is, at all times in receipt of a valid Certificate of Insurance for each type of insurance coverage, in such amounts as specified in the Contract Documents. The Contractor will not be permitted to commence Work until the Contract Administrator is in receipt of such proof of insurance. The Contract Administrator may withhold payments of monies due to the Contractor until the Contractor has provided the Contract Administrator with original valid Certificates of Insurance as required by the provisions of the Contract Documents.

GC 6.03.02 Commercial General Liability Insurance

.01 Commercial General Liability Insurance shall be in the name of the Contractor, with the Owner and the Contract Administrator named as additional insureds, with limits of not less than $5,000,000 inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof. The insurance shall be provided in a form acceptable to the Owner.

.02 Approval of this insurance shall be conditional upon the Contractor obtaining the services of an insurer licensed to underwrite insurance in the Province of Ontario and obtaining the insurer's certificate of equivalency to the required insurance.

.03 The Contractor shall submit annually to the Owner, proof of continuation of the completed operations coverage and, if the Contractor fails to do so, the limitation period for claiming indemnity described in clause GC 6.02.01 c), shall not be binding on the Owner.

.04 Should the Contractor decide not to employ Subcontractors for operations requiring the use of explosives for blasting, pile driving or caisson work, removal or weakening of support of property building or land, the Commercial General Liability Insurance shall include the appropriate endorsements.

.05 The policies shall be endorsed to provide the Owner with not less than 30 Days written notice in advance of cancellation, termination, or material change.

.06 "Claims Made" insurance policies shall not be permitted.

GC 6.03.03 Automobile Liability Insurance

.01 Automobile liability insurance in respect of licensed vehicles shall have limits of not less than $5,000,000 inclusive per occurrence for bodily injury, death and damage to property, in the following forms endorsed to provide the Owner with not less than 30 Days written notice in advance of any cancellation, termination, or material change:

a) Standard non-owned automobile policy including standard contractual liability endorsement, and

b) Standard owner's form automobile policy providing third party liability and accident benefits insurance and covering licensed vehicles owned or operated by the Contractor.

GC 6.03.04 Aircraft and Watercraft Liability Insurance

GC 6.03.04.01 Aircraft Liability Insurance

.01 Aircraft liability insurance with respect to owned or non-owned aircraft used directly or indirectly in the performance of the Work, including use of additional premises, shall be subject to limits of not less than $5,000,000 inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof, and limits of not less than $5,000,000 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the Owner. The policies shall be endorsed to provide the Owner with not less than 30 Days written notice in advance of cancellation, change, or amendment restricting coverage.

GC 6.03.04.02 Watercraft Liability Insurance

.01 Watercraft liability insurance with respect to owned or non-owned watercraft used directly or indirectly in the performance of the Work, including use of additional premises, shall be subject to limits of not less than $5,000,000 inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof. Such insurance shall be in a form acceptable to the Owner. The policies shall be endorsed to provide the Owner with not less than 30 Days written notice in advance of cancellation, change, or amendment restricting coverage.

GC 6.03.05 Property and Boiler Insurance

GC 6.03.05.01 Property Insurance

.01 All risks property insurance shall be in the name of the Contractor, with the Owner and the Contract Administrator named as additional insureds, insuring not less than the sum of the amount of the Contract price and the full value, as may be stated in the Contract Documents, of Material that is specified to be provided by the Owner for incorporation into the Work.

GC 6.03.05.02 Boiler Insurance

.01 Boiler insurance insuring the interests of the Contractor, the Owner and the Contract Administrator for not less than the replacement value of boilers and pressure vessels forming part of the Work, shall be in a form acceptable to the Owner.

GC 6.03.05.03 Use and Occupancy of the Work Prior to Completion

.01 Should the Owner wish to use or occupy part or all of the Work prior to Substantial Performance, the Owner shall give 30 Days written notice to the Contractor of the intended purpose and extent of such use or occupancy. Prior to such use or occupancy, the Contractor shall notify the Owner in writing of the additional premium cost, if any, to maintain property and boiler insurance, which shall be at the Owner's expense. If because of such use or occupancy the Contractor is unable to provide coverage, the Owner upon written notice from the Contractor and prior to such use or occupancy shall provide, maintain, and

pay for property and boiler insurance insuring the full value of the Work, including coverage for such use or occupancy, and shall provide the Contractor with proof of such insurance. The Contractor shall refund to the Owner the unearned premiums applicable to the Contractor's policies upon termination of coverage.

.02 The policies shall provide that in the event of a loss or damage, payment shall be made to the Owner and the Contractor as their respective interests may appear. The Contractor shall act on behalf of both the Owner and the Contractor for the purpose of adjusting the amount of such loss or damage payment with the insurers. When the extent of the loss or damage is determined, the Contractor shall proceed to restore the Work. Loss or damage shall not affect the rights and obligations of either party under the Contract, except that the Contractor shall be entitled to such reasonable extension of Contract Time relative to the extent of the loss or damage as the Contract Administrator may decide in consultation with the Contractor.

GC 6.03.05.04 Payment for Loss or Damage

.01 The Contractor shall be entitled to receive from the Owner, in addition to the amount due under the Contract, the amount at which the Owner's interest in restoration of the Work has been appraised, such amount to be paid as the restoration of the Work proceeds, and according to the requirements of section GC 8.0, Measurement and Payment. In addition, the Contractor shall be entitled to receive from the payments made by the insurers the amount of the Contractor's interest in the restoration of the Work.

.02 The Contractor shall be responsible for deductible amounts under the policies, except where such amounts may be excluded from the Contractor's responsibility by the terms of this Contract.

.03 In the event of a loss or damage to the Work arising from the action or omission of the Owner or others, the Owner shall pay the Contractor the cost of restoring the Work as the restoration of the Work proceeds and according to the requirements of section GC 8.0, Measurement and Payment.

GC 6.03.06 Contractor's Equipment Insurance

.01 All risks Contractor's Equipment insurance covering construction equipment used by the Contractor for the performance of the Work, including boiler insurance on temporary boilers and pressure vessels, shall be in a form acceptable to the Owner and shall not allow subrogation claims by the insurer against the Owner. The policies shall be endorsed to provide the Owner with not less than 30 Days written notice in advance of cancellation, change, or amendment restricting coverage. Subject to satisfactory proof of financial capability by the Contractor for self-insurance of the Contractor's Equipment, the Owner agrees to waive the equipment insurance requirement, and for the purpose of this Contract, the Contractor shall be deemed to be insured. This policy shall be amended to provide permission for the Contractor to grant prior releases with respect to damage to the Contractor's Equipment.

GC 6.03.07 Insurance Requirements and Duration

.01 Each insurance policy as noted in the Contract Documents shall be in effect from the date of commencement of the Work until 10 Days after the date of Final Acceptance of the Work, as set out in the Final Acceptance Certificate.

.02 The Contractor shall provide the Owner, on a form acceptable to the Owner, proof of insurance prior to commencement of the Work and signed by an officer of the Contractor and either the underwriter or the broker.

.03 The Contractor shall, on request, promptly provide the Owner with a certified true copy of each insurance policy exclusive of information pertaining to premium or premium bases used by the insurer to determine the cost of the insurance. The certified true copy shall include the signature by an officer of the Contractor and in addition, a signature by an officer of the insurer or the under writer or the broker.

.04 Where a policy is renewed, the Contractor shall provide the Owner, on a form acceptable to the Owner, renewed proof of insurance immediately following completion of renewal.

.05 Unless specified otherwise, the Contractor shall be responsible for the payment of deductible amounts under the policies.

.06 If the Contractor fails to provide or maintain insurance as required in subsection GC 6.03, Contractor's Insurance, or elsewhere in the Contract Documents, then the Owner shall have the right to provide and maintain such insurance and give evidence thereof to the Contractor. The Owner's cost thereof shall be payable by the Contractor to the Owner on demand.

.07 If the Contractor fails to pay the cost of the insurance placed by the Owner within 28 Days of the date on which the Owner made a formal demand for reimbursement of such costs, the Owner may deduct the costs thereof from monies which are due or may become due to the Contractor.

GC 6.04 Bonding

.01 The Contractor shall provide the Owner with the surety bonds in the amount required by the Contract Documents.

.02 Such bonds shall be issued by a duly licensed surety company authorized to transact a business of suretyship in the Province of Ontario and shall be to the satisfaction of the Owner. The bonds shall be maintained in good standing until the Final Acceptance.

GC 6.05 Workplace Safety and Insurance Board

.01 The Contractor shall provide the Contract Administrator with a copy of a Certificate of Clearance indicating the Contractor’s good standing with the Workplace Safety and Insurance Board, as follows:

a) Immediately prior to the Contract Administrator authorizing the Contractor to commence Work.

b) Prior to issue of the Certificate of Substantial Performance.

c) Prior to expiration of the Warranty Period.

d) At any other time when requested by the Contract Administrator.

SECTION GC 7.0 - CONTRACTOR'S RESPONSIBILITIES AND CONTROL OF THE WORK

GC 7.01 General

GC 7.01.01 Site Visit

.01 The Contractor warrants that the site of the Work has been visited during the preparation of the Tender and the character of the Work and all local conditions that may affect the performance of the Work are known.

GC 7.01.02 Commencement of Work

.01 The Contractor shall not commence the Work nor deliver anything to the Working Area until the Contractor has received a written order to commence the work from the Contract Administrator.

GC 7.01.03 Control and Responsibility

.01 The Contractor shall have complete control of the Work and shall effectively direct and supervise the Work so as to ensure conformity with the Contract Documents. The Contractor shall be responsible for construction means, methods, techniques, sequences, and procedures and for coordinating the various parts of the Work.

.02 The Contractor shall provide adequate labour, Equipment, and Material to ensure the completion of the Contract according to the Contract Documents. The Work shall be performed as vigorously and as continuously as weather conditions or other interferences may permit.

.03 The Contractor shall have the sole responsibility for the design, erection, operation, maintenance, and removal of temporary structures and other temporary facilities and the design and execution of construction methods required in their use.

.04 Notwithstanding clause GC 7.01.03, where the Contract Documents include designs for temporary structures and other temporary facilities or specify a method of construction in whole or part, such facilities and methods shall be considered to be part of the design of the Work, and the Contractor shall not be held responsible for that part of the design or the specified method of construction. The Contractor shall, however, be responsible for the execution of such design or specified method of construction in the same manner that the Contractor is responsible for the execution of the Work.

.05 The Contractor shall comply with and conform to all statutes, laws, by-laws, regulations, requirements, ordinances, notices, rulings, orders, directives and policies of the municipal, provincial and federal governments and any other lawful authority and all court orders, judgments and declarations of a court of competent jurisdiction (collectively referred to as the “Laws”), applicable to the Work to be provided by, and the undertakings and obligations of, the Contractor under this Contract.

GC 7.01.04 Compliance with the Occupational Health and Safety Act

.01 The Contractor shall execute the terms of the Contract in strict compliance with the requirements of the *Occupational Health and Safety Act*, R.S.O. 1990, c.O.1, as amended, (the "Act") and Ontario Regulation 213/91, as amended, (that regulates Construction Projects) and any other regulations as amended under *the Act* (the "Regulations") that may affect the performance of the Work, as the "Constructor" or "employer," as defined by *the Act*, as the case may be. The Contractor shall ensure that:

a) Worker safety is given priority in planning, pricing, and performing the Work;

b) The Contractor’s officers and supervisory employees have a working knowledge of the duties of a "Constructor" and "employer" as defined by *the Act* and the provisions of the Regulations applicable to the Work, and a personal commitment to comply with them;

c) A copy of the most current version of *the Act* and the Regulations are available at the Contractor's office within the Working Area, or, in the absence of an office, in the possession of the supervisor responsible for the performance of the Work;

d) Workers employed to carry out the Work possess the knowledge, skills, and protective devices required by law or recommended for use by a recognized industry association to allow them to work in safety;

e) The Contractor's supervisory employees are "Competent Persons" as defined in the OHSA, and carry out their duties in a diligent and responsible manner with due consideration for the health and safety of the workers;

f) All Subcontractors and their workers are properly protected from injury while they are at the Working Area; and

g) Following execution of the Contract and prior to the issuance of the order to commence by the Owner, upon request the Contractor submits to the Contract Administrator a copy of the Notice of Project issued to the Ministry of Labour.

.02 When requested, the Contractor shall provide the Owner with a copy of its health and safety policy and program at the pre-start meeting and shall respond promptly to requests from the Owner for confirmation that its methods and procedures for carrying out the Work comply with *the Act* and Regulations. The Contractor shall cooperate with representatives of the Owner and the inspectors appointed to enforce *the Act* and the Regulations in any investigations of worker health and safety in the performance of the Work. The Contractor shall indemnify and save the Owner harmless from any additional expense that the Owner may incur to have the Work performed as a result of the Contractor's failure to comply with the requirements of *the Act* and the Regulations.

.03 Prior to commencement of the Work, the Contractor shall provide to the Contract Administrator a list of those products controlled under the Workplace Hazardous Materials Information System "WHMIS", which the Contractor expects to use on the Contract. Related Safety Data Sheets shall accompany the submission. All containers used in the application of products controlled under "WHMIS" shall be labelled. The Contractor shall notify the Contractor Administrator in writing of changes in the products to be used and provide relevant Safety Data Sheets.

.04 During the course of the Work, the Contractor shall furnish forthwith to the Contract Administrator a copy of all correspondence, reports, orders or charges respecting occupational health and safety, including under *the Act*, *Technical Standards and Safety Act*, 2000, S.O. 2000, c.16 as amended, and the Criminal Code, R.S.C., 1985, c. C-46 as amended, which are received by, or which come to the notice of, the Contractor that apply or are relevant to any of the Work or activities conducted under the terms of the Contract.

.05 Nothing in this Contract shall be construed as requiring the Owner to monitor or approve the workplace health and safety practices of the Contractor.

GC 7.01.05 Contractor's Representatives

.01 The Contractor shall have an authorized representative on the site while any Work is being performed, to supervise the Work and act for or on the Contractor's behalf. Prior to commencement of construction, the Contractor shall notify the Contract Administrator of the names, addresses, positions, and cell phone, and telephone numbers of the Contractor's representatives who can be contacted at any time to deal with matters relating to the Contract, and update as necessary.

.02 The Contractor shall designate a person to be responsible for traffic control and work zone safety. The designated person shall be a competent worker who is qualified because of:

a) Knowledge, training, and experience to perform the duties;

b) Is familiar with Book 7 of the Ontario Traffic Manual; and

c) Has knowledge of all potential or actual danger to workers and motorists.

Prior to the commencement of construction, the Contractor shall notify the Contract Administrator of the name; address; position; cell phone, and telephone numbers of the designated person, and update as necessary. The designated person may have other responsibilities, including other construction sites, and need not be present in the Working Area at all times.

GC 7.01.06 Assistance to the Contract Administrator

.01 The Contractor shall, at no additional cost to the Owner, furnish all reasonable aid, facilities, and assistance required by the Contract Administrator for the proper inspection and examination of the Work or the taking of measurements for the purpose of payment.

GC 7.01.07 Schedule

.01 The Contractor shall prepare and update, as required, a construction schedule of operations, indicating the proposed methods of construction and sequence of Work and the time the Contractor proposes to complete the various items of Work within the time specified in the Contract Documents. The schedule shall be submitted to the Contract Administrator within 14 Days from the Contract award. If the Contractor's schedule is materially affected by changes in the work, the Contractor shall submit an updated construction schedule, if requested by the Contract Administrator, within 7 Days of the request. This updated schedule shall show how the Contractor proposes to perform the balance of the Work, to complete the Work within the time specified in the Contract Documents.

.02 For Contracts with a specified number of Working Days, the construction time shown on the initial schedule shall not exceed the specified number of Working Days. The activities on the critical path shall assist the Contract Administrator in determining the Controlling Operation for the purpose of the charging of Working Days. The construction schedule shall include all non-working periods and appropriate allowances for Inclement Weather.

.03 For Contracts which specify a Contract Time, the construction time shown on the initial construction schedule shall not extend beyond the specified Contract Time. The construction schedule shall include all non-working periods and appropriate allowances for Inclement Weather.

GC 7.01.08 Errors and Inconsistencies Relating to the Contract

.01 Where the Contractor finds any error, inconsistency, or omission relating to the Contract, the Contractor shall promptly report it to the Contract Administrator and shall not proceed with the activity affected until receiving direction from the Contract Administrator.

.02 The Contractor shall promptly notify the Contract Administrator in writing if the subsurface conditions observed in the Working Area differ materially from those indicated in the Contract Documents.

GC 7.01.09 Utilities

.01 The Contractor shall arrange with the appropriate Utility authorities for the stake out of all underground Utilities and service connections that may be affected by the Work. The Contractor shall observe the location of the stake outs prior to commencing the Work and if there is a discrepancy between the location of the stake outs and the locations shown on the Contract Documents, that may affect the Work, the Contractor shall immediately notify the Contract Administrator and the affected Utility companies, in order to resolve the discrepancy. The Contractor shall be responsible for any damage done to the underground

Utilities and service connections by the Contractor's forces during construction if the stake out locations are within the tolerances given in clause GC 2.01.01 (a).

.02 In the case of damage to or interference with any Utilities, pole lines, pipe lines, conduits, farm tiles, or other public or privately-owned works or property, the Contractor shall immediately notify the Owner, Contract Administrator, and the owner of the works of the location and details of such damage or interference.

GC 7.02 Monuments and Layout

.01 Prior to commencement of construction, the Contract Administrator and the Contractor shall locate on site those Monuments that delineate the Working Area and may be used to lay out the Work, all as shown on the Contract Drawings. Property Monuments shall be inventoried in the report format required by the Owner.

.02 These Monuments shall be protected by highly visible T-bars or 1.0 metre tall stakes with survey ribbon set within 0.3 metres of the Monument.

.03 The Contractor shall be responsible for the preservation of all Property Monuments while the Work is in progress, except those Property Monuments that must be removed to facilitate the Work as identified and agreed by the Contractor and Contract Administrator. Monuments removed to facilitate the Work shall be replaced at the Owner's expense, and all others shall be replaced at the Contractor's expense.

.04 All Monuments disturbed, damaged, or removed by the Contractor's operations shall be documented in the inventory report and replaced under the supervision of an Ontario Land Surveyor.

.05 The Monument inventory report referred to in clauses GC 7.02.01 and GC 7.02.04 shall include as a minimum:

a) Contract number, Contract name, Contract Administrator's name;

b) Project/site construction limits;

c) Rough location, type, identification number, and condition of each Monument before and after construction;

d) The solutions for protection of the Monuments that may be impacted by construction;

e) Reference ties;

f) A summary of those Monuments affected by the Work and how they were reset or replaced, and by what type of Monument.

.06 At no extra cost to the Owner, the Contractor shall provide the Contract Administrator with such materials and devices as may be necessary to lay out the baseline and benchmarks, and as may be necessary for the inspection of the Work.

.07 The Contractor shall provide qualified personnel to lay out and establish all lines and grades necessary for construction. The Contractor shall notify the Contract Administrator of any layout work carried out, so that the same may be checked by the Contract Administrator.

.08 The Contractor shall install and maintain substantial alignment markers and secondary benchmarks as may be required for the proper execution of the Work. The Contractor shall supply one copy of all alignment and grade sheets to the Contract Administrator.

.09 The Contractor shall assume full responsibility for alignment, elevations, and dimensions of each and all parts of the Work, regardless of whether the Contractor's layout work has been checked by the Contract Administrator.

.10 All stakes, marks, and reference points shall be carefully preserved by the Contractor. In the case of their destruction or removal, for any reason, before the end of the Contract Time such stakes, marks, and reference points shall be replaced, unless otherwise mutually agreed between the Contractor and the Contract Administrator, at the Contractor's expense.

.11 Benchmarks and survey monuments identified in the Contract Documents shall be protected by the Contractor. In the case of their destruction or removal, such benchmarks and survey monuments shall be replaced by the Owner at the Contractor's expense.

GC 7.03 Working Area

.01 The Contractor shall maintain the Working Area in a tidy condition and free from the accumulation of debris and prevent dust nuisance, mud, and ponding water, other than that caused by the Owner or others.

.02 The Contractor's sheds, site offices, toilets, other temporary structures, and storage areas for Material and Equipment shall be grouped in a compact manner, maintained in a neat and orderly condition at all times and removed upon completion of the Work.

.03 The Contractor shall confine the construction operations to the Working Area. Should the Contractor require additional space, the Contractor shall obtain such space at no additional cost to the Owner.

.04 The Contractor shall not enter upon or occupy any private property for any purpose, unless the Contractor has received prior written permission from the property owner.

.05 Upon completion of the Contract, the Working Area used by the Contractor shall be restored to its original condition or better unless otherwise specified in the Contract Documents including the removal of all excavated and stockpiled materials at the Contractor's expense.

GC 7.04 Damage by Vehicles or Other Equipment

.01 If at any time, in the opinion of the Contract Administrator, damage is being done or is likely to be done to any Roadway or any improvement thereon, outside the Working Area, by the Contractor's vehicles or other Equipment, whether licensed or unlicensed Equipment, the Contractor shall, on the direction of the Contract Administrator, and at no extra cost to the Owner, make changes or substitutions for such vehicles or Equipment, and shall alter loadings, or in some other manner, remove the cause of such damage to the satisfaction of the Contract Administrator.

GC 7.05 Excess Loading of Motor Vehicles

.01 Where a vehicle is hauling Material for use on the Work, in whole or in part; upon a Highway; and where motor vehicle registration is required for such vehicle, the Contractor shall not cause or permit such vehicle to be loaded beyond the legal limit specified in the *Highway Traffic Act*, R.S.O. 1990, c.H.8, as amended, whether such vehicle is registered in the name of the Contractor or otherwise, except where there are designated areas within the Working Area where overloading is permitted. The Contractor shall bear the onus of weighing disputed loads.

GC 7.06 Maintaining Roads and Detours

.01 Unless otherwise specified in the Contract Documents, if an existing Roadway is affected by construction, it shall be kept open to both vehicular and pedestrian traffic.

.02 Subject to the approval of the Contract Administrator, the Contractor shall, at no additional cost to the Owner, be responsible for providing and maintaining for the duration of the Work an alternative route for both pedestrian and vehicular traffic through the Working Area according to the OTM, whether along the existing Highway under construction or on a detour road beside or adjacent to the Highway under construction.

.03 Subject to the approval of the Contract Administrator, the Contractor may block traffic for short periods of time to facilitate construction of the Work according to the OTM. Any temporary lane closures shall be kept to a minimum.

.04 The Contractor shall not be required to maintain a road through the Working Area until such time as the Contractor has commenced operations or during seasonal shut down or on any part of the Contract that has been accepted according to these General Conditions. The Contractor shall not be required to apply de-icing chemicals or abrasives or carry out snowplowing.

.05 Where only localized and separated sections of the Highway are affected by the Contractor's operations, the Contractor shall not be required to maintain intervening sections of the Highway until such times as these sections are located within the limits of the Highway affected by the Contractor's general operations under the Contract.

.06 Where the Contract Documents provide for or the Contract Administrator requires detours at specific locations, payment for the construction of the detours and, if required, for the subsequent removal of the detours, shall be made at the Contract prices appropriate to such Work.

.07 Compensation for all labour, Equipment, and Materials to do this Work shall be at the Contract prices appropriate to the Work and, where there are no such prices, at negotiated prices. Notwithstanding the foregoing, the cost of blading required to maintain the surface of such roads and detours shall be deemed to be included in the prices bid for the various tender items and no additional payment shall be made.

.08 Where Work under the Contract is discontinued for any extended period, including seasonal shutdown, the Contractor shall, when directed by the Contract Administrator, open and place the Roadway and detours in a passable, safe, and satisfactory condition for public travel.

.09 Where the Contractor constructs a detour that is not specifically provided for in the Contract Documents or required by the Contract Administrator, the construction of the detour and, if required, the subsequent removal shall be performed at the Contractor's expense. The detour shall be constructed and maintained to structural and geometric standards approved by the Contract Administrator. Removal and site restoration shall be performed as directed by the Contract Administrator.

.10 Where, with the prior written approval of the Contract Administrator, the Highway is closed and the traffic diverted entirely off the Highway to any other Highway, the Contractor shall, at no extra cost to the Owner, supply, erect, and maintain traffic control devices according to the OTM.

.11 Compliance with the foregoing provisions shall in no way relieve the Contractor of its obligations under subsection GC 6.01, Protection of Work, Persons, and Property, dealing with the Contractor's responsibility for damage claims, except for claims arising on sections of Highway within the Working Area that are being maintained by others.

GC 7.07 Access to Properties Adjoining the Work and Interruption of Utility Services

.01 The Contractor shall provide at all times and at no extra cost to the Owner:

a) Safe and adequate pedestrian and vehicular access;

b) Continuity of Utility services; and

c) Access for emergency response services;

to properties adjoining the Working Area.

.02 The Contractor shall provide at all times and at no extra cost to the Owner access to fire hydrants, water and gas valves, and all other Utilities located in the Working Area.

.03 Where any interruptions in the supply of Utility services are required and are authorized by the Contract Administrator, the Contractor shall give the affected property owners notice according to subsection GC 7.11, Notices by the Contractor, and shall arrange such interruptions so as to create a minimum of interference to those affected.

GC 7.08 Approvals and Permits

.01 Except as specified in subsection GC 4.02, Approval and Permits, the Contractor shall obtain and pay for any permits, licences, and certificates, which at the date of tender closing, are required for the performance of the Work.

.02 The Contractor shall arrange for all necessary inspections required by the approvals and permits specified in clause GC 7.08.01, Approvals and Permit.

GC 7.09 Suspension of Work

.01 The Contractor shall, upon written notice from the Contract Administrator, discontinue or delay any or all of the Work and Work shall not be resumed until the Contract Administrator so directs in writing. Delays, in these circumstances, shall be administered according to subsection GC 3.07, Delays.

GC 7.10 Contractor's Right to Stop the Work or Terminate the Contract

.01 If the Owner is adjudged bankrupt or makes a general assignment for the benefit of creditors because of insolvency or if a receiver is appointed because of insolvency, the Contractor may, without prejudice to any other right or remedy the Contractor may have, by giving the Owner or receiver or trustee in bankruptcy written notice, terminate the Contract.

.02 If the Work is stopped or otherwise delayed for a period of 30 Days or more under an order of a court or other public authority and provided that such order was not issued as the result of an act or fault of the Contractor or of anyone directly employed or engaged by the Contractor, the Contractor may, without prejudice to any other right or remedy the Contractor may have, by giving the Owner written notice, terminate the Contract.

.03 The Contractor may notify the Owner in writing, with a copy to the Contract Administrator, that the Owner is in default of contractual obligations if:

a) The Contract Administrator fails to issue certificates according to the provisions of section GC 8.0, Measurement and Payment;

b) The Owner fails to pay the Contractor, within 28 Days of the due dates identified in clause GC 8.02.04, Certification and Payment, the amounts certified by the Contract Administrator or within 28 Days of an award by an arbitrator or court; or

c) The Owner fails to comply with the requirements of the Contract.

.04 The Contractor's written notice to the Owner shall advise that if the default is not corrected in the 7 Days immediately following receipt of the written notice, the Contractor may, without prejudice to any other right or remedy the Contractor may have, stop the Work or terminate the Contract.

.05 If the Contractor terminates the Contract under the conditions set out in subsection GC 7.10, Contractor's Right to Stop the Work or Terminate the Contract, the Contractor shall be entitled to be paid for all Work performed according to the Contract Documents and for any losses or damage as the Contractor may sustain as a result of the termination of the Contract.

GC 7.11 Notices by the Contractor

.01 Before any Work is carried out that may affect the property or operations of any Ministry or agency of government or any person; company; partnership; or corporation, including a municipal corporation or any board or commission thereof, and in addition to such notices of the commencement of specified operations as are prescribed elsewhere in the Contract Documents, the Contractor shall give at least 48 hours advance written notice of the date of commencement of such Work to the person, company, partnership, corporation, board, or commission so affected.

GC 7.12 Environmental Incident Management under Legislation Protecting the Environment and Natural Resources

.01 The Contractor shall be in strict compliance with the requirements of the following legislation, as amended, regarding environmental incidents under the control of the Contractor or that are a result of the Contractor's operations:

a) *Environmental Protection Act*, R.S.O. 1990, c. E.19

b) *Fisheries Act*, R.S.C. 1985, c. F-14

c) *Technical Standards and Safety Act*, 2000, S.O. 2000, c. 16

d) *Pesticides Act*, R.S.O. 1990, c. P.11

e) *Ontario Water Resources Act*, R.S.O. 1990, c. O.40

f) *Transportation of Dangerous Goods Act*, 1992, S.C.1992, c. 34

.02 The requirements of the legislation listed in clause GC 7.12.01 include but are not restricted to:

a) Immediate containment of the material, pollutant, contaminant, deleterious substance, or dangerous good;

b) Immediate notification of the environmental incident to the proper authority; and

c) Clean up and restoration of the environment to preconditions.

.03 The Contractor shall possess a plan demonstrating that environmental incidents shall be managed to satisfy the requirements of clauses GC 7.12.01 and GC 7.12.02.

.04 The Contractor shall provide a copy of the environmental incident plan to the Contract Administrator when required and shall inform the Contract Administrator immediately of:

a) An environmental incident when it occurs; and

b) Any actions taken or intended to be taken by the Contractor regarding the environmental incident.

.05 The Contractor shall indemnify and save the Owner harmless from any additional expense that the Owner may incur to have the Work performed as a result of the Contractor's failure to comply with the requirements of the legislation listed in clause GC 7.12.01.

GC 7.13 Obstructions

.01 Except as otherwise noted in these General Conditions, the Contractor assumes all the risks and responsibilities arising out of any obstruction encountered in the performance of the Work and any traffic conditions, including traffic conditions on any Highway or road giving access to the Working Area caused by such obstructions, and the Contractor shall not make any claim against the Owner for any loss, damage, or expense occasioned thereby.

.02 Where the obstruction is an underground Utility or other human-made object, the Contractor shall not be required to assume the risks and responsibilities arising out of such obstruction, unless the location of the obstruction is shown on the Plans or described in the Contract Documents and the location so shown is within the tolerance specified in clause GC 2.01.01 a), or unless the presence and location of the obstruction has otherwise been made known to the Contractor or could have been determined by the visual site investigation made by the Contractor according to these General Conditions.

.03 During the course of the Contract, it is the Contractor's responsibility to consult with Utility companies or other appropriate authorities for further information in regard to the exact location of these Utilities, to exercise the necessary care in construction operations, and to take such other precautions as are necessary to safeguard the Utilities from damage.

GC 7.14 Limitations of Operations

.01 Except for such Work as may be required by the Contract Administrator to maintain the Work in a safe and satisfactory condition, the Contractor shall not carry out operations under the Contract on Saturdays, Sundays, and any holidays recognized by the Owner without permission in writing from the Contract Administrator.

.02 The Contractor shall cooperate and coordinate the Work with other Contractors, Utility companies, and the Owner and they shall be allowed access to their Work or plant at all reasonable times.

GC 7.15 Cleaning Up Before Acceptance

.01 Upon attaining Substantial Performance of the Work, the Contractor shall remove surplus materials, tools, and Equipment not required for the performance of the remaining Work. The Contractor shall also remove all temporary works and debris other than that caused by the Owner or others and leave the Work and Working Area clean and suitable for occupancy by the Owner, unless otherwise specified.

.02 The Work shall not be deemed to have reached Completion until the Contractor has removed surplus materials, tools, and Equipment. The Contractor shall also have removed debris, other than that caused by the Owner, or others.

GC 7.16 Warranty

.01 Unless otherwise specified in the Contract Documents for certain Materials or components of the Work, the Contractor shall be responsible for the proper performance of the Work only to the extent that the design and standards permit such performance.

.02 Subject to the previous paragraph the Contractor shall correct promptly, at no additional cost to the Owner, defects or deficiencies in the Work that appear:

a) Prior to and during the period of 12 months from the date of Substantial Performance of the Work, as set out in the Certificate of Substantial Performance of the Work,

b) Where there is no Certificate of Substantial Performance, 12 months from the date of Completion of the Work as set out in the Completion Certificate, or

c) Such longer periods as may be specified in the Contract Documents for certain Materials or some of the Work.

The Contract Administrator shall promptly give the Contractor written notice of observed defects or deficiencies.

.03 The Contractor shall correct or pay for damage resulting from corrections made under the requirements of clause GC 7.16.02.

GC 7.17 Contractor's Workers

.01 The Contractor shall only employ orderly, competent, and skillful workers to do the Work and whenever the Contract Administrator shall inform the Contractor in writing that any worker or workers involved in the Work are, in the opinion of the Contract Administrator, incompetent, or disorderly such worker or workers shall be removed from the Work and shall not be employed on the Work again without the consent in writing of the Contract Administrator.

GC 7.18 Drainage

.01 During construction and until the Work is completed, the Contractor shall make all reasonable efforts to keep all portions of the Work properly and efficiently drained, to at least the same degree as that of the existing drainage conditions.

SECTION GC 8.0 - MEASUREMENT AND PAYMENT

GC 8.01 Measurement

GC 8.01.01 Quantities

.01 The Contract Administrator shall make an Estimate in writing once a month, unless otherwise specified in the Contract Documents, of the quantity of Work performed and provide such Estimate to the Contractor within 10 Days of the Cut-Off Date.

.02 Quantities for progress payments shall be construed and held to be approximate. The final quantities for the issuance of the Completion Payment shall be based on the measurement of Work completed.

.03 Measurement of the quantities of the Work performed may be either by Actual Measurement or by Plan Quantity principles as indicated in the Contract Documents. Adjustments to Plan Quantity measurements shall normally be made using Plan Quantity principles but may, where appropriate, be made using Actual Measurements. Those items identified on the Tender by the notation (P) in the unit column shall be paid according to the Plan Quantity. Items where the notation (P) does not occur shall be paid according to Actual Measurement or lump sum.

GC 8.01.02 Variations in Tender Quantities

.01 Where it appears that the quantity of work to be done or Material to be supplied or both by the Contractor under a unit price tender item may exceed or be less than the tender quantity, the Contractor shall proceed to do the work or supply the Material or both required to complete the tender item and payment shall be made for the actual amount of work done or Material supplied or both at the unit prices stated in the Tender except as provided below:

a) In the case of a Major Item where the quantity of work performed or Material supplied or both by the Contractor exceeds the tender quantity by more than 15%, either party to the Contract may make a written request to the other party to negotiate a revised unit price for that portion of the work performed or Material supplied or both which exceeds 115% of the tender quantity. The negotiation shall be carried out as soon as reasonably possible. Any revision of the unit price shall be based on the actual cost of doing the work or supplying the Material or both under the tender item plus a reasonable allowance for profit and applicable overhead.

b) In the case of a Major Item where the quantity of work performed or Material supplied or both by the Contractor is less than 85% of the tender quantity, the Contractor may make a written request to negotiate for the portion of the actual overheads and fixed costs applicable to the amount of the underrun in excess of 15% of the tender quantity. For purposes of the negotiation, the overheads and fixed costs applicable to the item are deemed to have been prorated uniformly over 100% of the tender quantity for the item. Overhead costs shall be confirmed by a statement certified by the Contractor's senior financial officer or auditor and may be audited by the Owner. Alternatively, where both parties agree, an allowance equal to 10% of the unit price on the amount of the underrun in excess of 15% of the tender quantity shall be paid.

Written requests for compensation must be received no later than 60 Days after the issuance of the Completion Payment.

GC 8.02 Payment

GC 8.02.01 Non-Resident Contractor

.01 If the Contractor is not a registered entity in Ontario, the Contractor shall obtain all necessary approvals, consents, permits, licences, certificates, registrations, and other authorizations prior to execution of the Contract.

.02 The Contractor shall ensure that all Subcontractors the Contractor proposes to use for carrying out any of the Work required by the Contract and who are not a registered entity in Ontario have obtained all necessary approvals, consents, permits, certificates, registrations, and other authorizations prior to execution of the subcontract.

GC 8.02.02 Price for Work

.01 Prices for the Work shall be full compensation for all labour, Equipment and Material required to do the work. The term "all labour, Equipment, and Material" shall include Hand Tools, supplies, and other incidentals.

.02 Payment, for Work which is identified in the Contract Documents but not specifically detailed as part of any one item shall be deemed to be included in the items with which it is associated.

GC 8.02.03 Advance Payments for Material

.01 The Owner shall make advance payments for Material intended for incorporation in the Work upon the written request of the Contractor and according to the following terms and conditions:

a) The Contractor shall deliver the Material to a site approved by the Contract Administrator and the Contractor shall, in advance of receipt of the shipment of the Material, arrange for adequate and proper storage facilities.

b) The value of aggregates, processed and stockpiled, shall be assessed by the following procedure:

i. Sources Other Than Commercial

(A) Granular A, B, BI, BII, BIII, M, and O shall be assessed at the rate of 60% of the Contract price.

(B) Coarse and fine aggregates for hot mix asphaltic concrete, surface treatment and cement concrete shall be assessed at the rate of 25% of the Contract price for each aggregate stockpiled.

ii. Commercial Sources

(A) Payment for separated coarse and fine aggregates shall be considered at the above rate when such Materials are stockpiled at a commercial source where further processing is to be carried out before incorporating such Materials into a final product. Advance payments for other Materials located at a commercial source shall not be made.

c) Payment for all other Materials, unless otherwise specified elsewhere in the Contract Documents, shall be based on the invoice price, and the Contractor shall submit proof of cost to the Contract Administrator before payment can be made by the Owner.

d) The payment for all Materials shall be prorated against the appropriate tender item by paying for sufficient units of the item to cover the value of the Material. Such payment shall not exceed 80% of the Contract price for the item.

e) All Materials for which the Contractor wishes to receive advance payment shall be placed in the designated storage location immediately upon receipt of the Material and shall thenceforth be held by the Contractor in trust for the Owner as collateral security for any monies advanced by the Owner and for the due completion of the Work. The Contractor shall not exercise any act of ownership inconsistent with such security, or remove any Material from the storage locations, except for inclusion in the Work, without the consent, in writing, of the Contract Administrator.

f) Such materials shall remain at the risk of the Contractor who shall be responsible for any loss, damage, theft, improper use, or destruction of the Material however so caused.

.02 Where the Owner makes advance payments subject to the conditions listed in clause GC 8.02.03.01, such payment shall not constitute acceptance of the Material by the Owner. Acceptance shall only be determined when the Material meets the requirements of the appropriate specification.

GC 8.02.04 Certification and Payment

GC 8.02.04.01 Progress Payment

.01 The Contractor shall submit a Proper Invoice for progress payments monthly or at intervals specified in the Contract Documents after starting the Work on this Contract. The Contractor shall submit the Proper Invoice to the Contract Administrator and to the Owner. This Proper Invoice shall be for work completed at the agreed to Cut-Off Date.

.02 A Proper Invoice shall include;

a) the requirements as set out in section 6.1 of the *Construction Act*;

b) the quantities of Work performed;

c) the value of Work performed;

d) any advanced payment for Material;

e) the amount of Statutory Holdback, liens, Owner's set-off;

f) the amount of any applicable taxes;

g) the amount due to the Contractor; and

h) any other information that may be prescribed in the Contract Documents.

.03 Payment shall be made within 28 Days of the submission of the Proper Invoice unless a notice of non-payment has been issued according to the *Construction Act*.

.04 The Owner shall retain the Statutory Holdback in the form and amount as required under the *Construction Act*.

GC 8.02.04.02 Certification of Subcontract Completion

.01 Before the Work has reached the stage of Substantial Performance, the Contractor may notify the Contract Administrator, in writing that a subcontract is completed satisfactorily and ask that the Contract Administrator certify the completion of such subcontract.

.02 The Contract Administrator shall issue a Certificate of Subcontract Completion, if the subcontract has been completed in a form satisfactory to the Contract Administrator, and all required inspection and testing of the works covered by the subcontract have been carried out and the results are satisfactory to the Contract Administrator.

.03 The Contract Administrator shall set out in the Certificate of Subcontract Completion the date on which the subcontract was completed and, within 7 Days of the date the subcontract is certified complete, the Contract Administrator shall give a copy of the certificate to the Contractor and to the Subcontractor concerned.

GC 8.02.04.03 Subcontract Statutory Holdback Release Certificate and Payment

.01 Following receipt of the Certificate of Subcontract Completion, the Owner shall release and pay the Contractor the Statutory Holdback retained in respect of the subcontract. Such release shall be made 61 Days after the date the subcontract was certified complete and providing the Contractor submits the following to the Contract Administrator:

a) A document satisfactory to the Contract Administrator that shall release the Owner from all further claims relating to the subcontract, qualified by stated exceptions such as holdback monies;

b) Evidence satisfactory to the Contract Administrator that the Subcontractor has discharged all liabilities incurred in carrying out the subcontract;

c) A satisfactory clearance certificate or letter from the Workplace Safety and Insurance Board relating to the subcontract; and

d) A copy of the contract between the Contractor and the Subcontractor and a satisfactory statement showing the total amount due the Subcontractor from the Contractor.

.02 Clause GC 8.02.04.03.01 (d), shall only apply to Lump Sum Items and then only when the Contract Administrator specifically requests it.

.03 Upon receipt of the Statutory Holdback, the Contractor shall forthwith give the Subcontractor the payment due under the subcontract.

.04 Release of Statutory Holdback by the Owner in respect of a subcontract shall not relieve the Contractor, or the Contractor's Surety, of any of their responsibilities.

GC 8.02.04.04 Substantial Performance of Work

.01 The Contractor, as part of the application for Substantial Performance, shall submit an itemized list of the outstanding work.

.02 Upon application by the Contractor and when the Contract Administrator has verified that the Contract has been substantially performed, the Contract Administrator shall issue a Certificate of Substantial Performance.

.03 The Contract Administrator shall set out in the Certificate of Substantial Performance the date on which the Contract was substantially performed and, within 7 Days after signing the said certificate, and shall provide a copy to the Contractor.

.04 Upon receipt of a copy of the Certificate of Substantial Performance, the Contractor shall forthwith, as required by Section 32(1) Paragraph 5 of the *Construction Act*, as amended, publish a copy of the certificate in the manner set out in the regulations.

.05 Where the Contractor fails to publish a copy of the Certificate of Substantial Performance as required above within 7 Days after receiving a copy of the certificate signed by the Contract Administrator, the Owner may publish a copy of the certificate at the Contractor's expense.

.06 Except as otherwise provided for in Section 31 of the *Construction Act*, the 60 Day lien period prior to the release of holdback as referred to in clause GC 8.02.04.05, Substantial Performance Payment and Statutory Holdback Release Payment Certificates, shall commence from the date of publication of the Certificate of Substantial Performance as provided for above.

GC 8.02.04.05 Substantial Performance Payment and Substantial Performance Statutory Holdback Release Payment Certificates

.01 Prior to the Contract Administrator issuing the Certificate of Substantial Performance, the Contractor shall submit a Proper Invoice for the Work completed. In addition to the requirements specified under section 8.02.04.01.02, the Proper Invoice shall include:

a) The value of Work performed to the date of Substantial Performance;

b) The value of outstanding or incomplete Work;

c) The amount of the Statutory Holdback, allowing for any previous releases of Statutory Holdback to the Contractor in respect of completed subcontracts and deliveries of pre-selected Equipment; and

d) The amount due to the Contractor.

.02 Payment shall be made within 28 Days of the date of submission of the Proper Invoice.

.03 The Substantial Performance Statutory Holdback Release Payment Certificate shall be a payment certificate releasing to the Contractor the Statutory Holdback due in respect of Work performed up to the date of Substantial Performance. Payment of such Statutory Holdback shall be due 61 Days after the date of publication of the Certificate of Substantial Performance but subject to the provisions of the *Construction Act* and the submission by the Contractor of the following documents:

a) A satisfactory Certificate of Clearance from the Workplace Safety and Insurance Board; and

b) Proof of publication of the Certificate of Substantial Performance.

.04 Any amount of security retained shall be identified on the Substantial Performance Payment Certificate.

GC 8.02.04.06 Certification of Completion

.01 Upon application by the Contractor and when the Contract Administrator has verified that the Contract has reached Completion, the Contract Administrator shall issue a Completion Certificate.

.02 The Contract Administrator shall set out in the Completion Certificate the date on which the Work was completed and, within 7 Days of signing the said certificate, the Contract Administrator shall provide a copy to the Contractor.

GC 8.02.04.07 Completion Payment and Completion Statutory Holdback Release Payment Certificates

.01 Prior to the Contract Administrator issuing the Completion Certificate, the Contractor shall submit a Proper Invoice for the Work completed. In addition to the requirements noted under section 8.02.04.01.02, the Proper Invoice shall include:

a) Measurement and value of Work at Completion;

b) The amount of the further Statutory Holdback based on the value of further Work completed over and above the value of Work completed shown in the Substantial Performance Payment Certificate referred to above; and

c) The amount due to the Contractor.

.02 The Completion Statutory Holdback Release Payment Certificate shall be a payment certificate releasing to the Contractor the further Statutory Holdback. Subject to any outstanding liens and permissible set-offs

and upon submission of a satisfactory Certificate of Clearance from the Workplace Safety and Insurance Board, the Owner shall pay the remaining holdback on the Work done, within 28 Days after the expiration of the 60-Day lien period.

.03 Any amount of security retained shall be identified on the Completion Payment Certificate.

GC 8.02.04.08 Interest

.01 Interest due to the Contractor shall be based on simple interest and calculated using the applicable Rate of Interest. Interest shall begin to accrue on an amount that is not paid when it is due to be paid under Part-I of the *Construction Act*, at the prejudgment interest rate determined under subsection 127 (2) of the *Courts of Justice Act* or, if the Contract specifies a different interest rate for this purpose, the greater of the prejudgment interest rate and the interest rate specified in the Contract.

GC 8.02.04.09 Interest for Late Payment

.01 Provided the Contractor has complied with the requirements of the Contract, including all documentation requirements, when payment by the Owner to the Contractor for Work performed, or for release of Statutory Holdback, is delayed by the Owner, then the Contractor shall be entitled to receive interest on the outstanding payment at the Rate of Interest, if payment is not received on the dates set out below:

a) Progress Payment: 28 Days after submission of Proper Invoice;

b) Subcontract Statutory Holdback Release Payment: 89 Days after the date on which the subcontract was completed;

c) Substantial Performance Payment: 28 Days after the date of issuance of the certificate;

d) Substantial Performance Statutory Holdback Release Payment: 89 Days after publication of the Payment Certificate of Substantial Performance;

e) Completion Payment: 28 Days after the date certified as the date on which the Contract reached Completion; and

f) Completion Statutory Holdback Release Payment: 89 Days after the date certified as the date that the Work was completed.

.02 If the Contractor has not complied with the requirements of the Contract, including all documentation requirements, prior to expiration of the time periods described in clause GC 8.02.04.09.01, interest shall only begin to accrue when the Contractor has completed those requirements.

GC 8.02.04.10 Interest for Negotiations and Claims

.01 Except as hereinafter provided, where a notice of negotiation, notice of intent to claim and the subsequent claims are submitted according to the time limits or procedure or both described by subsection GC 3.13, Claims, Negotiations, Mediation, the Owner shall pay the Contractor the Rate of Interest on the amount of the negotiated price for that part of the Work or on the amount of the settled claim. Such interest shall not commence until 30 Days after the satisfactory completion of that part of the Work.

.02 Where the Contractor fails to give notice of a claim within the time limit prescribed by subsection GC 3.13, Claims, Negotiations, Mediation, interest shall not be paid.

.03 Where a Contractor fails to comply with the 30 Day time limit and the procedures prescribed in clause GC 3.13.03.03 for submission of claims, interest shall not be paid for the delay period.

GC 8.02.04.11 Owner's Set-Off

.01 Pursuant to the *Construction Act*, the Owner may retain from monies owing to the Contractor under this Contract an amount sufficient to cover any outstanding or disputed liabilities, including the cost to remedy deficiencies, the reduction in value of substandard portions of the Work, claims for damages by third parties that have not been determined in writing by the Contractor's insurer, undetermined claims by the Owner, and any assessment due the Workplace Safety and Insurance Board.

.02 Under these circumstances the Owner will give the Contractor appropriate notice of such action.

GC 8.02.04.12 Delay in Payment

.01 The Owner shall not be deemed to be in default of the Contract provided any delay in payment does not exceed the due dates as defined in clause GC 8.02.04.09.01.

GC 8.02.05 Payment on a Time and Material Basis

GC 8.02.05.01 Definitions

.01 For the purpose of clause GC 8.02.05 the following definitions apply:

Cost of Labour means the amount of wages, salary, travel, travel time, food, lodging, or similar items and Payroll Burden paid or incurred directly by the Contractor to or in respect of labour and supervision actively and necessarily engaged on the Work based on the recorded time and hourly rates of pay for such labour and supervision but shall not include any payment or costs incurred for general supervision, administration, and management time spent on the entire Work or any wages, salary, or Payroll Burden for which the Contractor is compensated by any payment made by the Owner for Equipment.

Cost of Material means the cost of Material purchased or supplied from stock and valued at current market prices for the purpose of carrying out Extra Work by the Contractor or by others, when such arrangements have been made by the Contractor for completing the Work, as shown by itemized invoices.

Operated Rented Equipment means Rented Equipment for which an operator is provided by the supplier of the Equipment and for which the rent or lease includes the cost of the operator.

Payroll Burden means the payments in respect of workplace insurance, vacation pay, employment insurance, public liability and property damage insurance, sickness and accident insurance, pension fund, and such other welfare and benefit payments forming part of the Contractor's normal labour costs.

Rented Equipment means Equipment that is rented or leased for the special purpose of Work on a Time and Material Basis from a person, firm, or corporation that is not an associate of the lessee as the word “associate” is defined by the *Securities Act*, R.S.O. 1990, c.S.5, as amended, and is approved by the Contract Administrator.

Road Work means the preparation, construction, finishing, and construction maintenance of roads, streets, Highways, and parking lots and includes all work incidentals thereto other than Work on structures.

Sewer and Watermain Work means the preparation, construction, finishing, and construction maintenance of sewer systems and watermain systems, and includes all work incidental thereto other than Work on structures.

Standby Time means any period of time that is not considered Working Time and which together with the Working Time does not exceed 10 hours in any one Working Day and during which time a unit of Equipment cannot practically be used on other Work but must remain on the site in order to continue with its assigned task and during which time the unit is in fully operable condition.

Structure Work means the construction, reconstruction, repair, alteration, remodelling, renovation, or demolition of any bridge, building, tunnel, or retaining wall and includes the preparation for and the laying of the foundation of any bridge, building, tunnel, or retaining wall and the installation of Equipment and appurtenances incidental thereto.

The 127 Rate means the rate for a unit of Equipment as listed in OPSS.PROV 127, Schedule of Rental Rates for Construction Equipment, Including Model and Specification Reference, that is current at the time the work is carried out or for Equipment that is not so listed, the rate that has been calculated by the Owner, using the same principles as used in determining The 127 Rate.

Work on a Time and Material Basis means Changes in the Work, Extra Work, and Additional Work approved by the Contract Administrator for payment on a Time and Material basis. The Work on a Time and Material Basis shall be subject to all the terms, conditions, Standard Specifications and provisions of the Contract.

Working Time means each period of time during which a unit of Equipment is actively and of necessity engaged on a specific operation and the first 2 hours of each immediately following period during which the unit is not so engaged but during which the operation is otherwise proceeding and during which time the unit cannot practically be transferred to other Work but must remain on the site in order to continue with its assigned tasks and during which time the unit is in a fully operable condition.

GC 8.02.05.02 Daily Work Records

.01 Daily Work Records, prepared as the case may be by either the Contractor's representative or the Contract Administrator reporting the labour and Equipment employed and the Material used on each Time and Material project, should be reconciled and signed each Day by both the Contractor's representative and the Contract Administrator. If it is not possible to reconcile the Daily Work Records, then the Contractor shall submit the un-reconciled Daily Work Records with its claim, whereby the resolution of the dispute about the Daily Work Records shall not be resolved until there is a resolution of the claim.

GC 8.02.05.03 Payment for Work

.01 Payment as herein provided shall be full compensation for all labour, Equipment, and Material to do the Work on a Time and Material Basis except where there is agreement to the contrary prior to the commencement of the Work on a Time and Material Basis. The payment adjustments on a Time and Material basis shall apply to each individual Change Order authorized by the Contract Administrator.

GC 8.02.05.04 Payment for Labour

.01 The Owner shall pay the Contractor for labour employed on each Time and Material project at 135% of the Cost of Labour up to $3,500, then at 120% of any portion of the Cost of Labour in excess of $3,500.

.02 The Owner shall make payment in respect of Payroll Burden for Work on a Time and Material Basis at the Contractor's actual cost of Payroll Burden.

.03 At the Owner's discretion, an audit may be conducted in which case the actual Payroll Burden so determined shall be applied to all Time and Material work on the Contract.

GC 8.02.05.05 Payment for Material

.01 The Owner shall pay the Contractor for Material used on each Time and Material project at 120% of the Cost of the Material up to $3,500, then at 115% of any portion of the Cost of Material in excess of $3,500.

GC 8.02.05.06 Payment for Equipment

GC 8.02.05.06.01 Working Time

.01 The Owner shall pay the Contractor for the Working Time of all Equipment, other than Rented Equipment and Operated Rented Equipment, used on the Work on a Time and Material basis at the 127 Rate.

.02 The Owner shall pay the Contractor for the Working Time of Rented Equipment used on the Work on a Time and Material Basis at 110% of the invoice price approved by the Contract Administrator up to a maximum of 110% of the 127 Rate. This constraint shall be waived when the Contract Administrator approves the invoice price prior to the use of the Rented Equipment.

.03 The Owner shall pay the Contractor for the Working Time of Operated Rented Equipment used on the Work on a Time and Material Basis at 110% of the Operated Rented Equipment invoice price approved by the Contract Administrator prior to the use of the Equipment on the Work on a Time and Material Basis.

GC 8.02.05.06.02 Standby Time

.01 The Owner shall pay the Contractor for Standby Time of Equipment at 35% of The 127 Rate or 35% of the invoice price whichever is appropriate. The Owner shall pay reasonable costs for Rented Equipment where this is necessarily retained in the Working Area for extended periods agreed to by the Contract Administrator. This shall include Rented Equipment intended for use on other work, but has been idled due to the circumstances giving rise to the Work on a Time and Material Basis.

.02 In addition, the Owner shall include the Cost of Labour of operators or associated labourers who cannot be otherwise employed during the Standby Time or during the period of idleness caused by the circumstances giving rise to the Work on a Time and Material Basis.

.03 The Contract Administrator may require Rented Equipment idled by the circumstances giving rise to the Work on Time and Material Basis to be returned to the lessor until the Work requiring the Equipment can be resumed. The Owner shall pay such costs as a result from such return.

.04 When Equipment is transported, solely for the purpose of the Work on a Time and Material Basis, to or from the Working Area on a Time and Material basis, payment shall be made by the Owner only in respect of the transporting units. When Equipment is moved under its own power it shall be deemed to be working. The method of moving Equipment and the rates shall be subject to the approval of the Contract Administrator.

GC 8.02.05.07 Payment for Hand Tools

.01 Notwithstanding any other provision of this Section, no payment shall be made to the Contractor for or in respect of Hand Tools or Equipment that are tools of the trade.

GC 8.02.05.08 Payment for Work by Subcontractors

.01 Where the Contractor arranges for Work on a Time and Material Basis, or a part of it, to be performed by Subcontractors on a Time and Material basis and has received approval prior to the commencement of such Work, according to the requirements of subsection GC 3.09, Subcontracting by the Contractor, the Owner shall pay the cost of Work on a Time and Material Basis by the Subcontractor calculated as if the Contractor had done the Work on a Time and Material Basis, plus a markup calculated on the following basis:

a) 20% of the first $3,500; plus

b) 15% of the amount from $3,500 to $12,000; plus

c) 5% of the amount in excess of $12,000.

.02 No further markup shall be applied regardless of the extent to which the work is assigned or sublet to others. If Work on a Time and Material Basis is assigned or sublet to a related entity or associated corporation with common ownership to the Contractor as defined by the *Securities Act*, RSO 1990, cS.5, then the Contractor markup is not permitted.

GC 8.02.05.09 Submission of Invoices

.01 At the start of the Work on a Time and Material Basis, the Contractor shall provide the applicable labour and Equipment rates not already submitted to the Contract Administrator during the course of such Work.

.02 Separate summaries shall be completed by the Contractor. Each summary shall include the Change Directive or Change Order number and covering dates of the Work and shall itemize separately the labour, Materials, and Equipment. Invoices for Materials, Rented Equipment, and other charges incurred by the Contractor on the Work on a Time and Material Basis shall be included with each summary.

.03 Each month the Contract Administrator shall include with the monthly progress payment, the costs of the Work on a Time and Material Basis incurred during the preceding month all according to the Contract administrative procedures and the Contractor's invoice of the Work on a Time and Material Basis.

.04 The final summary as per clause 8.02.05.09.02 shall be submitted by the Contractor within 60 Days after the completion of the Work on a Time and Material Basis.

GC 8.02.05.10 Payment Other Than on a Time and Material Basis

.01 Clause GC 8.02.05 does not preclude the option of the Contract Administrator and the Contractor negotiating a Lump Sum Item or unit price payment for Change in the Work, Extra Work, and Additional Work.

GC 8.02.05.11 Payment Inclusions

.01 Except where there is agreement in writing to the contrary, the compensation, as herein provided, shall be accepted by the Contractor as compensation in full for profit and all costs and expenses arising out of the Work on a Time and Material Basis, including all cost of general supervision, administration, and management time spent on the Work on a Time and Material Basis, and no other payment or allowance shall be made in respect of such Work on a Time and Material Basis.

GC 8.02.06 Final Acceptance Certificate

.01 After the acceptance of the Work or, where applicable, after the Warranty Period has expired, the Contract Administrator shall issue the Final Acceptance Certificate. The Final Acceptance Certificate shall not be issued until all known deficiencies have been adjusted or corrected, as the case may be, and the Contractor has discharged all obligations under the Contract.

.02 Any remaining amount of security shall be released upon Final Acceptance of the Contract.

GC 8.02.07 Records

.01 The Contractor shall maintain and keep accurate Records relating to the Work, Changes in the Work, Extra Work, Additional Work and claims arising therefrom. Such Records shall be of sufficient detail to support the total cost of the Work, Changes in the Work, Extra Work, Additional Work and claims arising therefrom. The Contractor shall preserve all such original Records until 12 months after the Final Acceptance Certificate is issued or until all claims have been settled, whichever is longer. The Contractor shall require that Subcontractors employed by the Contractor preserve all original Records pertaining to

the Work, Changes in the Work, Extra Work, Additional Work and claims arising therefrom for a similar period of time.

.02 The Owner may inspect and audit the Contractor's Records relating to the Work, Changes in the Work, Extra Work, and Additional Work at any time during the period of the Contract. The Contractor shall supply certified copies of any part of its Records required, whenever requested by the Owner.

GC 8.02.08 Taxes

.01 Where a change in Canadian Federal or Provincial taxes occurs after the date of tender closing for this Contract, and this change could not have been anticipated at the time of Tender, the Owner shall increase or decrease Contract payments to account for the exact amount of tax change involved.

.02 Claims for compensation for additional tax cost shall be submitted by the Contractor to the Contract Administrator on forms provided by the Contract Administrator to the Contractor. Such claims for additional tax costs shall be submitted not less than 30 Days after the date of Final Acceptance.

.03 Where the Contractor benefits from a change in Canadian Federal or Provincial taxes, the Contractor shall submit to the Contract Administrator on forms provided by the Contract Administrator, a statement of such benefits. This statement shall be submitted not later than 30 Days after Final Acceptance.

.04 Changes in Canadian Federal or Provincial taxes that impact upon commodities, which when left in place form part of the finished Work, or the provision of services, where such services form part of the Work and where the manufacture or supply of such commodities or the provision of such services is carried out by the Contractor or a Subcontractor, are subject to a claim or benefit as detailed above. Services in the latter context means the supply and operation of Equipment, the provision of labour, and the supply of commodities that do not form part of the Work.

.05 The Contractor shall add the Harmonized Sales Tax (HST) to all invoices.

GC 8.02.09 Liquidated Damages

.01 When liquidated damages are specified in the Contract and the Contractor fails to complete the Work according to the Contract, the Contractor shall pay such amounts as are specified in the Contract Documents.

THE CORPORATION OF THE VILLAGE OF BURK'S FALLS

REVIEW YONGE STREET REHABILITATION

EXP PROJECT NO. NTB-24015164-00

TENDER NO. 2025-10-06

GEOTECHNICAL REPORT – FEB 26, 2020

CONSULTING ENGINEERS:

EXP SERVICES INC.

757 Main Street East
North Bay, Ontario
P1B 1C2

Tel: (705) 474-2720

OWNER:

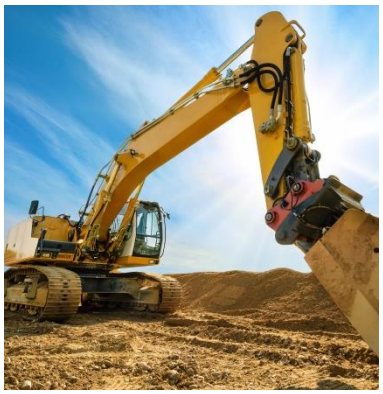
THE CORPORATION OF THE VILLAGE OF BURK'S FALLS
172 Ontario Street
Burk's Falls, Ontario
P0A 1C0

Tel: (705) 382-3138
Fax: (705) 382-2273

GEOTECHNICAL REPORT

Burk's Falls Yonge St. Rehabilitation

Burk's Falls, Ontario


February 26, 2020

TULLOCH Project # 19-1869

2020-02-26	0	Issued for Use	K.O'Sullivan S.Khan	G. Qu	S.deBortoli
Date	**Rev.**	**Status**	**Prepared By**	**Checked By**	**Approved By**
	TULLOCH				

19-1869
February 26, 2020

Village of Burk's Falls
172 Ontario Street
Box 160
Burk's Fall, Ontario
P0A 1C0

Attention: Nicky Kunkel | Clerk

RE: Geotechnical Investigation for the Rehabilitation of Yonge Street, Village of Burk's Falls, Ontario

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Dear Ms. Kunkel:

Please find enclosed our Geotechnical Report for the proposed Yonge St. rehabilitation in The Village of Burk's Falls, Ontario.

This report outlines the results of the geotechnical investigations, and it provides geotechnical recommendations for various aspects of the rehabilitation. Additionally, as part of this investigation, TULLOCH completed drilling operations at the Village's aggregate pit property adjacent to the Village's water supply well on George Street to test the soil for Manganese content. The two investigations were completed as part of one mobilization.

We trust the enclosed is adequate for your current needs. If there is anything further that we can assist with, please contact us at your convenience.

Sincerely,

Greg Qu, P.Eng.
Geotechnical Engineer
TULLOCH Engineering Inc.

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1. INTRODUCTION AND SCOPE

TULLOCH Engineering Inc. (TULLOCH) was retained by The Village of Burk's Falls (Client) to complete a geotechnical site investigation for the proposed Yonge St. rehabilitation in The Village of Burk's Falls, Ontario. The rehabilitation is for approximately 1,000 m of Yonge St., between MacKenzie St. and Simpson St.

A key location plan and a site plan showing the borehole locations can be seen in Appendix A. A total of ten (10) borehole locations were selected across Yonge St. for representative sampling and testing. For the village well, three (3) borehole locations were selected. Bedrock was not encountered at any drilling location. The purpose of the geotechnical investigation was to evaluate the subsurface conditions for the proposed rehabilitation.

This report provides the factual geotechnical investigation data and geotechnical design recommendations, which are based on the site investigation data, our understanding of the project scope and engineering experience.

2. REGIONAL GEOLOGY AND SITE INFORMATION

The site is located within Burk's Falls which is typically composed of Precambrian rock formations typical of the Georgian Bay lowlands, (OGS, 2011). Based on review of Bedrock Geology and Surficial Geology of Southern Ontario mapping as published by the Ontario Geological Society (OGS), the site surficial geology is comprised of glaciolacustrine and modern alluvial deposits, with bedrock outcropping around the village (OGS 2010). Based on review of geology mapping databases the project site lies within an area of felsic, igneous rocks derived from gneisses and migmatitic gneisses. Based on this same database, the project site is approximately 300 m south of a fault line that runs parallel to Yonge St, (OGS, 2011).

3. SITE INVESTIGATION AND METHODOLOGY

The geotechnical investigation was completed from December 03 – 05th, 2019. The investigation consisted of advancing ten (10) boreholes throughout Yonge St. and three (3) boreholes for the well, referenced as BH01 to BH10. It should be noted that only nine (9) boreholes were able to be completed, BH-02 was not advanced due to the proximity of the proposed drilling location to the Village's force main sewer, which could not accurately be located with the present drawings provided by the Village through Ontario One Call locates. The Boreholes were advanced from ground surface to a depth of 3.7 m. A summary of the investigation is shown below in Table 3-1. Borehole layout and coordinates can be viewed in Appendix A. As requested by the Village of Burk's Falls, several locations were drilled at the Village's existing aggregate pit to test

Manganese content present in the fill imported to the site. Originally, three (3) boreholes were proposed to a depth of 15 m below ground surface (mbgs); however, due to the nature of the fill and the high content of large boulders and blast rock, all boreholes except for WH-02 were advanced to final depths ranging between 1.52 mbgs to 3.05 mbgs. Borehole WH-02 was advanced to a depth of 7.62 mbgs, where a sample was taken to assess the level of Manganese in the soil. Samples were not obtained in the remaining shallow boreholes after confirming with the Village of Burk's Falls that data had previously been obtained through a test pitting investigation. A layout of these testing locations (WH-01 to WH-06) can be found in Drawing C-04 in Appendix A.

Table 3-1: Summary of Borehole Information; Yonge Street

Borehole No.	Easting (m)	Northing (m)	Depth to Bedrock (mbgs)	Depth to Completion (mbgs)
BH-01	623979.4	5053061.0	Not Encountered	3.1
BH-03	624120.46	5053116.1	Not Encountered	3.7
BH-04	624203.16	5053146.31	Not Encountered	3.7
BH-05	624296.37	5053184.62	Not Encountered	3.7
BH-06	624399.71	5053227.79	Not Encountered	3.7
BH-07	624478.44	5053261.15	Not Encountered	3.7
BH-08	624564.51	5053293.87	Not Encountered	3.7
BH-09	624673.2	5053341.83	Not Encountered	3.7
BH-10	624749.65	5053371.92	Not Encountered	4.3

Boreholes were advanced using a CME 75 buggy mounted rotatory drill rig that was owned and operated by Landcore Drilling based in Chelmsford, Ontario. Borehole advancement was conducted with 200 mm OD diameter, continuous flight, hollow stem augers. The rig was equipped with standard split spoon soil sampling equipment.

In the overburden, soil samples were obtained with standard split spoon equipment in conjunction with Standard Penetration Tests (SPT). "N" blow count values (ASTM D1586) were generally measured at 0.75 m intervals in the upper 3.0 m of the borehole and at 1.50 m intervals thereafter.

The soil sampling program was directed by a TULLOCH representative, who logged the drilling operations and identified the soil samples as they were retrieved. The recovered soil samples were transported to TULLOCH's CCIL Certified Laboratory in Sault Ste Marie for detailed

examination and testing. All samples will be stored at the laboratory for three (3) months and then disposed of unless directed otherwise. Typical terminology, symbols and abbreviations can be found in Appendix B and detailed borehole logs can be found in Appendix C.

4. LABORATORY TESTING PROGRAM

A geotechnical laboratory testing program was undertaken on representative samples taken from the boreholes and conducted in accordance with ASTM standards. Table 4-1 provides a list of the testing program. Detailed laboratory reports can be found in Appendix D. Corrosivity testing was conducted at various depths in boreholes BH-03 and BH-08. Additional environmental testing outside the scope of this geotechnical investigation is recommended should this material be excavated.

Table 4-1: Summary of Soil Laboratory Testing Program

Test	Number of Tests	Standards
Sieve Analysis	2	ASTM D422
Hydrometer Analysis	3	ASTM D422
Atterberg Limits	5	ASTM D4318
Moisture Content	35	ASTM D2216
Corrosivity Testing	2	Various
Environmental Testing (Metals and Inorganics in Soil/Volatile Organic Carbons (VOCs) in Soil)	5	O. Reg 153/O. Reg 558
Manganese Testing	1	O. Reg 153

4.1 Manganese Testing of Fill at Pit Location on George Street

Manganese testing was conducted on one (1) sample as part of the sampling investigation to determine the level of Manganese in the fill present at the Village's existing aggregate pit on George Street in Burk's Falls, Ontario. Only one (1) sample was obtained at a depth of 7.62 mbgs and exhibited a level of Manganese recorded at 239 µg/g which exceeds the Reported Detection Limit (RDL) of 5 µg/g when tested with reference to Ontario Regulation 153 (O. Reg 153) for Soils. Photographs of the area tested as part of this investigation are included in the photograph log found in Appendix E.

5. SUBSURFACE CONDITIONS

5.1 General

In general, the site consisted of a layer of road fill overlying native sand and silt deposits. Subsurface conditions of the borehole stratigraphy encountered at the project site are summarized below. Detailed borehole logs and laboratory testing summaries can be seen in Appendix C and D respectively. It should be noted that the soil and rock boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during drilling. These boundaries are intended to reflect approximate transition zones for the purpose of geotechnical design and should not be interpreted as exact planes of geological change. Each soil layer will be discussed as it was encountered from ground surface.

5.1.1 ASPHALT

ASPHALT was encountered in the boreholes at pavement. The asphalt thickness varies from 30 mm to 50 mm. The typical asphalt thickness is about 50 mm for the existing paved lanes.

5.1.2 GRANULAR, SAND and GRAVEL FILL (SW-GP)

A layer of GRANULAR, SAND and GRAVEL FILL (SW-GP) was encountered in all boreholes to depths ranging from 0.3 to 1.5 mbgs. This material was brown, moist and had a density of compact to very dense. The SPT 'N' values for the FILL ranged from 26 to >50 blows per 300 mm advancement. Laboratory testing results yielded moisture contents in this soil type ranging from 3.3% to 12.8% and averaging 6.4%. Gradation testing results in BH-01 showed a particle distribution of the following: 22% Gravel fraction, 73% Sand fraction and 5% fines fraction.

5.1.3 SAND (SP)

Beneath the FILL layer at boreholes BH-03, BH-07, BH-08 and at the surface of BH-04, a layer of fine to coarse grained SAND (SP) was encountered. This deposit extended to depths ranging between 1.5 to 3.7 mbgs, with thicknesses between 1.2 and 3.4 m thick. The SAND contained trace to some silt, trace to some gravel, was brown in colour and moist. The SPT 'N' value per 300 mm advancement ranged between 11 and >50 blows, indicating compact to very dense soil conditions. Laboratory testing results yielded moisture contents in this soil type ranging from 1.9% to 18.0% and averaging 7.8%. Gradation testing on representative samples of the sand yielded a material break down of 0% Gravel fraction, 98% Sand fraction and 2% Fines fraction.

5.1.4 SILTY SAND (SM)

Beneath the FILL in BH-01, and BH-06, and beneath the SAND in BH-04, fine to medium grained SILTY SAND (SM) was encountered. This deposit extended to depths ranging from 2.3 to 3.1

mbgs, with thicknesses between 0.6 and 0.8 m. The SILTY SAND contained some clay and gravel and was dark brown to brown in colour. The soil was moist to wet and exhibited a loose to compact density with SPT 'N' values ranging from 4 to 27 blows per 300 mm advancement. Laboratory testing conducted for moisture content yielded results in this soil type ranging from 13.7% to 51.9% averaging 24.4%.

5.1.5 Sandy SILT (ML)

A deposit of Sandy SILT (ML) with trace to some clay and trace gravel was encountered below the FILL deposit in BH-05; this material extended to a depth of 2.3 mbgs and was 1.5 m thick. The Sandy SILT was brown, moist, and had SPT 'N' values ranging between 6 and 26, indicating a density of loose to compact. Laboratory testing for this layer yielded moisture content results ranging from 15.9% to 25.0% and averaging 20.5%.

5.1.6 CLAYEY SILT (ML)

Beneath the FILL in BH-09 and BH-10, and beneath the sand/silt deposits in BH-04, BH-05, and BH-06, was a CLAYEY SILT (ML) layer with trace to some sand. This deposit extended to depths ranging from 1.5 to 3.7 mbgs, with thicknesses between 1.4 and 2.2 m. The CLAYEY SILT ranged in colour from brown to grey and was typically moist. The deposit exhibited soft to very stiff cohesiveness with SPT 'N' values ranging from 6 to 29 blows per 300 mm advancement. An in-field pocket penetrometer test was conducted on the soil to assess the unconfined compressive strength (UCCS) of the CLAYEY SILT and yielded a UCSS of 1.0 to 4.5 kg/cm^2, averaging 2.94 kg/cm^2. Atterberg limits were conducted on this layer in BH-09 and BH-10 which yielded a liquid limit of 24, a plastic limit of 17 and a plasticity index of 7, or medium plasticity. Laboratory testing yielded moisture content results within the CLAYEY SILT ranging from 20.8% to 26.4% and averaging 24.0%. Gradation testing on representative samples showed an average particle size distribution of the following: 0% Gravel fraction, 14% Sand fraction, 53% Silt fraction and 33% Clay Fraction.

5.1.7 SILTY CLAY (CL)

Beneath the SAND in BH-07 and BH-08 and beneath the CLAYEY SILT in BH-10 a deposit of SILTY CLAY/CLAY (CL) with trace sand was found. This deposit extended to depths ranging from 3.1 to 3.3 mbgs. The deposit was brown, moist, and exhibited soft to stiff cohesiveness with SPT 'N' values ranging from 7 to 12 blows per 300 mm advancement. An in-field pocket penetrometer test was conducted on the soil to assess the unconfined compressive strength (UCCS) of the CLAYEY SILT and yielded a UCSS of 1.25 to 4.25 kg/cm^2, averaging 2.58 kg/cm^2. Field vane tests were attempted at the bottom of each of these deposits but were unable to be turned.

Atterberg limits testing was conducted in the SILTY CLAY layer in BH-07, BH-08, and BH-10, which yielded an average liquid limit of 39, a plastic limit of 22 and a plasticity index of 17, or medium plasticity. Laboratory testing yielded moisture contents in this layer ranging from 34.4% to 39.1% and averaging 37.3%. Gradation testing was conducted on a sample from BH-07 which yielded a material break down of the following: 0% Gravel fraction, 7% Sand fraction, 40% Silt fraction and 52% Clay Fraction.

5.1.8 Sandy GRAVEL (GP)

Beneath the CLAYEY SILT in BH-07 a deposit of Sandy GRAVEL (GP) with trace fines was encountered. This deposit extended to the end of the borehole and was 0.4 m thick. The Sandy GRAVEL was brown, moist, and had an SPT 'N' value of 45 blows per 300 mm advancement, indicating a very dense compactness. Water content testing was conducted in this layer which yielded results of 35.4%.

5.1.9 SILT (ML)

Beneath the SILTY CLAY in BH-08 a deposit of SILT (ML) was encountered. This deposit extended to the end of the borehole and was 0.5 m thick. The SILT was grey, moist, and had an SPT 'N' value of 22 blows per 300 mm advancement, indicating a compact density

5.2 Groundwater Conditions

Groundwater was encountered in BH-06 and BH-04, though these are inferred to be perched water tables as the boreholes were dry on completion of drilling. Ground water findings are summarized below in Table 5-1. However, please note groundwater level is subject to seasonal fluctuations with high levels occurring during wet weather conditions in the spring and fall and lower levels during dry weather conditions. As such additional precautions should be taken for ground water management if necessary.

Table 5-1: Water Level Readings Summary

Borehole	Water Level
BH-01	Not Encountered
BH-03	Not Encountered
BH-04	2.68
BH-05	Not Encountered
BH-06	1.52
BH-07	Not Encountered

Borehole	Water Level
BH-08	Not Encountered
BH-09	Not Encountered
BH-10	Not Encountered

6. GEOTECHNICAL RECOMMENDATIONS

6.1 Introduction

The purpose of the following subsections is to provide recommendations to support the road reconstruction and watermain replacement of Yonge St. from the west end travelling east to Simpson Street, approximately 1,000 m.

This report will address the pavement design, excavations, pipe bedding, and backfill, as well as other geotechnical parameters that may be required in accordance with the Canadian Foundation Engineering Manual (CFEM).

6.2 Pavement Design

The location of Burk's Falls is in the south part of the Northeastern region, as classified by MTO. The pavement design in this zone shall follow the MTO guideline with modified the subbase thickness to account for the frost depth and subgrade soil condition.

Table 6-1 summarizes the geotechnical recommendations for pavement design.

Table 6-1: Pavement Design Recommendation

	Pavement Design
Pavement Design	50 mm HL 3 150 mm Granular A 600 mm Granular B
Total Thickens (mm)	800 mm

6.3 Subgrade Preparation

All topsoil, organics, soft or spongy materials must be sub-excavated within the proposed subgrade areas below pavement structure. The site should be graded to the target subgrade profile and the total pavement thickness.

The subgrade must be properly shaped to promote drainage to the drainage system. Surface water should not be allowed to pond. To protect the integrity of the subgrade, the final excavation

lift should be carried out only when the Contractor is ready to prepare and cover the subgrade with the specified material in the same day the final subgrade is exposed and inspected.

The exposed subgrade should be inspected and approved in writing by the geotechnical engineer to ensure the encountered subgrade condition is consistent with the design assumption. Proof rolling will be carried out to spot and delineate soft areas. If soft spot/area is identified, they should be sub-excavated and subsequently replaced with compacted engineered fill such as Granular B or as approved by the geotechnical engineer. If deemed necessary by the engineer, the density of the subgrade should be tested and recorded during foundation inspection.

The final subgrade crossfall should be at least 3% to drain and be free of depression.

6.4 Reuse of Existing Fill

The granular and sand & gravel fills for the existing roads were sampled and tested to assess the suitability for reuse. The tested gradations of the existing granular fit within the Granular B specification. As such, the existing granular, sand & gravel fill would be suitable for reuse as a Granular B material. It should be noted that the granular should be free of excessive fines mitigated from the subgrade silt. Further inspection and testing will be required during construction to confirm and verify the suitability of this material.

6.5 Pavement Materials, Placement and Compaction

The asphalt, base and subbase granular fill should be placed and compacted as per the requirement in this section.

6.5.1 Asphalt

Mix design should follow the specifications in OPSS 1150 for HL. Table 6-2 summarizes the specification regarding asphalt. The mix designs can use Traffic Category "A" as per the expected low traffic volume.

6.5.2 Base and Sub-base Fill

Table 6-2 summarizes the specifications regarding base and sub-base fills.

6.5.3 Inspection and Testing

During construction, subgrade inspection should be conducted to confirm that the conditions exposed are consistent with those encountered in boreholes and to verify the conformance to the design assumptions.

The contractor should develop a QA/QC test plan for the pavement materials and submit the test plan for acceptance prior to construction.

Table 6-2: Requirement for Asphalt, Base and Sub-base Materials

Materials	Notes
Asphalt HMA (OPSS 1150)	- PGAC 58-34 asphalt cement with up to 20% RAP - Performance graded asphalt should conform OPSS1101 - Asphalt construction and QA/QC as per OPSS 310 - Asphalt course compacted to the specified MRD (Maximum Relative Density) according to the asphalt type as per OPSS 310.
Base Course: Granular "A" (OPSS 1010)	- 100% Standard Proctor Maximum Dry Density (ASTMD698) at ± 2% of Optimum Moist Content (OMC) - Placement in maximum 200 mm lifts, or as accepted by the engineer in writing
Sub-base Course: Granular "B" or Approved Fill (OPSS 1010)	- 100% Standard Proctor Maximum Dry Density (ASTMD698) at ± 2% of Optimum Moist Content (OMC) - Placement in maximum 200 mm lifts, or as accepted by the engineer in writing

6.6 Frost Protection

In the Village of Burk's Falls area, the frost penetration depth is 1.8 m. Accordingly, the minimum soil cover for foundations or utility services is 1.8 m. Placement of services and/or foundations on soil above the frost line should be protected with an equivalent insulation.

For underground utilities sensitive to frost action, insulation could be used, alternative to soil cover, to prevent frost action for frost susceptible soil. For cost estimate purpose, 1 inch (25 mm) thick insulation is approximately equivalent to 1 ft (0.3 m) thick soil cover. The insulation design should follow the manufacturer' specification of the chosen specific insulation product. Typical insulation products include Dow SM and Styrofoam HL40, HL60, HL100.

6.7 Horizontal Transition

The horizontal transition treatment is required where pavement structure changes occurs. The following recommendations should be considered:

- The frost tapers for the transition zone between fine-grained native soil and coarse-grained soil should be designed at least 10H:1V in accordance with the OPSD 803 series to mitigate abrupt differential frost heave.

- Horizontal transition from backfill and native soil should follow OPSD 803.010, OPSD 803.030, and OPSD 803.031.
- To ensure a good tie-in from new to old asphalts, the joints should be designed as per Section 310.07.11 in OPSS 310.

6.8 Pavement Over Underground Utilities

After installation of underground service, the pavement should be constructed as per the recommended pavement structure. Appropriate frost tapers should be implemented in the backfill geometry for the underground service utilities such as culverts as per the OPSD 803 series (e.g. 803.030 and 803.031).

The backfill should be placed in a maximum 200 mm loose lifts and compacted to min. 95% SPMDD.

6.9 Pavement Drainage

The surface of the subgrade, subbase and base should be graded with a suitable slope to ensure satisfactory drainage performance.

For the urban pavement cross-section, a continuous subdrain system should be designed to drain water into catch basins. The subdrain invert should be at least 0.5 m below the bottom of the granular subbase. The subdrain may consist of a 150 mm perforated pipe pre-wrapped with Class 1 geotextile (OPSS 1860) surrounded by 0.3 m x 0.3 m clear stones wrapped by a Class 1 non-woven geotextile. The drainage design should follow the OPSD 200 series of typical drawings.

6.10 Open Cut Excavations and Groundwater Control

All excavation should be carried out in accordance with Occupational Health and Safety Act (OHSA), Ontario Regulation 213/9, Construction Projects, January 1, 2010 and OPSS 902. Based on the OHSA, the granular, sand and gravel fill and native soils are classified as Type 3 above the groundwater table and Type 4 soils below the groundwater table.

The soils can be excavated using conventional earthmoving equipment. Historical road structure, cobbles and boulders may be present within fill and native soil deposit at the site. Provisions should be made for handing of these materials. No bedrock was encountered within the bored depth during the borehole investigation. Excavation safety and the stability of temporary construction slopes and lateral support systems are the Contractor's responsibility.

Adequate support should be provided for any existing structures and underground services located adjacent to any excavations.

Groundwater control may be required during construction to maintain dry excavations. The contractor should direct any surface water and runoff generated from excavation area. The groundwater level was below the expected pavement structure in most boreholes during investigation. However, seasonal variations in the water table should be expected. Pumping from filtered sumps will be probably sufficient to control groundwater. The temporary groundwater control measures for excavation is the contractor's responsibility.

An application under the Environmental Activity Sector Registry (EASR) of the Ministry of the Environmental and Climate Change should be submitted in the event that the dewatering pumping volumes exceeds 50,000 L/day.

6.11 Lateral Earth Pressure

For shoring design and retaining wall design, the follow should be considered by structure engineer to account for the lateral earth pressure.

The lateral earth pressure acting on the wall depends on the soil condition. The lateral earth pressure should be calculated as per the following expression, assuming a triangular pressure distribution for a fully drained condition:

$$p = k(\gamma h + q)$$

where

p = the pressure in kPa acting against the wall surface at depth, h, below the finished ground surface.

k = lateral earth pressure coefficient.

γ = the bulk unit weight of the retained soil.

h = depth below the ground surface at which the pressure, p, is to be computed.

q = the value of any adjacent surcharge in kPa which may act close to the wall (including traffic loads).

The above equation assumes that a free-draining granular backfill is present adjacent to the wall and suitable drainage measures are employed, to avoid water pressure development against the wall. If groundwater accumulates behind the wall, the contribution of groundwater pressure should be included for the total lateral pressure acting on the wall.

For design purposes, the table below provides the recommended lateral earth pressure coefficients. K'_a is the active earth pressure coefficient for soil loading on a laterally unrestrained (non-rigid) structure. K'_o is the earth pressure coefficient at rest for soil loading on a restrained structure. K'_p is the passive earth pressure coefficient. These values assume a horizontal soil condition, vertical back-face of the retaining structure and smooth soil-wall interface only. If the design includes a sloping ground surface in front of the retaining structure, a backfill inclination, or an inclined back-face of the retaining wall, the earth-pressure coefficients will require modification. TULLOCH should be contacted to provide appropriate coefficients for these conditions.

The lateral displacement of the retaining structure should be assessed to confirm that the movements can be tolerated by any nearby structure and utilities.

Table 6-3: Lateral Earth Pressure Coefficients

Soil Stratum	Total Unit Weight, γ (kN/m^3)	Effective Friction Angle	K'_o	K'_a	K'_p
Granular A	22	ϕ' =35 ^{o}	0.43	0.27	3.69
Granular B	21	ϕ' =32 ^{o}	0.47	0.31	3.25
Fill – Sandy Deposit Native Sand and Sandy Silt	20	ϕ' =30 ^{o}	0.50	0.33	3.00
Native Silty Clay to Clayey Silt	17	ϕ' =28 ^{o}	0.53	0.36	2.77

Notes: K'_o is Effective Earth Pressure Coefficient at Rest; K'_a is Effective Active Lateral Earth Pressure Coefficient; K'_p is Effective Passive Lateral Earth Pressure Coefficient; The other symbols are defined in Appendix B. The properties of the rock fill should be verified when the gradation data become available to TULLOCH.

6.12 Monitoring During Construction of Deep Excavation

The existing structures should be monitored if a deep excavation is required and the adjacent structure is in the influence zone. The monitoring program is to ensure that construction activities do not cause excessive settlements/moments. A pre-construction and post construction survey will be carried out in such monitoring program.

6.13 Pipe Bedding and Backfill

Bedding and backfilling for utilities should be placed as per the pipe design specification. The following recommendations are provided for consideration where the specification for the bedding and backfilling are not available. It is recommended to place a minimum of 150 mm to 200 mm OPSS Granular A below the pipe invert as bedding material. A minimum 300 mm vertical and side cover should be placed. The backfill should be OPSS Granular A compacted to minimum 95% SPMDD with a maximum lift thickness of 300 mm.

6.14 Soil Corrosivity

Representative testing was completed for soil corrosivity and sulphate concentrations for the platform locations. The results of the testing are shown below in Table 6-4. Samples were tested at AGAT laboratories based in Mississauga, Ontario. The detailed results can be found in Appendix D.

Table 6-4: Soil Corrosivity Results

Borehole No./Sample No.	Depth (m)	Resistivity (Ω cm)	pH	Redox Potential (mV)	Chloride (µg/g)	Sulfide (%)	Sulphate (µg/g)
BH-03 SS5	2.29	4170	7.16	238	120	<4	4
BH-08 SS4	1.5	1790	7.14	227	302	<5	23

The results of the chemical testing were assessed in reference to the AWWA C-105 Standard from ANSI/AWWA Corrosivity Rating System. A score greater than 10 indicates the requirement of corrosion protective measures for buried cast iron alloys. The tested samples for BH-03 and BH-08 are 1 and 2 respectively.

In addition, chloride ions can lead to corrosion of steel. Typically, soils with chloride concentrations greater than 500 µg/g are considered corrosive. As noted in the table, chloride concentrations are less than 500 µg/g.

The concentration of sulphate indicates the degree of sulphate attack for concrete buried at the site. As shown in the table, the sulphate concentrations are less than 1000 µg/g indicating a low degree of sulphate attack. Type GU Portland Cement should be suitable for use at this site.

6.15 Environmental Testing of Soils

Select samples from five (5) of the boreholes advanced along Yonge Street were sent for analysis to determine the levels of Metals and Inorganics compared to the criteria in Ontario Regulation (O.Reg) 153 guidelines for Table 1: Full Depth Background Site Condition Standards - Soil, as

well as Volatile Organic Carbons (VOCs) and Metals compared to criteria in Ontario Regulation 558 guidelines for Schedule IV Leachate Quality Criteria. All results fell within the guidelines and standards of the associated O.Reg criteria; however, several testing parameters exceeded the Reported Detection Limit (RDL) in the O.Reg. 153 Metals and Inorganics (Soil) testing conducted on various samples from the boreholes. The RDL exceedances are summarized in Table 6-5 below and full laboratory results for AGAT Laboratories can be found in Appendix D.

Table 6-5: Summary of RDL Exceedances (O.Reg 153 Metals and Inorganics)

Sample Description				BH03 3-5'	BH10 3'	BH04 5-7'	BH08 4.5'	BH06 3'
Date Sampled				12/05/2019	12/05/2019	12/03/2019	12/04/2019	12/04/2019
Parameter	Unit	G / S	RDL	786441	786442	786443	786444	786445
Barium	µg/g	220	2	24	38	119	42	95
Chromium	µg/g	70	2	3	10	23	5	13
Cobalt	µg/g	21	0.5	1.5	3.0	5.7	2.6	4.8
Copper	µg/g	92	1	7	7	13	10	16
Nickel	µg/g	82	1	2	6	13	4	7
Uranium	µg/g	2.5	0.5	<0.5	<0.5	0.8	0.6	0.6
Vanadium	µg/g	86	1	9	22	34	17	26
Zinc	µg/g	290	5	13	17	39	21	43
Electrical Conductivity	mS/cm	0.57	0.005	0.058	0.149	0.180	0.034	0.397

It is recommended that during construction any fill materials proposed for re-use as backfill are tested to ensure that the soil meets the appropriate Ontario Regulations prior to incorporating as material for use of the rehabilitation and reconstruction of the road infrastructure and watermain infrastructure along Yonge Street. Should soils require disposal off site, samples should be taken of the material in question to ensure it meets Ontario Regulation 558 for Waste Analysis and disposal prior to being placed offsite. Environmental testing of any material for re-use as backfill or for disposal is the responsibility of the contractor.

7. CLOSURE

This geotechnical report has been prepared by TULLOCH for the exclusive use of the Village of Burk's Falls and their authorized agents for the proposed Yonge St. rehabilitation located in Burk's Falls, Ontario. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering,

for the above noted location. Classification and identification of soils, and geologic units have been based upon commonly accepted methods employed in professional geotechnical practice. No warranty or other conditions, expressed or implied, should be understood. Please refer to Appendix E, Notice to Reader, which pertains to this report.

We trust that the information in this report will be sufficient to allow the Village of Burk's Falls to proceed with the rehabilitation of Yonge St. located in Burk's Falls, Ontario. Should further elaboration be required for any portion of this project, we would be pleased to assist.

Greg Qu, P.Eng.
Geotechnical Engineer

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APPENDIX A

KEY AND SITE LOCATION PLAN AND FIGURES

PLAN
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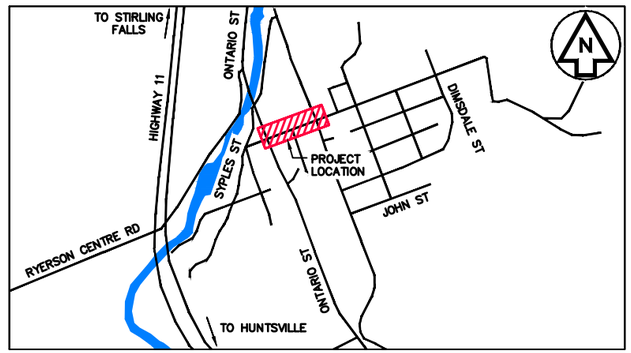

PROJECT LOCATION
N.T.S

BOREHOLE COORDINATES			
NAME	EASTING	NORTHING	ELEVATION
19-1869-BH-01	623 979.4	5 053 061.0	302.6
19-1869-BH-02	-	-	-
19-1869-BH-03	624 120.5	5 053 116.1	311.2
19-1869-BH-04	624 203.2	5 053 146.3	307.1
19-1869-TP-01	623 985.1	5 053 076.0	299.9
19-1869-TP-02	623 976.2	5 053 068.0	302.3

LEGEND

- BOREHOLE LOCATION
- TEST PIT LOCATION

NOTES:

1. CO-ORDINATES ARE IN UTM ZONE 17 (NAD83 CSRS).

0 10 20 30 40 50m
Scale: 1:1000

No.	DATE	BY	ISSUES / REVISIONS
0	2020-01-06	KK	ISSUED FOR GEOTECHNICAL REPORT

TULLOCH ENGINEERING

DRAWING:
GEOTECHNICAL INVESTIGATIONS
BOREHOLE LOCATIONS
PLAN
SHEET 1 OF 3

PROJECT:
BURK'S FALLS
YOUNG STREET REHABILITATION
GEOTECHNICAL INVESTIGATION

DRAWN BY:	CHECKED BY:	PROJECT No. :
K. KORTEKAAS	E. GILES	19-1869
DESIGNED BY:	APPROVED BY:	DRAWING No. / REVISION No.
E. GILES	E. GILES	C-01 / 0
SCALE:	DATE:	
AS NOTED	2020-01-06	

PLAN
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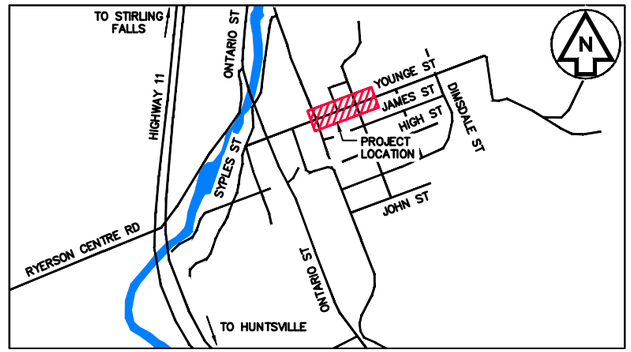

PROJECT LOCATION
N.T.S

BOREHOLE COORDINATES			
NAME	EASTING	NORTHING	ELEVATION
19-1869-BH-05	624 296.4	5 053 184.6	302.3
19-1869-BH-06	624 399.7	5 053 227.8	300.4
19-1869-BH-07	624 478.4	5 053 261.2	301.6

LEGEND

BOREHOLE LOCATION

NOTES:

1. CO-ORDINATES ARE IN UTM ZONE 17 (NAD83 CSRS).

0 10 20 30 40 50m
Scale: 1:1000

No.	DATE	BY	ISSUES / REVISIONS
0	2020-01-06	KK	ISSUED FOR GEOTECHNICAL REPORT

TULLOCH ENGINEERING

DRAWING:
GEOTECHNICAL INVESTIGATIONS
BOREHOLE LOCATIONS
PLAN
SHEET 2 OF 3

PROJECT:
BURK'S FALLS
YOUNG STREET REHABILITATION
GEOTECHNICAL INVESTIGATION

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K. KORTEKAAS	E. GILES	19-1869
DESIGNED BY:	APPROVED BY:	DRAWING No. / REVISION No.
E. GILES	E. GILES	C-02 / 0
SCALE:	DATE:	
AS NOTED	2020-01-06	

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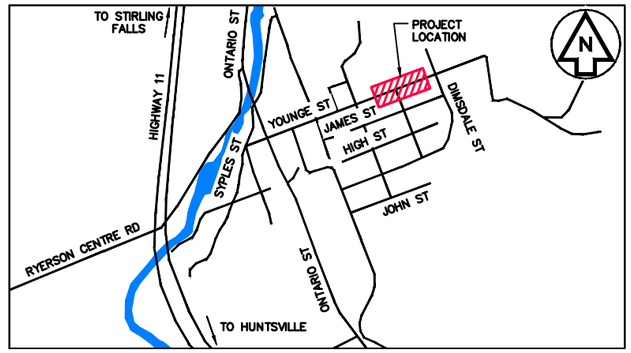

PROJECT LOCATION
N.T.S

BOREHOLE COORDINATES

NAME	EASTING	NORTHING	ELEVATION
19-1869-BH-08	624 564.5	5 053 293.9	300.0
19-1869-BH-09	624 673.2	5 053 341.8	296.9
19-1869-BH-10	624 749.6	5 053 371.9	296.1

LEGEND

BOREHOLE LOCATION

NOTES:

1. CO-ORDINATES ARE IN UTM ZONE 17 (NAD83 CSRS).

0 10 20 30 40 50m
Scale: 1:1000

No.	DATE	BY	ISSUES / REVISIONS
0	2020-01-06	KK	ISSUED FOR GEOTECHNICAL REPORT

TULLOCH ENGINEERING

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GEOTECHNICAL INVESTIGATIONS
BOREHOLE LOCATIONS
PLAN
SHEET 3 OF 3

PROJECT:
2020-01-06
YOUNG STREET REHABILITATION
GEOTECHNICAL INVESTIGATION

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K. KORTEKAAS	E. GILES	19-1869	
DESIGNED BY:	APPROVED BY:	DRAWING No.	REVISION No.
E. GILES	E. GILES	C-03	0
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AS NOTED	2020-01-06		

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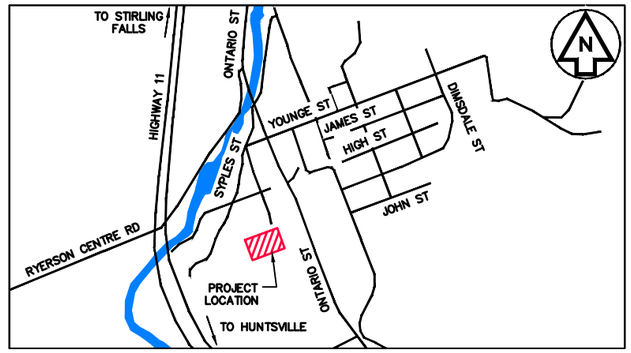

PROJECT LOCATION
N.T.S

WELL SAMPLING COORDINATES		
NAME	EASTING	NORTHING
19-1869-WH-01	624 045.2	5 052 697.6
19-1869-WH-02	624 044.3	5 052 699.7
19-1869-WH-03	624 038.3	5 052 706.4
19-1869-WH-04	624 034.5	5 052 703.2
19-1869-WH-05	624 004.2	5 052 675.2
19-1869-WH-06	624 004.0	5 052 680.0

LEGEND

WELL SAMPLING LOCATION

NOTES:

1. CO-ORDINATES ARE IN UTM ZONE 17 (NAD83 CSRS).

0 20 40 60 80 100m
Scale: 1:2000

No.	DATE	BY	ISSUES / REVISIONS
0	2020-01-06	KK	ISSUED FOR GEOTECHNICAL REPORT

TULLOCH ENGINEERING

DRAWING: GEOTECHNICAL INVESTIGATIONS
WELL SAMPLING LOCATIONS
PLAN

PROJECT:
BURK'S FALLS
YOUNG STREET REHABILITATION
GEOTECHNICAL INVESTIGATION

DRAWN BY:	CHECKED BY:	PROJECT No. :
K. KORTEKAAS	E. GILES	19-1869
DESIGNED BY:	APPROVED BY:	DRAWING No. / REVISION No.
E. GILES	E. GILES	C-04 / 0
SCALE:	DATE:	
AS NOTED	2020-01-06	

APPENDIX B

ABBREVIATIONS, TERMINOLOGY, AND PRINCIPAL SYMBOLS USED

ABBREVIATIONS, TERMINOLOGY AND PRINCIPAL SYMBOLS USED IN REPORT AND BOREHOLE LOGS

BOREHOLES AND TEST PIT LOGS

Soils

AA	Auger Sample	w	Water Content
SS	Split Spoon	wP	Plastic Limit
TO	Tin-walled Tube	wL	Liquid Limit
TP	Thin-walled Piston	V(FV)	Field Vane
WS	Washed Sample	OR	Organic Content
SC	Soil Core	GR	Gravel
BS	Block Sample	SA	Sand
WH	Weight of rods & hammer	SI	Silt
WR	Weight of rods	CL	Clay

Bedrock

TCR	Total Core Recover	VN	Vein
SCR	Solid Core Recovery	CO	Contact
FI	Fracture frequency index	KV	Karstic void
HQ	Rock Core (63.5 mm dia.)	MB	Mechanical Break
NQ	Rock Core (47.6 mm dia.)	PL	Planar
BQ	Rock Core (36.5 mm dia.)	CU	Curved
JN	Joint	UN	Undulating
FLT	Fault	IR	Irregular
SH	Shear	SM	Smooth
K	Slikensided	SR	Slightly Rough
BD	Bedding	R	Rough
FO	Foliation	VR	Very rough

IN SITU SOIL TESTING

Standard Penetration Test (SPT) "N" value. The number of blows required to drive a 51 mm OD split barrel sampler into the soil a distance of 300 mm with a 63.5kg weight free falling a distance of 760 mm after an initial penetration of 150 mm has been achieved.

Dynamic Cone Penetration Test (DCPT) is the number of blows required to drive a cone with a 60 degree apex attached to "A" size drill rods continuously into the soil for each 300 mm penetration with a 63.5 kg weight free falling a distance of 760 mm.

Cone Penetration Test (CPT) is an electronic cone point with a 10 cm base area with a 60 degree apex pushed through the soil at a penetration rate of 2cm/s.

Field Vane Test (FVT) consists of a vane blade, a set of rods and torque measuring apparatus used to determine the undrained shear strength of cohesive soils.

SOIL DESCRIPTIONS

The soil descriptions and classifications are based on an expanded Unified Soil Classification System (USCS). The USCS classifies soils on the basis of engineering properties. The system divides soils into three major categories; coarse grained, fine grained and highly organic soils. The soil is then subdivided based on either gradation or plasticity characteristics. The classification excludes particles larger than 75 mm. To aid in quantifying material amounts by weight within the respective grain size fractions the following terms have been included to expand the USCS:

Soil Classification	
Clay	<0.002 mm
Silt	0.002 to 0.06 mm
Sand	0.075 to 4.75 mm
Gravel	4.751o 75 mm
Cobbles	75 to 200 mm
Boulders	>200 mm

Terminology	Proportion
“trace”, sand, etc.	1%to 10%
"some"	10% to 20%
Sandy, Gravelly, etc.	20% to 35%
“and”	>35%
Ex., SAND, SILT, etc.	>35%

Notes:

1. Soil properties, such as strength, gradation, plasticity, structure, etc., dictate the soils engineering behaviour over the grain size fractions;
2. With the exception of soil samples tested for grain size distribution or plasticity, all soil samples have been classified based on visual and tactile observations and is therefore an approximate description.

The following table outlines the qualitative terms used to describe the relative density condition of cohesionless soil:

Cohesionless Soils

Compactness	SPT “N” Value (blows/30cm)
Very Loose	0 to 4
Loose	5 to 10
Compact	11 to 30
Dense	31 to 50
Very Dense	>50

The following table outlines the qualitative terms used to describe the consistency of cohesive soils related to undrained shear strength and SPT, N-Index:

Cohesive Soils

Consistency	Undrained Shear Strength (kPa)	SPT “N” Value (blows/30 cm)
Very Soft	<12.5	< 2
Soft	12.5 to 25	2 to 4
Firm	25 to 50	5 to 8
Stiff	50 to 100	9 to 15
Very Stiff	100 to 200	16 to 30
Hard	> 200	>30

Note: Utilizing the SPT, “N” value to correlate the consistency and undrained shear strength of cohesive soils is very approximate and needs to be used with caution.

Particle Sizes

Constituent	Description	Size (mm)	Size (in)
BOULDERS	Not Applicable	>300	>12
COBBLES	Not Applicable	75 to 300	3 to 12
GRAVEL	Coarse Fine	19 to 75 4.75 to 19	0.75 to 3 (4) to 0.75
SAND	Coarse Medium Fine	2.00 to 4.75 0.425 to 2.00 0.075 to0.425	(10) to (4) (40) to (10) (200) to (40)
SILT/CLAY	Classified by plasticity	< 0.075	< (200)

ROCK CORING

Rock Quality Designation (RQD) is an indirect measure of the number of fractures within a rock mass, Deere et al. (1967). It is the sum of sound pieces of rock core equal to or greater than 100 mm recovered from the core run, divided by the total length of the core run, expressed as a percentage. If the core section is broken due to mechanical or handling, the pieces are fitted together and if 100 mm or greater included in the total sum.

Intact Rock Strength

Intact Strength (Mpa)	Description
< 1	Extremely low strength
1-5	Very low strength
5-25	Low strength
25-50	Medium strength
50-100	High strength
100-250	Very high strength
>250	Extremely high strength

Rock Mass Quality

RQD Classification	RQD Value (%)
Very Poor Quality	<25
Poor Quality	25 to 50
Fair Qualty	50 to 75
Good Quality	75 to 90
Excellent Quality	90 to 100

Rock Mass Weathering

Term	Description
Unweathered (Fresh)	No visible sign of material weathering to discoloration on major discontinuity surfaces.
Slightly Weathered	Discoloration indicates weathering of rock material and discontinuity of surfaces. All the rock material may be discolored by weathering and may be somewhat weaker than its fresh condition.
Moderatly Weathered	Less than half the rock material is decomposed and/or disintegrates to soil. Fresh or discolored rock is present either as a continuous frame work of as core stones.
Highly Weathered	More than half the rock material is decomposed and/or disintegrated to soil. Fresh or discolored rock is present either as a discontinuous frame work or as core stones.
Completely Weathered	All rock material is decomposed and/or disintegrated to soil. The original mass structure is largely intact.
Residual Soil	All rock material is converted to soil. The mass structure and material fabric are destroyed. There is a large change in volume, but the soil has not been significantly transported.

Joint and Foliation Spacing

Description	Spacing
Very Wide	Greater than 3 m
Wide	1 m to 3 m
Moderately Close	0.3 m to 1 m
Close	50 mm to 300 mm
Very Close	Less than 50 mm

Bedding Thickness

Description	Spacing
Very thick	Greater than 2 m
Thick	0.6 m to 2 m
Medium	0.2 m to 0.6 m
Thin	60 mm to 0.2 m
Very thin	20 mm to 60 mm
Laminated	6 to 20 mm
Thinly Laminated	Less than 6 mm

SYMBOLS

General

w_N Natural water content within the soil sample
γ Unit weight
γ' Effective unit weight
γ_D Dry unit weight
γ_{SAT} Saturated unit weight
ρ Density
ρ_s Density of solid particles
ρ_w Density of water
ρ_D Dry density
ρ_{SAT} Saturated density
e Void ratio
n Porosity
S Degree of saturation
E_{50} Fifty percent secant modulus

Consistency

w_L Liquid Limit
w_P Plastric Limit
I_P Plasticity Index
w_S Shrinkage limit
I_L Liquidity index
I_C Consistency index
e_{max} Void ratio in loosest state
e_{min} Void ratio in densest state
I_D Density index (formerly relative density)

Shear Strength

S_u Undrained shear strength parameter (total stress)
c' Effective cohesion intercept
ϕ' Effective friction angle
τ_R Peak shear strength
τ_R Residual shear strength
δ Angle of interface friction
μ Coefficient of friction = tan ϕ'

Consolidation

C_c Compression index (normally consolidated range)
C_r Recompression index (over consolidated range)
m_v Coefficient of volume change
c_v Coefficient of consolidation
T_v Time factor (vertical direction)
U Degree of consolidation
σ_v' Effictive overburden pressure
OCR Overconsolidation ratio

APPENDIX C

BOREHOLE LOGS

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-01

1 OF 1

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.03 | NORTHING 623979.4 | EASTING 5053061 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ POCKET PEN, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
0.00	Top of Ground (SW-GP) - SAND and GRAVEL FILL - trace fines, fine to coarse grained, brown, moist, compact		1	AS	/				○		Tried spoon @0.13m but could not advance
			2	SS	26		1		○		22 73 (5)
1.52	(SM) - SILTY SAND - some gravel, fine grained, brown, non-cohesive, moist, loose		3	SS	7		2		○		
	Hole terminated due to force sewer main breach		4	SS	9		3		○		
3.05	End of Borehole Note: No groundwater was encountered during investigation. It should be noted that the ground water may not be stabilized upon the completion of borehole.										GW not encountered

200 + : Numbers refer to Field Vane Over Limit | +³, ×³: Numbers refer to Sensitivity | ○ 3% STRAIN AT FAILURE

2. SOIL REPORT (DEPTH) 19-1869 BOREHOLE LOGS.GPJ ONTARIO MTO.GDT 20-1-29

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-03

1 OF 1

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.05 | NORTHING 5053116.1 | EASTING 624120.46 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa (○ POCKET PEN, + FIELD VANE, ● QUICK TRIAXIAL, × LAB VANE) (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Top of Ground										
0.00	40 mm ASPHALT										
0.04	(SW-GP) - GRANULAR FILL, 150 mm thick, moist		1	AS	/						
0.19	(SW-GP) - SAND and GRAVEL FILL - brown, moist										
0.30	(SP) - SAND - trace fines, medium grained, brown, non-cohesive, moist, compact to very dense		2	SS	>50				○		
			3	SS	17		1		○		0 98 (2)
			4	SS	12				○		
							2				
			5	SS	16						
	- silt seam from 2.71m to 2.90m						3				
			6	SS	>50				○		
	Refusal										
3.66	End of Borehole Note: No groundwater was encountered during investigation. It should be noted that the ground water may not be stabilized upon the completion of borehole.										GW not encountered

200 + : Numbers refer to Field Vane Over Limit | +³, ×³: Numbers refer to Sensitivity | ○ 3% STRAIN AT FAILURE

2. SOIL REPORT (DEPTH) 19-1869 BOREHOLE LOGS.GPJ ONTARIO MTO.GDT 20-1-29

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-04

1 OF 1

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.03 | NORTHING 5053146.31 | EASTING 624203.16 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa (○ POCKET PEN, + FIELD VANE, ● QUICK TRIAXIAL, × LAB VANE) (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Top of Ground										
0.00	50 mm ASPHALT										
0.05	(SW-GP) - GRANULAR FILL, 180 mm thick, moist										
0.23	(SP) - SAND - trace gravel, trace to some silt, fine to medium grained, brown, non-cohesive, moist, compact		1	AS	/						
			2	SS	24		1		○		
			3	SS	19				○		First foot of SS4 disturbed from previous sample
			4	SS	13		2		○		
2.29	(SM) - SILTY SAND - some clay, fine to medium grained, brown, non-cohesive, moist, compact		5	SS	27	▽			○		Inferred perched WT @2.68 mbgs
3.05	(ML) - CLAYEY SILT - some sand, brown, cohesive, moist to wet, compact		6	SS	26		3				
3.66	End of Borehole Note: Perched groundwater was inferred at 2.68 m depth during investigation.										

200 + : Numbers refer to Field Vane Over Limit | +³, ×³: Numbers refer to Sensitivity | ○ 3% STRAIN AT FAILURE

2. SOIL REPORT (DEPTH) 19-1869 BOREHOLE LOGS.GPJ ONTARIO MTO.GDT 20-1-29

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-05

1 OF 1

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.03 | NORTHING 5053184.62 | EASTING 624296.37 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ POCKET PEN, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
Top of Ground											
0.00	30 mm ASPHALT										Augered 0.15m to break asphalt and frozen subgrade
0.03	(SW-GP) - GRANULAR FILL, 280 mm thick, moist										
0.31	(SW-GP) - SAND and GRAVEL FILL - medium to coarse grained, brown, non-cohesive, moist, very dense		1	SS	>50						
0.76	(ML) - Sandy SILT - trace to some clay, trace gravel, brown, non-cohesive, moist, loose to compact		2	SS	6		1				
			3	SS	26		2	>>			
2.29	(ML) - CLAYEY SILT - trace sand, brown to grey, cohesive, moist, compact		4	SS	18		3	>>			0 16 45 39
			5	SS	25			>>			
3.66	End of Borehole Note: No groundwater was encountered during investigation. It should be noted that the ground water may not be stabilized upon the completion of borehole.										GW not encountered

200 + : Numbers refer to Field Vane Over Limit

+ 3 , × 3 : Numbers refer to Sensitivity

○ 3% STRAIN AT FAILURE

2. SOIL REPORT (DEPTH) 19-1869 BOREHOLE LOGS.GPJ ONTARIO MTO.GDT 20-1-29

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-06

1 OF 1

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.04 | NORTHING 5053227.79 | EASTING 624399.71 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ POCKET PEN, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
Top of Ground								20 40 60 80 100	20 40 60		
0.00	40 mm ASPHALT										
0.04	(SW-GP) - GRANULAR FILL, 530 mm thick, moist		1	SS	>50						
0.57	(SW-GP) - SAND and GRAVEL FILL - fine to medium grained, dark brown, non-cohesive, moist to wet, very dense - historic corduroy road encountered @0.76m to 0.91m		2	SS	49		1		○		
1.52	(SM) - SILTY SAND - some gravel, fine grained, dark brown, non-cohesive, wet, loose - corduroy pieces found throughout deposit		3	SS	4	▽	2		○		Inferred perched WT @1.52m
2.29	(ML) - CLAYEY SILT - brown to grey, cohesive, wet, compact - corduroy pieces found in first 0.1m of deposit		4	SS	29		3	>>○	○		
			5	SS	20			>>○	○		
3.66	End of Borehole Note: Perched groundwater was inferred at 1.52 m depth during investigation. It should be noted that the ground water may not be stabilized upon the completion of borehole.										

200 + : Numbers refer to Field Vane Over Limit | +³, ×³: Numbers refer to Sensitivity | ○ 3% STRAIN AT FAILURE

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-07

1 OF 1

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.04 | NORTHING 5053261.15 | EASTING 624478.44 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Top of Ground								
0.00	40 mm ASPHALT								
0.04	(SW-GP) - GRANULAR FILL, 430 mm thick, moist		1	AS	/				
0.47	(SW) - SAND - trace to some gravel, fine to coarse grained, brown, non-cohesive, moist to wet, compact to very dense		2	SS	48		1		
			3	SS	14				
1.55	(CL) - SILTY CLAY - trace sand, brown, cohesive, moist, soft to firm		4	SS	8		2		1 7 40 52
			5	SS	8		3		
3.32	(GP) - Sandy GRAVEL - trace fines, brown, non-cohesive, wet, very dense		6	SS	45				
3.66	End of Borehole Note: No groundwater was encountered during investigation. It should be noted that the ground water may not be stabilized upon the completion of borehole.								GW not encountered

DYNAMIC CONE PENETRATION RESISTANCE PLOT: 20 40 60 80 100

SHEAR STRENGTH kPa: ○ POCKET PEN + FIELD VANE ● QUICK TRIAXIAL × LAB VANE; 20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L

WATER CONTENT (%): 20 40 60

200 + : Numbers refer to Field Vane Over Limit

+ 3 , × 3 : Numbers refer to Sensitivity

○ 3% STRAIN AT FAILURE

2. SOIL REPORT (DEPTH) 19-1869 BOREHOLE LOGS.GPJ ONTARIO MTO.GDT 20-1-29

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-08

1 OF 1

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.04 | NORTHING 5053293.87 | EASTING 624564.51 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH kPa: ○ POCKET PEN, + FIELD VANE, ● QUICK TRIAXIAL, × LAB VANE	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%) 20 40 60	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Top of Ground										
0.00	(SW-GP) - SAND and GRAVEL FILL - brown, non-cohesive, moist		1	AS	/						
0.30	(SP) - SAND - trace gravel, medium to coarse grained, brown, non-cohesive, moist, compact		2	SS	25				○		
			3	SS	11		1		○		
1.52	(CL) - SILTY CLAY - trace sand, brown, cohesive, moist, stiff		4	SS	12				>>○		
							2				
			5	SS	10				>>○		
	Vane @3.13m, could not turn						3				
3.15	(ML) - SILT - grey, non-cohesive, moist, compact		6	SS	22						0.08m of SS6 disturbed by tip of vane
3.66	End of Borehole Note: No groundwater was encountered during investigation. It should be noted that the ground water may not be stabilized upon the completion of borehole.										GW not encountered

200 + : Numbers refer to Field Vane Over Limit +³, ×³: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

2. SOIL REPORT (DEPTH) 19-1869 BOREHOLE LOGS.GPJ ONTARIO MTO.GDT 20-1-29

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-09

1 OF 1

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.04 | NORTHING 5053341.83 | EASTING 624673.2 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ POCKET PEN, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Top of Ground							20 40 60 80 100	20 40 60		
0.00	40 mm ASPHALT										
0.04	(SW-GP) - GRANULAR FILL, 300 mm thick, moist		1	AS	0				○		
0.34	(SW-GP) - SAND and GRAVEL FILL - medium to coarse grained, brown, non-cohesive, moist, very dense		2	SS	46				○		
			3	SS	51		1				Attempted to take second spoon @SS3; could not retrieve sample
1.52	(ML) - CLAYEY SILT - some sand, brown to grey, cohesive, moist to wet, compact		4	SS	26				>>○		
			5	SS	20		2		>>○		0 12 61 27
			6	SS	13		3		>>○		
3.66	End of Borehole Note: No groundwater was encountered during investigation. It should be noted that the ground water may not be stabilized upon the completion of borehole.										GW not encountered

200 + : Numbers refer to Field Vane Over Limit +³, ×³: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

2. SOIL REPORT (DEPTH) 19-1869 BOREHOLE LOGS.GPJ ONTARIO MTO.GDT 20-1-29

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-10

1 OF 2

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.05 | NORTHING 5053371.92 | EASTING 624749.65 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa: ○ POCKET PEN, + FIELD VANE, ● QUICK TRIAXIAL, × LAB VANE	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Top of Ground							20 40 60 80 100	20 40 60		
0.00	40 mm ASPHALT										0.04m of Asphalt followed by 0.20m of Gran. A
0.04	(SW-GP) - GRANULAR FILL, 200 mm thick, moist		1	AS	/						
0.24	(SW-GP) - SAND and GRAVEL FILL - brown, non-cohesive, moist, compact		2	SS	27				○		
0.91	(ML) - CLAYEY SILT - trace to some sand, brown to grey to red, moist, compact		3	SS	8		1		>>○		
			4	SS	22				>>○		
							2				
			5	SS	19				>>○		
							3				
3.05	(CL) - SILTY CLAY - trace sand, some silt, brown, cohesive, moist, firm		6	SS	7				>>○		
	Vane @3.96m, could not turn						4				

Continued Next Page

200 + : Numbers refer to Field Vane Over Limit | +³, ×³: Numbers refer to Sensitivity | ○ 3% STRAIN AT FAILURE

TULLOCH ENGINEERING

RECORD OF BOREHOLE No BH-10

METRIC

JOB NUMBER 19-1869 | LOCATION Yonge St. West, Burk's Falls, ON | ORIGINATED BY SdB

CLIENT Village of Burk's Falls | DATUM | BOREHOLE TYPE HSA/SS | COMPILED BY KO

DRILLER LANDCORE | DATE 2019.12.05 | NORTHING 5053371.92 | EASTING 624749.65 | CHECKED BY SdB

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	DEPTH (M)	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa (○ POCKET PEN, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE) (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	(CL) - SILTY CLAY - trace sand, some silt, brown, cohesive, moist, firm *(continued)* Vane @4.27m, could not turn										
4.27	End of Borehole Note: No groundwater was encountered during investigation. It should be noted that the ground water may not be stabilized upon the completion of borehole.										GW not encountered

200 + : Numbers refer to Field Vane Over Limit | +³, ×³: Numbers refer to Sensitivity | ○ 3% STRAIN AT FAILURE

APPENDIX D

LABORATORY RESULTS

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: TULLOCH ENGINEERING INC.
80 MAIN STREET WEST
HUNTSVILLE, ON P1H 1W8

ATTENTION TO: Sarah Debortoli

PROJECT: Yonge St Burk's Fall

AGAT WORK ORDER: 19T553946

SOIL ANALYSIS REVIEWED BY: Jacky Zhu, Spectroscopy Technician

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Dec 17, 2019

PAGES (INCLUDING COVER): 13

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 19T553946

PROJECT: Yonge St Burk's Fall

CLIENT NAME: TULLOCH ENGINEERING INC.

ATTENTION TO: Sarah Debortoli

SAMPLING SITE:Burk's Falls

SAMPLED BY:S. deBortoli

Manganese in Soil

DATE RECEIVED: 2019-12-10

DATE REPORTED: 2019-12-17

		SAMPLE DESCRIPTION:		WH-01 25'
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2019-12-02
Parameter	**Unit**	**G / S**	**RDL**	**786446**
Manganese	µg/g		5	239

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

786446

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 19T553946

PROJECT: Yonge St Burk's Fall

CLIENT NAME: TULLOCH ENGINEERING INC.

ATTENTION TO: Sarah Debortoli

SAMPLING SITE:Burk's Falls

SAMPLED BY:S. deBortoli

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2019-12-10 **DATE REPORTED: 2019-12-17**

		SAMPLE DESCRIPTION:		BH03 3-5'	BH10 3'	BH04 5-7'	BH08 4.5'	BH06 3'
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2019-12-05	2019-12-05	2019-12-03	2019-12-04	2019-12-04
Parameter	Unit	G / S	RDL	786441	786442	786443	786444	786445
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	<1	<1	<1	<1	<1
Barium	µg/g	220	2	24	38	119	42	95
Beryllium	µg/g	2.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/g	36	5	<5	<5	<5	<5	<5
Boron (Hot Water Soluble)	µg/g	NA	0.10	<0.10	<0.10	<0.10	<0.10	0.12
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	2	3	10	23	5	13
Cobalt	µg/g	21	0.5	1.5	3.0	5.7	2.6	4.8
Copper	µg/g	92	1	7	7	13	10	16
Lead	µg/g	120	1	<1	2	3	1	7
Molybdenum	µg/g	2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel	µg/g	82	1	2	6	13	4	7
Selenium	µg/g	1.5	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	µg/g	0.5	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g	1	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g	2.5	0.5	<0.5	<0.5	0.8	0.6	0.6
Vanadium	µg/g	86	1	9	22	34	17	26
Zinc	µg/g	290	5	13	17	39	21	43
Chromium VI	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity	mS/cm	0.57	0.005	0.058	0.149	0.180	0.034	0.397
Sodium Adsorption Ratio	NA	2.4	NA	**2.70**	**3.40**	**3.58**	1.64	**6.61**
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.75	7.11	6.80	7.05	6.91

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SAMPLING SITE:Burk's Falls

SAMPLED BY:S. deBortoli

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2019-12-10 **DATE REPORTED: 2019-12-17**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

786441-786445 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

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AGAT WORK ORDER: 19T553946

PROJECT: Yonge St Burk's Fall

CLIENT NAME: TULLOCH ENGINEERING INC.

ATTENTION TO: Sarah Debortoli

SAMPLING SITE:Burk's Falls

SAMPLED BY:S. deBortoli

O. Reg. 558 Metals and Inorganics

DATE RECEIVED: 2019-12-10

DATE REPORTED: 2019-12-17

		SAMPLE DESCRIPTION:		BH03 3-5'	BH10 3'	BH04 5-7'	BH08 4.5'	BH06 3'
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2019-12-05	2019-12-05	2019-12-03	2019-12-04	2019-12-04
Parameter	Unit	G / S	RDL	786441	786442	786443	786444	786445
Arsenic Leachate	mg/L	2.5	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Barium Leachate	mg/L	100	0.100	0.283	0.471	0.748	0.634	0.518
Boron Leachate	mg/L	500	0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadmium Leachate	mg/L	0.5	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chromium Leachate	mg/L	5	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead Leachate	mg/L	5	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Mercury Leachate	mg/L	0.1	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium Leachate	mg/L	1	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Silver Leachate	mg/L	5	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium Leachate	mg/L	10	0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoride Leachate	mg/L	150	0.05	<0.05	<0.05	0.05	0.05	<0.05
Cyanide Leachate	mg/L	20	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
(Nitrate + Nitrite) as N Leachate	mg/L	1000	0.70	<0.70	<0.70	<0.70	<0.70	<0.70

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

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Certificate of Analysis

AGAT WORK ORDER: 19T553946

PROJECT: Yonge St Burk's Fall

CLIENT NAME: TULLOCH ENGINEERING INC.

ATTENTION TO: Sarah Debortoli

SAMPLING SITE:Burk's Falls

SAMPLED BY:S. deBortoli

O. Reg. 558 - VOCs

DATE RECEIVED: 2019-12-10 **DATE REPORTED: 2019-12-17**

		SAMPLE DESCRIPTION:		BH03 3-5'	BH10 3'	BH04 5-7'	BH08 4.5'	BH06 3'
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2019-12-05	2019-12-05	2019-12-03	2019-12-04	2019-12-04
Parameter	**Unit**	**G / S**	**RDL**	**786441**	**786442**	**786443**	**786444**	**786445**
Vinyl Chloride	mg/L	0.2	0.030	<0.030	<0.030	<0.030	<0.030	<0.030
1,1 Dichloroethene	mg/L	1.4	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dichloromethane	mg/L	5.0	0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Methyl Ethyl Ketone	mg/L	200	0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Chloroform	mg/L	10.0	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
1,2-Dichloroethane	mg/L	0.5	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Carbon Tetrachloride	mg/L	0.5	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Benzene	mg/L	0.5	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Trichloroethene	mg/L	5.0	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Tetrachloroethene	mg/L	3.0	0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	mg/L	8.0	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,2-Dichlorobenzene	mg/L	20.0	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,4-Dichlorobenzene	mg/L	0.5	0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	60-130		102	105	102	102	101

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

786441-786445 Sample was prepared using Regulation 558 protocol and a zero headspace extractor.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

AGAT Laboratories

Guideline Violation

AGAT WORK ORDER: 19T553946

PROJECT: Yonge St Burk's Fall

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CLIENT NAME: TULLOCH ENGINEERING INC.

ATTENTION TO: Sarah Debortoli

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
786441	BH03 3-5'	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	2.70
786442	BH10 3'	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	3.40
786443	BH04 5-7'	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	3.58
786445	BH06 3'	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	6.61

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Quality Assurance

CLIENT NAME: TULLOCH ENGINEERING INC.

AGAT WORK ORDER: 19T553946

PROJECT: Yonge St Burk's Fall

ATTENTION TO: Sarah Debortoli

SAMPLING SITE:Burk's Falls

SAMPLED BY:S. deBortoli

Soil Analysis

RPT Date: Dec 17, 2019			DUPLICATE				REFERENCE MATERIAL				METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 558 Metals and Inorganics															
Arsenic Leachate	798903		<0.010	<0.010	NA	< 0.010	102%	90%	110%	110%	80%	120%	110%	70%	130%
Barium Leachate	798903		0.845	0.817	3.4%	< 0.100	100%	90%	110%	107%	80%	120%	107%	70%	130%
Boron Leachate	798903		<0.050	<0.050	NA	< 0.050	102%	90%	110%	89%	80%	120%	86%	70%	130%
Cadmium Leachate	798903		<0.010	<0.010	NA	< 0.010	100%	90%	110%	99%	80%	120%	94%	70%	130%
Chromium Leachate	798903		<0.010	<0.010	NA	< 0.010	97%	90%	110%	104%	80%	120%	100%	70%	130%
Lead Leachate	798903		<0.010	<0.010	NA	< 0.010	98%	90%	110%	94%	80%	120%	90%	70%	130%
Mercury Leachate	798903		<0.01	<0.01	NA	< 0.01	98%	90%	110%	82%	80%	120%	77%	70%	130%
Selenium Leachate	798903		<0.010	<0.010	NA	< 0.010	100%	90%	110%	112%	80%	120%	115%	70%	130%
Silver Leachate	798903		<0.010	<0.010	NA	< 0.010	98%	90%	110%	90%	80%	120%	86%	70%	130%
Uranium Leachate	798903		<0.050	<0.050	NA	< 0.050	99%	90%	110%	101%	80%	120%	98%	70%	130%
Fluoride Leachate	798903		0.16	0.16	NA	< 0.05	103%	90%	110%	106%	90%	110%	102%	70%	130%
Cyanide Leachate	798903		<0.05	<0.05	NA	< 0.05	90%	90%	110%	98%	90%	110%	108%	70%	130%
(Nitrate + Nitrite) as N Leachate	798903		<0.70	<0.70	NA	< 0.70	109%	80%	120%	108%	80%	120%	105%	70%	130%
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	785240		<0.8	<0.8	NA	< 0.8	109%	70%	130%	96%	80%	120%	90%	70%	130%
Arsenic	785240		5	5	0.0%	< 1	100%	70%	130%	113%	80%	120%	106%	70%	130%
Barium	785240		79	80	1.3%	< 2	100%	70%	130%	102%	80%	120%	104%	70%	130%
Beryllium	785240		0.6	0.6	NA	< 0.5	100%	70%	130%	108%	80%	120%	89%	70%	130%
Boron	785240		11	11	NA	< 5	77%	70%	130%	104%	80%	120%	84%	70%	130%
Boron (Hot Water Soluble)	795430		0.30	0.35	NA	< 0.10	102%	60%	140%	97%	70%	130%	94%	60%	140%
Cadmium	785240		<0.5	<0.5	NA	< 0.5	97%	70%	130%	103%	80%	120%	101%	70%	130%
Chromium	785240		23	23	0.0%	< 2	100%	70%	130%	110%	80%	120%	100%	70%	130%
Cobalt	785240		11.0	11.0	0.0%	< 0.5	88%	70%	130%	105%	80%	120%	96%	70%	130%
Copper	785240		30	31	3.3%	< 1	92%	70%	130%	119%	80%	120%	104%	70%	130%
Lead	785240		10	10	0.0%	< 1	103%	70%	130%	110%	80%	120%	100%	70%	130%
Molybdenum	785240		<0.5	<0.5	NA	< 0.5	95%	70%	130%	108%	80%	120%	102%	70%	130%
Nickel	785240		24	25	4.1%	< 1	100%	70%	130%	115%	80%	120%	102%	70%	130%
Selenium	785240		<0.4	0.4	NA	< 0.4	98%	70%	130%	112%	80%	120%	107%	70%	130%
Silver	785240		<0.2	<0.2	NA	< 0.2	96%	70%	130%	113%	80%	120%	93%	70%	130%
Thallium	785240		<0.4	<0.4	NA	< 0.4	114%	70%	130%	110%	80%	120%	103%	70%	130%
Uranium	785240		0.7	0.7	NA	< 0.5	111%	70%	130%	111%	80%	120%	108%	70%	130%
Vanadium	785240		32	33	3.1%	< 1	102%	70%	130%	111%	80%	120%	107%	70%	130%
Zinc	785240		132	137	3.7%	< 5	99%	70%	130%	117%	80%	120%	109%	70%	130%
Chromium VI	786445	786445	< 0.2	< 0.2	NA	< 0.2	93%	80%	120%	84%	70%	130%	106%	70%	130%
Cyanide	786441	786441	<0.040	<0.040	NA	< 0.040	90%	70%	130%	98%	80%	120%	108%	70%	130%
Mercury	785240		<0.10	<0.10	NA	< 0.10	110%	70%	130%	106%	80%	120%	99%	70%	130%
Electrical Conductivity	798816		0.155	0.156	0.6%	< 0.005	101%	90%	110%						
Sodium Adsorption Ratio	798816		0.780	0.769	1.4%										

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Quality Assurance

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SAMPLED BY:S. deBortoli

Soil Analysis (Continued)

RPT Date: Dec 17, 2019			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
pH, 2:1 CaCl2 Extraction	786445	786445	6.91	6.95	0.6%		100%	80%	120%						
Manganese in Soil															
Manganese	785240		738	754	2.1%	< 5	98%	70%	130%	106%	80%	120%	118%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate Qualifier: As the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.

Certified By:

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Trace Organics Analysis

RPT Date: Dec 17, 2019

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 558 - VOCs															
Vinyl Chloride	791633		< 0.030	< 0.030	NA	< 0.030	85%	60%	140%	93%	60%	140%	78%	60%	140%
1,1 Dichloroethene	791633		< 0.020	< 0.020	NA	< 0.020	103%	70%	130%	101%	70%	130%	98%	60%	140%
Dichloromethane	791633		< 0.030	< 0.030	NA	< 0.030	83%	70%	130%	103%	70%	130%	87%	60%	140%
Methyl Ethyl Ketone	791633		< 0.090	< 0.090	NA	< 0.090	97%	70%	130%	93%	70%	130%	93%	60%	140%
Chloroform	791633		< 0.020	< 0.020	NA	< 0.020	79%	70%	130%	87%	70%	130%	83%	60%	140%
1,2-Dichloroethane	791633		< 0.020	< 0.020	NA	< 0.020	80%	70%	130%	88%	70%	130%	87%	60%	140%
Carbon Tetrachloride	791633		< 0.020	< 0.020	NA	< 0.020	84%	70%	130%	88%	70%	130%	83%	60%	140%
Benzene	791633		< 0.020	< 0.020	NA	< 0.020	118%	70%	130%	103%	70%	130%	99%	60%	140%
Trichloroethene	791633		< 0.020	< 0.020	NA	< 0.020	96%	70%	130%	77%	70%	130%	80%	60%	140%
Tetrachloroethene	791633		< 0.050	< 0.050	NA	< 0.050	95%	70%	130%	88%	70%	130%	102%	60%	140%
Chlorobenzene	791633		< 0.010	< 0.010	NA	< 0.010	83%	70%	130%	80%	70%	130%	98%	60%	140%
1,2-Dichlorobenzene	791633		< 0.010	< 0.010	NA	< 0.010	95%	70%	130%	73%	70%	130%	95%	60%	140%
1,4-Dichlorobenzene	791633		< 0.010	< 0.010	NA	< 0.010	81%	70%	130%	79%	70%	130%	98%	60%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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Method Summary

CLIENT NAME: TULLOCH ENGINEERING INC.

AGAT WORK ORDER: 19T553946

PROJECT: Yonge St Burk's Fall

ATTENTION TO: Sarah Debortoli

SAMPLING SITE:Burk's Falls

SAMPLED BY:S. deBortoli

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Manganese	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Antimony	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Arsenic	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Barium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Beryllium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	EPA SW 846 6010C; MSA, Part 3, Ch.21	ICP/OES
Cadmium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Cobalt	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Copper	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Lead	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Molybdenum	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Nickel	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Selenium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Silver	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Thallium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Uranium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Vanadium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Zinc	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium VI	INOR-93-6068	SW 846 Method 3060A; Method 7196A	SPECTROPHOTOMETER
Cyanide	INOR-93-6052	MOE CN-3015 & E 3009 A;SM 4500 CN	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Electrical Conductivity	INOR-93-6036	McKeague 4.12, SM 2510 B	EC METER
Sodium Adsorption Ratio	INOR-93-6007	McKeague 4.12 & 3.26 & EPA SW-846 6010C	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	MSA part 3 & SM 4500-H+ B	PH METER
Arsenic Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Barium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Boron Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Cadmium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Chromium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Lead Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Mercury Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Selenium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Silver Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Uranium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Fluoride Leachate	INOR-93-6018	EPA SW-846-1311 & SM4500-F- C	ION SELECTIVE ELECTRODE
Cyanide Leachate	INOR-93-6052	EPA SW-846-1311 & MOE 3015 & SM 4500 CN- I	TECHNICON AUTO ANALYZER
(Nitrate + Nitrite) as N Leachate	INOR-93-6053	EPA SW 846-1311 & SM 4500 - NO3- I	LACHAT FIA

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: TULLOCH ENGINEERING INC.

AGAT WORK ORDER: 19T553946

PROJECT: Yonge St Burk's Fall

ATTENTION TO: Sarah Debortoli

SAMPLING SITE:Burk's Falls

SAMPLED BY:S. deBortoli

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Vinyl Chloride	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,1 Dichloroethene	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Dichloromethane	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Trichloroethene	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Tetrachloroethene	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	EPA SW-846 5030C & 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS

TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client:	Erik Giles	Work Order Number:	391731
Company:	Tulloch Engineering-Sault Ste. Marie	PO #:	
Address:	71 Black Road Sault Ste. Marie, ON, P6B 0A3	Regulation: Project #:	Information not provided
Phone/Fax:	(705) 949-1457 / (705) 949-9606	DWS #:	
Email:	erik.giles@tulloch.ca	Sampled By:	Tulloch Engineering
Date Order Received:	1/9/2020	Analysis Started:	1/13/2020
Arrival Temperature:	9 °C	Analysis Completed:	1/16/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
BH-03 SS5	1509191	Soil	None		12/5/2019	
BH-08 SS4	1509192	Soil	None		12/4/2019	

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Anions Soil (A5)	Garson	Determination of Anions in Soil	Modified from SW846-9056A
Cond Soil (R12)	Garson	Determination of conductivity in soil (1:2)	Modified from EPA SW846-9050A
Moisture (A99)	Garson	Determination of Percent Moisture	In-House
pH Soil (R2)	Garson	Determination of soil pH by Ion Selective Electrode	Modified from EPA SW-846 9045D
RedOx - Soil (T06)	Mississauga	Determination of RedOx Potential of Soil	Modified from APHA-2580B
Resistivity Soil (R12)	Garson	Determination of Resistivity in Soil (1:2)	Modified from Carter 18.3
Sulphide/S (R98)	Garson	Determination of Sulphide in Soil	In-House

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CERTIFICATE OF ANALYSIS

Tulloch Engineering-Sault Ste. Marie

Work Order Number: 391731

This report has been approved by:

Brad Halvorson, B.Sc.
Laboratory Director

7 Margaret Street, Garson, ON, P3L 1E1
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CERTIFICATE OF ANALYSIS

Tulloch Engineering-Sault Ste. Marie

Work Order Number: 391731

WORK ORDER RESULTS

Sample Description	BH - 03 SS5		BH - 08 SS4		
Sample Date	12/5/2019 12:00 AM		12/4/2019 12:00 AM		
Lab ID	1509191		1509192		
Anions	Result	MDL	Result	MDL	Units
Bromide	<0.2 [<0.2]	0.2	<0.2	0.2	µg/g
Chloride	120.0 [120.0]	0.4	302.0	0.4	µg/g
Fluoride	0.3 [<0.2]	0.2	0.9	0.2	µg/g
Nitrate (as N)	0.4 [0.4]	0.2	0.6	0.2	µg/g
Nitrite (as N)	<0.1 [<0.1]	0.1	<0.1	0.1	µg/g
Sulphate	4 [4]	2	23	2	µg/g

Sample Description	BH - 03 SS5		BH - 08 SS4		
Sample Date	12/5/2019 12:00 AM		12/4/2019 12:00 AM		
Lab ID	1509191		1509192		
General Chemistry	Result	MDL	Result	MDL	Units
% Moisture	8.0	0.1	23.0	0.1	%
Conductivity	240	1	567 [559]	1	µS/cm
pH	7.16 [7.28]	N/A	7.14	N/A	pH
RedOx (vs. S.H.E.)	238 [238]	N/A	227	N/A	mV
Resistivity	4170	N/A	1790	N/A	ohm-cm
Sulphide	<4 [<4]	4	<5	5	µg/g

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CERTIFICATE OF ANALYSIS

Tulloch Engineering-Sault Ste. Marie

Work Order Number: 391731

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

[ ]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

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TULLOCH ENGINEERING

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-01 AS1	0.0 to 0.6	1664.00	1617.80	203.97	46.2	3.3%
	BH-01 SS2	0.8 to 1.4	1052.10	1027.80	349.70	24.3	3.6%
	BH-01 SS3	1.5 to 2.1	854.50	771.20	161.20	83.3	13.7%
	BH-01 SS4	2.3 to 2.9	923.80	829.10	169.90	94.7	14.4%

REMARKS:

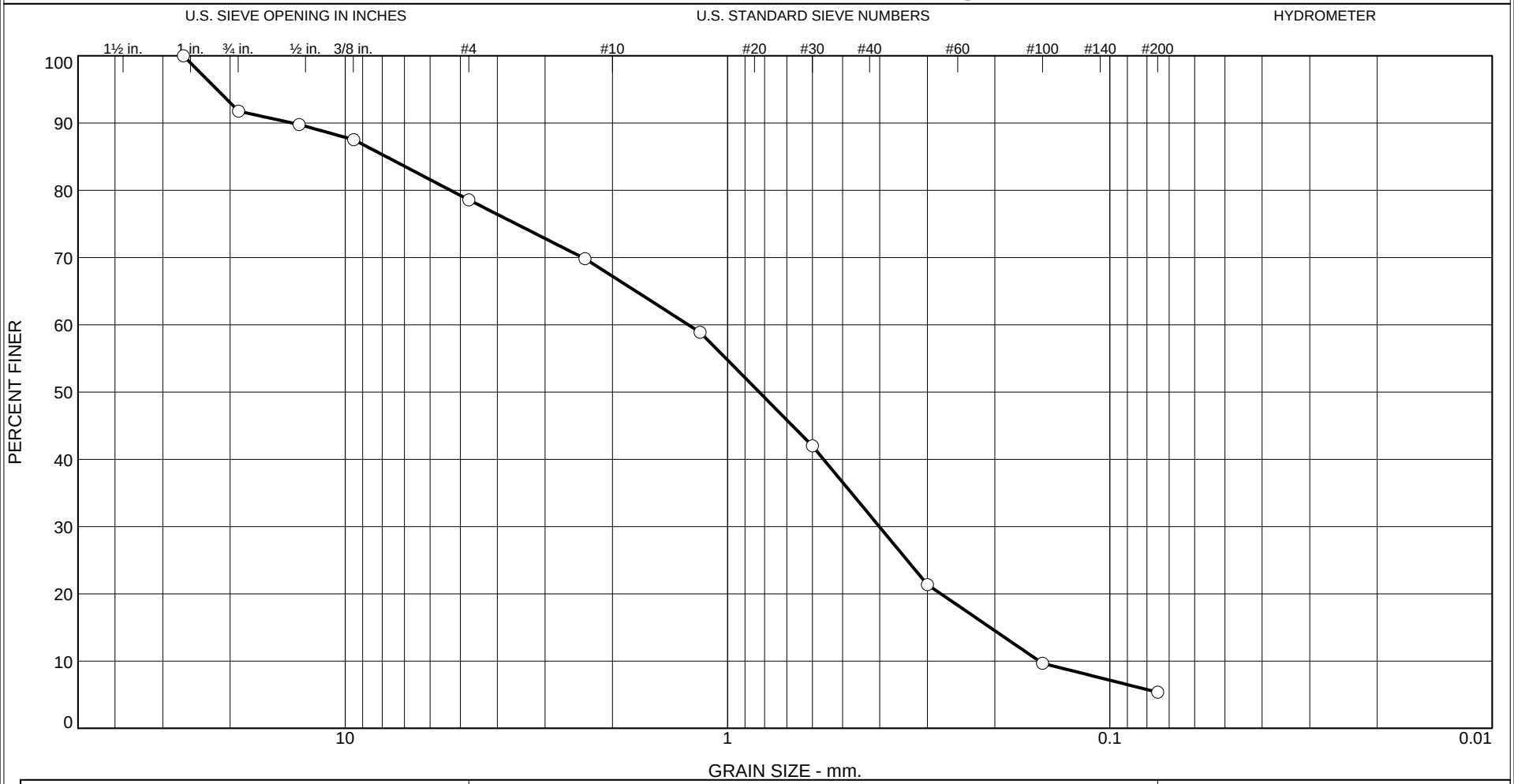
CLIENT:

COPIES TO:

Tulloch Engineering, Materials Testing Laboratory, 71 Black Road - Unit 3, Sault Ste. Marie, ON. Canada P6B 0A3

Tel: (705) 949-1457 Fax: (705) 945-5092 email: thomas.edmonds@tulloch.ca

Particle Size Distribution Report



% Gravel		% Sand			% Fines
Coarse	Fine	Coarse	Medium	Fine	Silt
8.2	13.2	11.4	35.5	26.3	5.4

Identification	Date Sampled	Date Received	Date Tested
Source of Sample: BH-01 Depth: 0.8m - 1.4m Sample Number: SS2	Dec 4, 2019		Jan 6, 2019

Client Burk's Falls

Project Yonge St

Project No. 19-1869

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Daren.Stadnisky@TULLOCH.ca

Tested By: D. Rising **Checked By:** T. Linley

GRAIN SIZE DISTRIBUTION TEST DATA

1/7/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-01
Depth: 0.8m - 1.4m **Sample Number:** SS2
Date Sampled: Dec 4, 2019 **Date Tested:** Jan 6, 2019
Tested by: D. Rising **Checked by:** T. Linley

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
1027.80	349.70	26.5mm	0.00	0.00	100.0
		19mm.	55.90	0.00	91.8
		13.2mm.	13.40	0.00	89.8
		9.5mm.	15.30	0.00	87.5
		#4	60.70	0.00	78.6
477.00	197.50	#8	31.10	0.00	69.8
		#16	38.90	0.00	58.9
		#30	60.10	0.00	42.0
		#50	73.40	0.00	21.4
		#100	41.60	0.00	9.7
		#200	15.30	0.00	5.4

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	8.2	13.2	21.4	11.4	35.5	26.3	73.2			5.4

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.1530	0.2057	0.2767	0.4010	0.5610	0.8265	1.2657	5.3052	7.8135	13.7456	21.6574

Fineness Modulus	C_u	C_c
3.40	8.27	0.83

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-03 SS2	0.3 to 0.9	920.40	896.30	160.70	24.1	3.3%
	BH-03 SS3	0.9 to 1.5	424.20	420.50	230.70	3.7	1.9%
	BH-03 SS4	1.5 to 2.1	743.60	727.00	162.60	16.6	2.9%
	BH-03 SS6	3.0 to 3.7	386.70	377.30	157.10	9.4	4.3%

REMARKS:

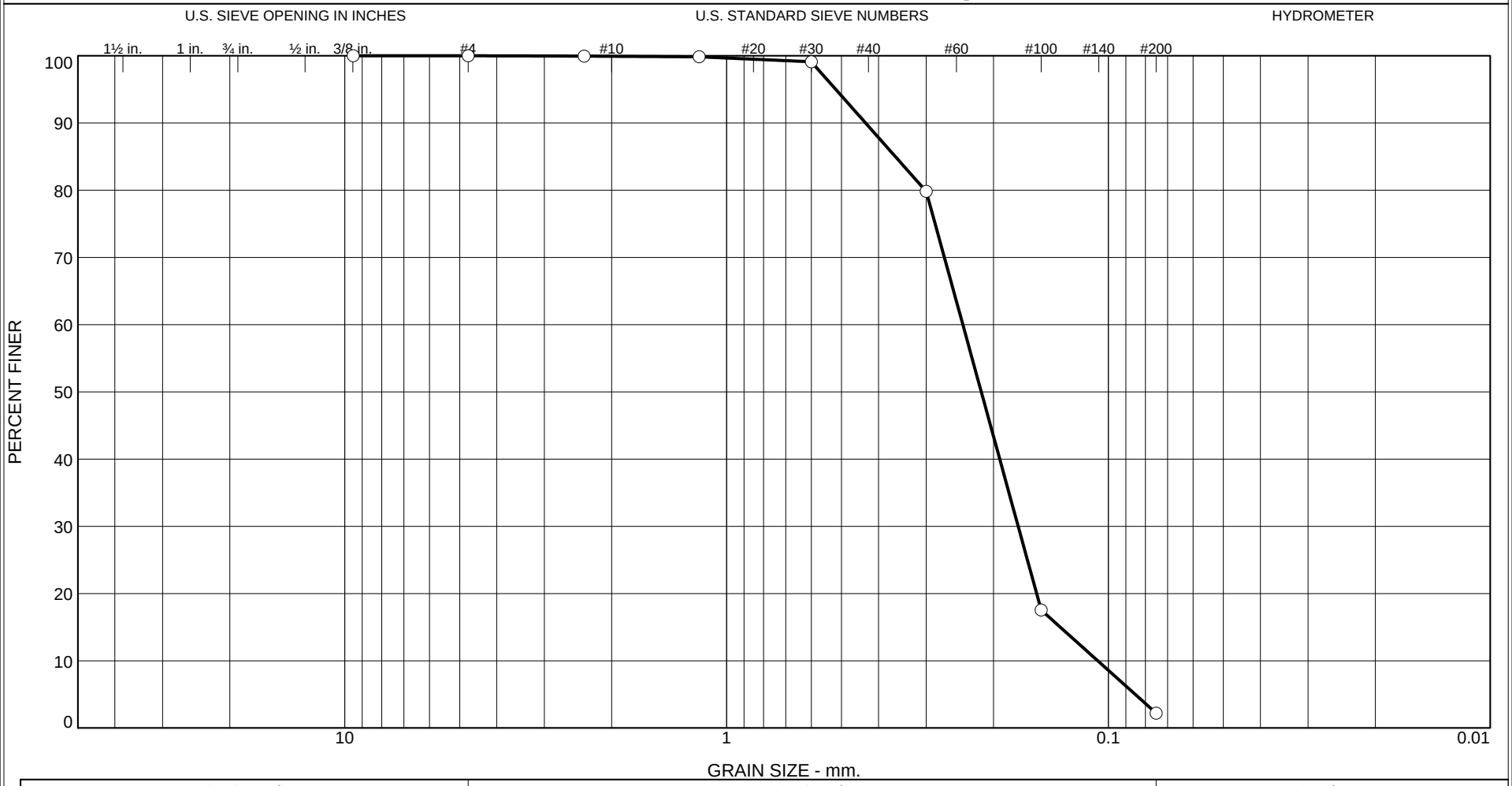
CLIENT:

COPIES TO:

Tulloch Engineering, Materials Testing Laboratory, 71 Black Road - Unit 3, Sault Ste. Marie, ON. Canada P6B 0A3

Tel: (705) 949-1457 Fax: (705) 945-5092 email: thomas.edmonds@tulloch.ca

Particle Size Distribution Report



% Gravel		% Sand			% Fines
Coarse	Fine	Coarse	Medium	Fine	Silt
0.0	0.0	0.1	10.4	87.3	2.2

Identification	Date Sampled	Date Received	Date Tested
Source of Sample: BH-03 Depth: 0.9m - 1.5m Sample Number: SS3	Dec 4, 2019		Jan 6, 2019

Client Burk's Falls

Project Yonge St

Project No. 19-1869

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Daren.Stadnisky@TULLOCH.ca

Tested By: D. Rising **Checked By:** T. Linley

GRAIN SIZE DISTRIBUTION TEST DATA

1/7/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-03
Depth: 0.9m - 1.5m **Sample Number:** SS3
Date Sampled: Dec 4, 2019 **Date Tested:** Jan 6, 2019
Tested by: D. Rising **Checked by:** T. Linley

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 417.40
Tare Wt. = 230.70
Minus #200 from wash = 1.6%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
420.50	230.70	9.5mm.	0.00	0.00	100.0
		#4	0.00	0.00	100.0
		#8	0.10	0.00	99.9
		#16	0.20	0.00	99.8
		#30	1.40	0.00	99.1
		#50	36.60	0.00	79.8
		#100	118.20	0.00	17.5
		#200	29.10	0.00	2.2

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.1	10.4	87.3	97.8			2.2

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0851	0.1066	0.1337	0.1542	0.1723	0.1926	0.2153	0.2406	0.3019	0.3614	0.4325	0.5177

Fineness Modulus	C_u	C_c
1.04	2.26	1.16

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-04 SS2	0.6 to 1.2	948.80	877.60	160.10	71.2	9.9%
	BH-04 SS3	1.2 to 1.8	825.00	734.57	150.30	90.43	15.5%
	BH-04 SS4	1.5 to 2.1	1048.20	912.70	160.80	135.5	18.0%
	BH-04 SS5	2.3 to 2.9	1193.70	1038.20	161.80	155.5	17.7%

REMARKS:

CLIENT:

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-05 SS2	0.8 to 1.2	892.10	747.60	170.70	144.5	25.0%
	BH-05 SS3	1.5 to 2.1	451.60	411.60	160.10	40	15.9%
	BH-05 SS4	2.3 to 2.9	701.96	589.27	161.74	112.69	26.4%
	BH-05 SS5	3.0 to 3.7	676.38	585.86	150.06	90.52	20.8%

REMARKS:

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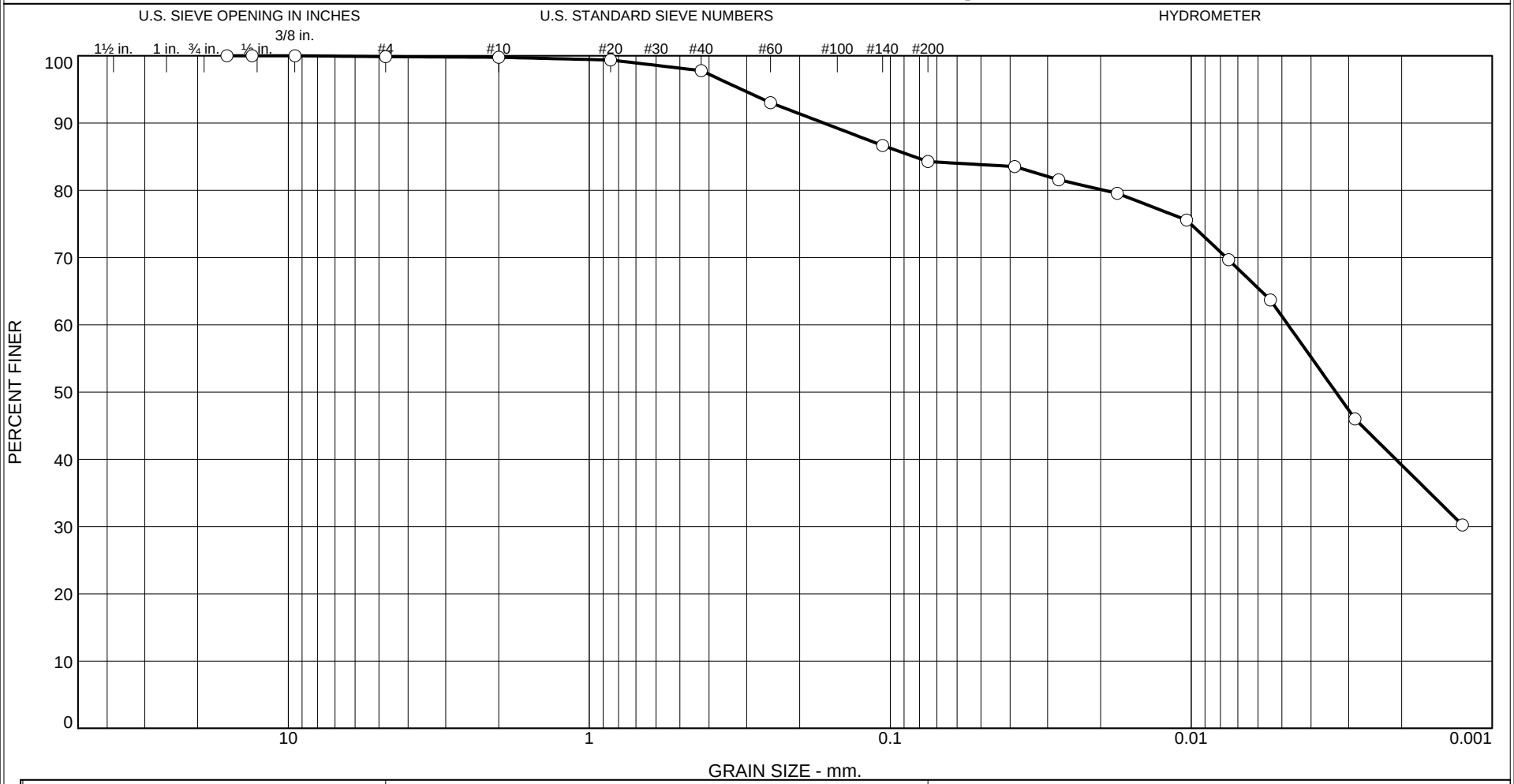
Particle Size Distribution Report



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.1	0.1	2.0	13.5	45.1	39.2

Identification	Date Sampled	Date Received	Date Tested
Source of Sample: BH-05 Depth: 2.3m - 2.9m Sample Number: SS4	Dec 4, 2019		Jan 6, 2020

Client Burk's Falls

Project Yonge St

Project No. 19-1869

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Daren.Stadnisky@TULLOCH.ca

Tested By: T. Linley

GRAIN SIZE DISTRIBUTION TEST DATA

1/8/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-05
Depth: 2.3m - 2.9m **Sample Number:** SS4
Date Sampled: Dec 4, 2019 **Date Tested:** Jan 6, 2020
Tested by: T. Linley

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
589.27	161.74	16mm	0.00	0.00	100.0
		13.2mm	0.00	0.00	100.0
		9.5mm.	0.00	0.00	100.0
		#4	0.53	0.00	99.9
		#10	0.44	0.00	99.8
50.21	0.00	#20	0.20	0.00	99.4
		#40	0.80	0.00	97.8
		#60	2.40	0.00	93.0
		#140	3.20	0.00	86.7
		#200	1.20	0.00	84.3

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.8
Weight of hydrometer sample =50.21
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -5
Meniscus correction only = -1.0
Specific gravity of solids = 2.70
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 **-** .164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	22.4	47.0	42.5	0.0131	46.0	8.8	0.0386	83.5
2.00	22.4	46.0	41.5	0.0131	45.0	8.9	0.0276	81.6
5.00	22.3	45.0	40.5	0.0131	44.0	9.1	0.0176	79.6
15.00	22.2	43.0	38.5	0.0131	42.0	9.4	0.0104	75.6
30.00	22.2	40.0	35.5	0.0131	39.0	9.9	0.0075	69.7
60.00	22.0	37.0	32.4	0.0131	36.0	10.4	0.0055	63.7
250.00	22.0	28.0	23.4	0.0131	27.0	11.9	0.0029	46.0
1440.00	21.9	20.0	15.4	0.0131	19.0	13.2	0.0013	30.2

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.1	0.1	0.1	2.0	13.5	15.6	45.1	39.2	84.3

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
					0.0021	0.0033	0.0048	0.0195	0.0833	0.1664	0.3117

Fineness Modulus
0.18

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-06 SS2	0.8 to 1.2	711.79	648.77	156.33	63.02	12.8%
	BH-06 SS3	1.5 to 2.1	506.77	387.09	156.67	119.68	51.9%
	BH-06 SS4	2.3 to 2.9	719.66	609.05	160.92	110.61	24.7%
	BH-06 SS5	3.0 to 3.7	601.64	514.16	161.36	87.48	24.8%

REMARKS:

CLIENT:

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-07 SS2	0.3 to 0.9	477.28	459.43	162.46	17.85	6.0%
	BH-07 SS4	1.5 to 2.1	808.40	646.79	221.94	161.61	38.0%
	BH-07 SS5	2.3 to 2.9	654.73	516.69	151.68	138.04	37.8%
	BH-07 SS6	3.0 to 3.7	568.68	459.09	149.79	109.59	35.4%

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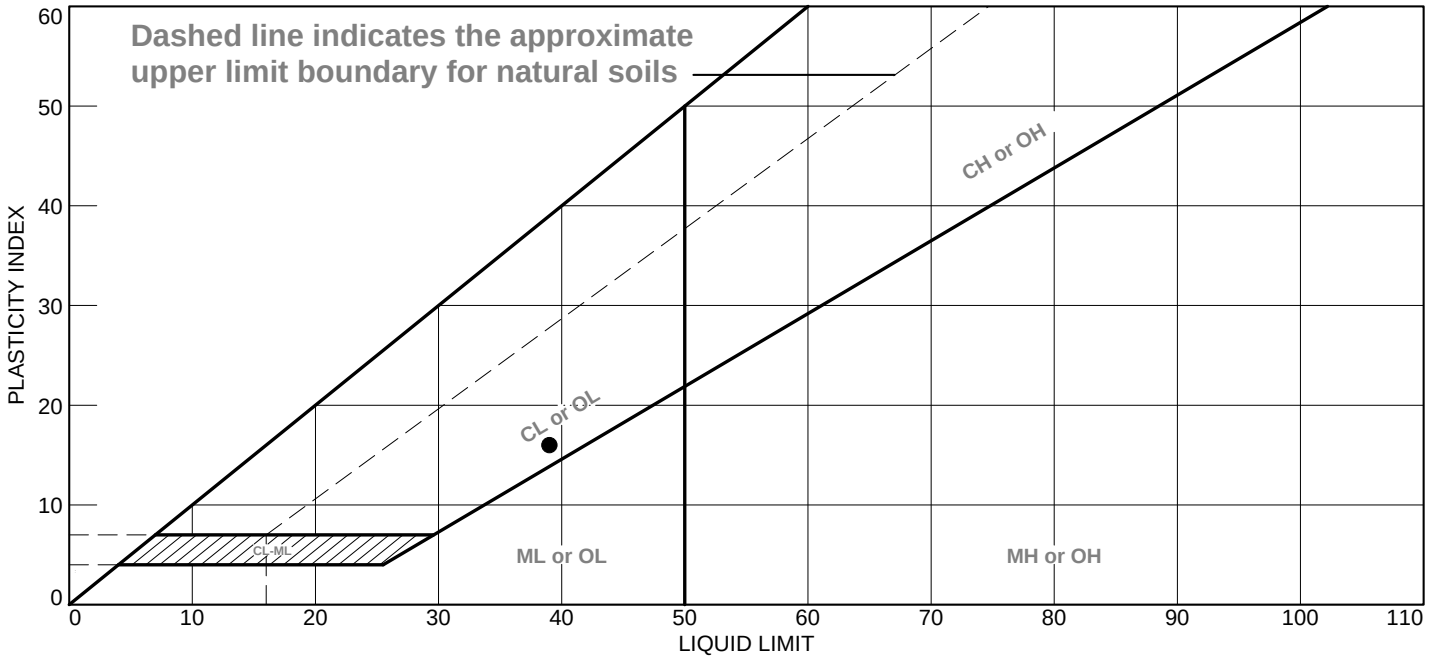
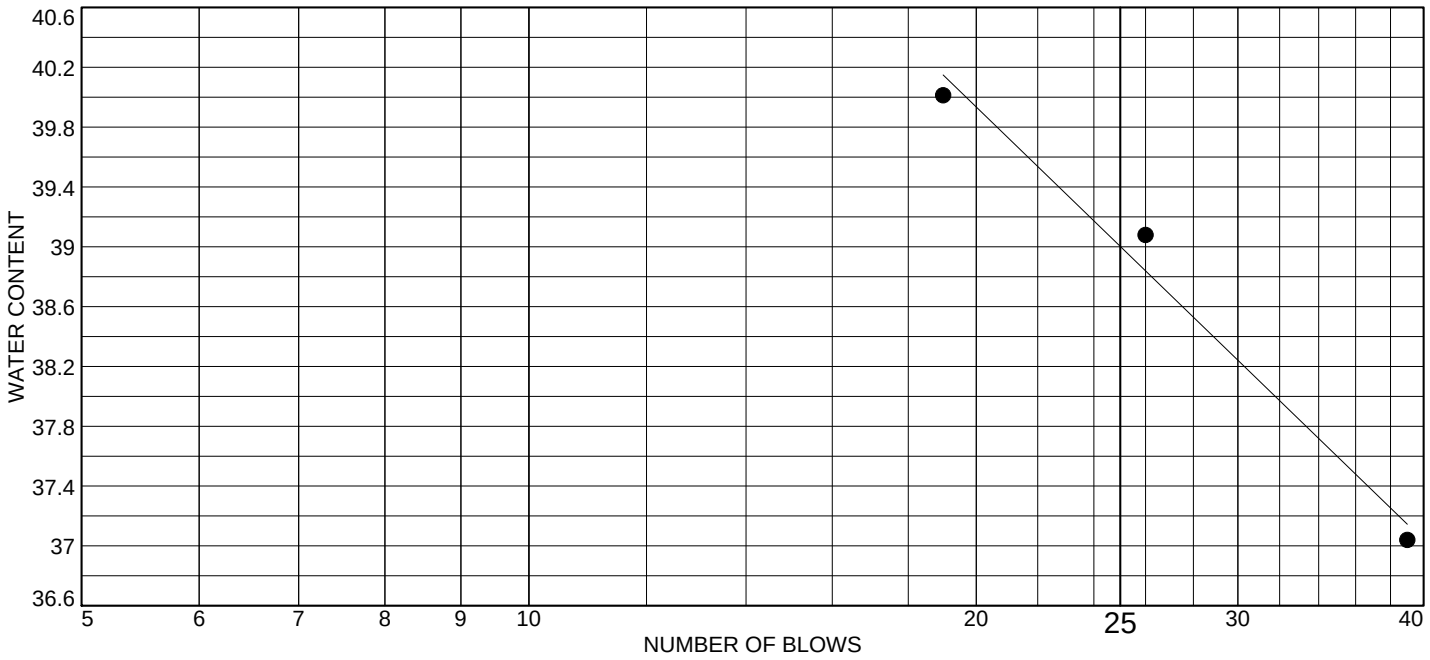
LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		39	23	16			

Project No. 19-1869 **Client:** Burk's Falls

Project: Yonge St

Source of Sample: BH-07 **Depth:** 1.5m - 2.1m
Sample Number: SS4

Remarks:

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Tested By: T. Linley

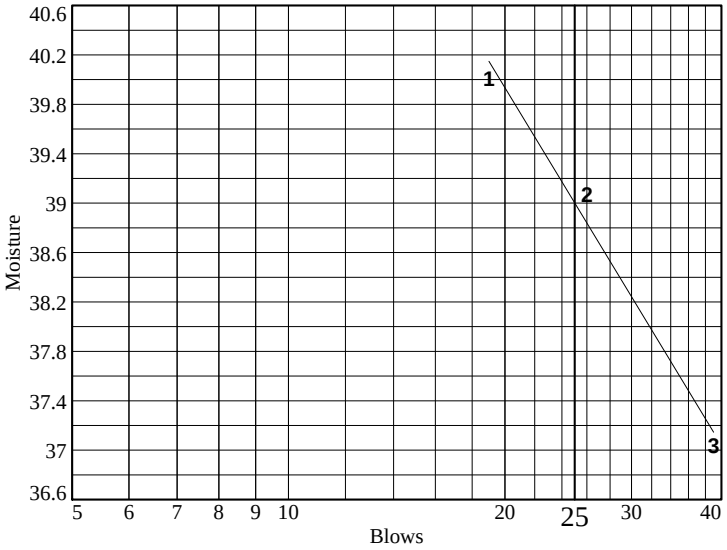
LIQUID AND PLASTIC LIMIT TEST DATA

1/7/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-07
Depth: 1.5m - 2.1m **Sample Number:** SS4
Tested by: T. Linley

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	39.83	35.47	36.11			
Dry+Tare	33.66	31.14	31.98			
Tare	18.24	20.06	20.83			
# Blows	19	26	39			
Moisture	40.0	39.1	37.0			



Liquid Limit= 39
Plastic Limit= 23
Plasticity Index= 16
Natural Moisture= 38.0
Liquidity Index= 0.9

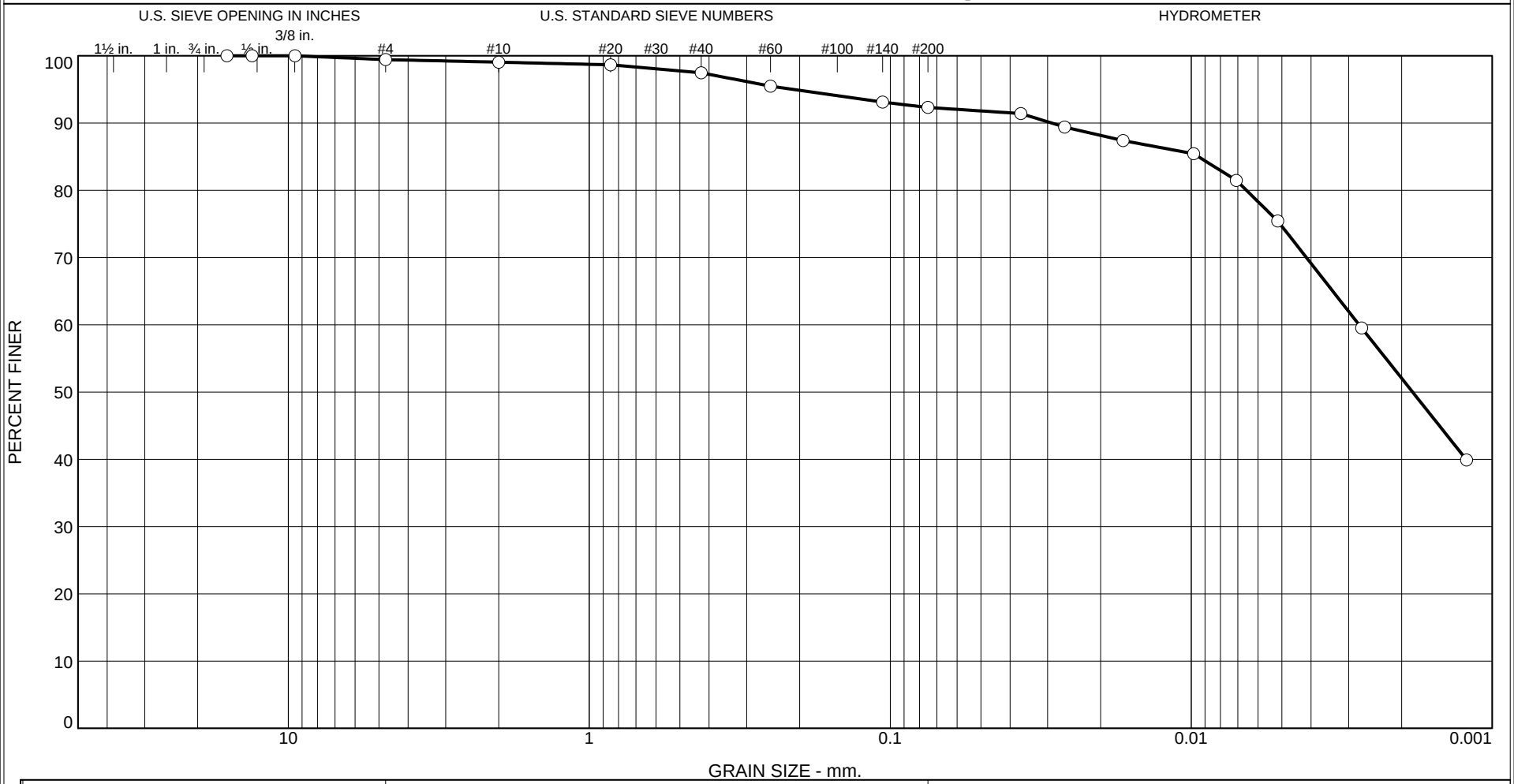
Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	26.10	26.84			
Dry+Tare	24.19	25.21			
Tare	15.85	18.04			
Moisture	22.9	22.7			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
808.4	646.79	221.94	38.0

Particle Size Distribution Report



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.6	0.4	1.5	5.2	40.2	52.1

Identification	Date Sampled	Date Received	Date Tested
Source of Sample: BH-07 Depth: 1.5m - 2.1m Sample Number: SS4	Dec 4, 2019		Jan 6, 2020

Client Burk's Falls

Project Yonge St

Project No. 19-1869

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Tested By: T. Linley

GRAIN SIZE DISTRIBUTION TEST DATA

1/8/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-07
Depth: 1.5m - 2.1m **Sample Number:** SS4
Date Sampled: Dec 4, 2019 **Date Tested:** Jan 6, 2020
Tested by: T. Linley

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
646.79	221.94	16mm	0.00	0.00	100.0
		13.2mm	0.00	0.00	100.0
		9.5mm.	0.00	0.00	100.0
		#4	2.42	0.00	99.4
		#10	1.62	0.00	99.0
50.03	0.00	#20	0.20	0.00	98.7
		#40	0.60	0.00	97.5
		#60	1.00	0.00	95.5
		#140	1.20	0.00	93.1
		#200	0.40	0.00	92.3

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.0
Weight of hydrometer sample =50.03
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -5
Meniscus correction only = -1.0
Specific gravity of solids = 2.70
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 **-** .164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	23.1	51.0	46.7	0.0129	50.0	8.1	0.0368	91.4
2.00	23.0	50.0	45.7	0.0130	49.0	8.3	0.0263	89.4
5.00	22.9	49.0	44.6	0.0130	48.0	8.4	0.0168	87.4
15.00	22.9	48.0	43.6	0.0130	47.0	8.6	0.0098	85.4
30.00	22.8	46.0	41.6	0.0130	45.0	8.9	0.0071	81.5
60.00	22.5	43.0	38.5	0.0130	42.0	9.4	0.0052	75.4
250.00	22.0	35.0	30.4	0.0131	34.0	10.7	0.0027	59.5
1440.00	21.9	25.0	20.4	0.0131	24.0	12.4	0.0012	39.9

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.6	0.6	0.4	1.5	5.2	7.1	40.2	52.1	92.3

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
					0.0012	0.0018	0.0028	0.0066	0.0095	0.0291	0.2098

Fineness Modulus
0.14

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-08 SS2	0.3 to 0.9	938.20	913.60	151.64	24.6	3.2%
	BH-08 SS3	0.9 to 1.5	815.10	784.80	166.32	30.3	4.9%
	BH-08 SS4	1.5 to 2.1	611.13	495.57	160.05	115.56	34.4%
	BH-08 SS5	2.3 to 2.9	502.82	413.46	173.33	89.36	37.2%

REMARKS:

CLIENT:

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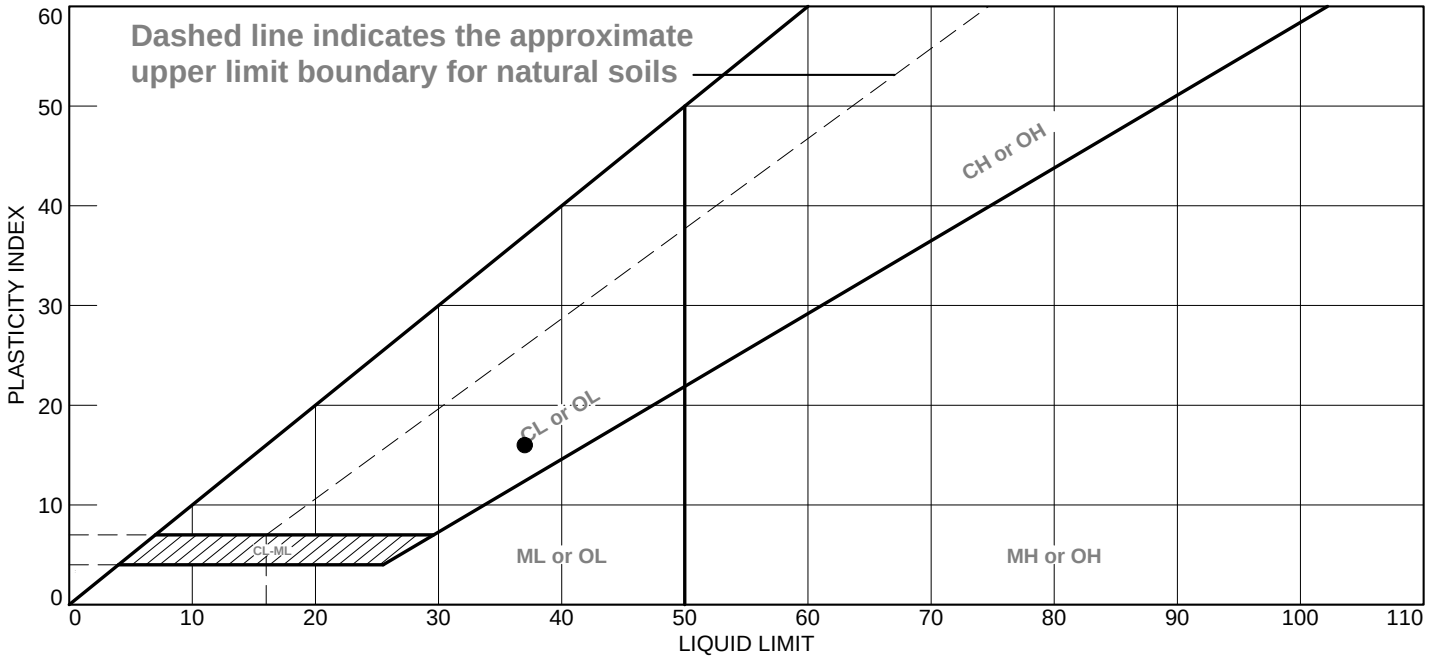
LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		37	21	16			

Project No. 19-1869 **Client:** Burk's Falls

Project: Yonge St

Source of Sample: BH-08 **Depth:** 2.3m - 2.9m
Sample Number: SS5

Remarks:

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Daren.Stadnisky@TULLOCH.ca

Tested By: T. Linley

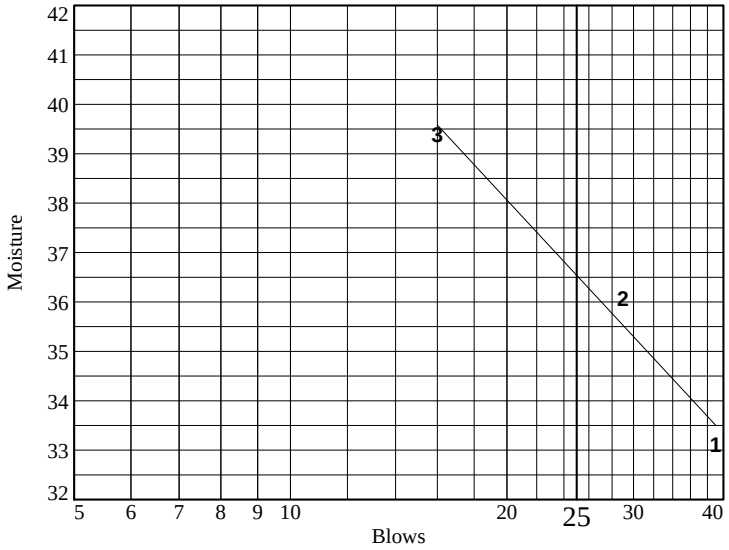
LIQUID AND PLASTIC LIMIT TEST DATA

1/8/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-08
Depth: 2.3m - 2.9m **Sample Number:** SS5
Tested by: T. Linley

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	38.94	33.21	33.38			
Dry+Tare	33.32	28.39	28.53			
Tare	16.36	15.03	16.22			
# Blows	39	29	16			
Moisture	33.1	36.1	39.4			



Liquid Limit= 37
Plastic Limit= 21
Plasticity Index= 16
Natural Moisture= 37.2
Liquidity Index= 1.0

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	29.44	38.18			
Dry+Tare	27.86	36.45			
Tare	20.24	28.18			
Moisture	20.7	20.9			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
502.82	413.46	173.33	37.2

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-09 AS1	0.0 to 0.3	902.40	863.00	156.98	39.4	5.6%
	BH-09 SS5	2.3 to 2.9	701.82	602.94	155.30	98.88	22.1%
	BH-09 SS2	0.6 to 1.2	931.30	904.40	230.80	26.9	4.0%

REMARKS:

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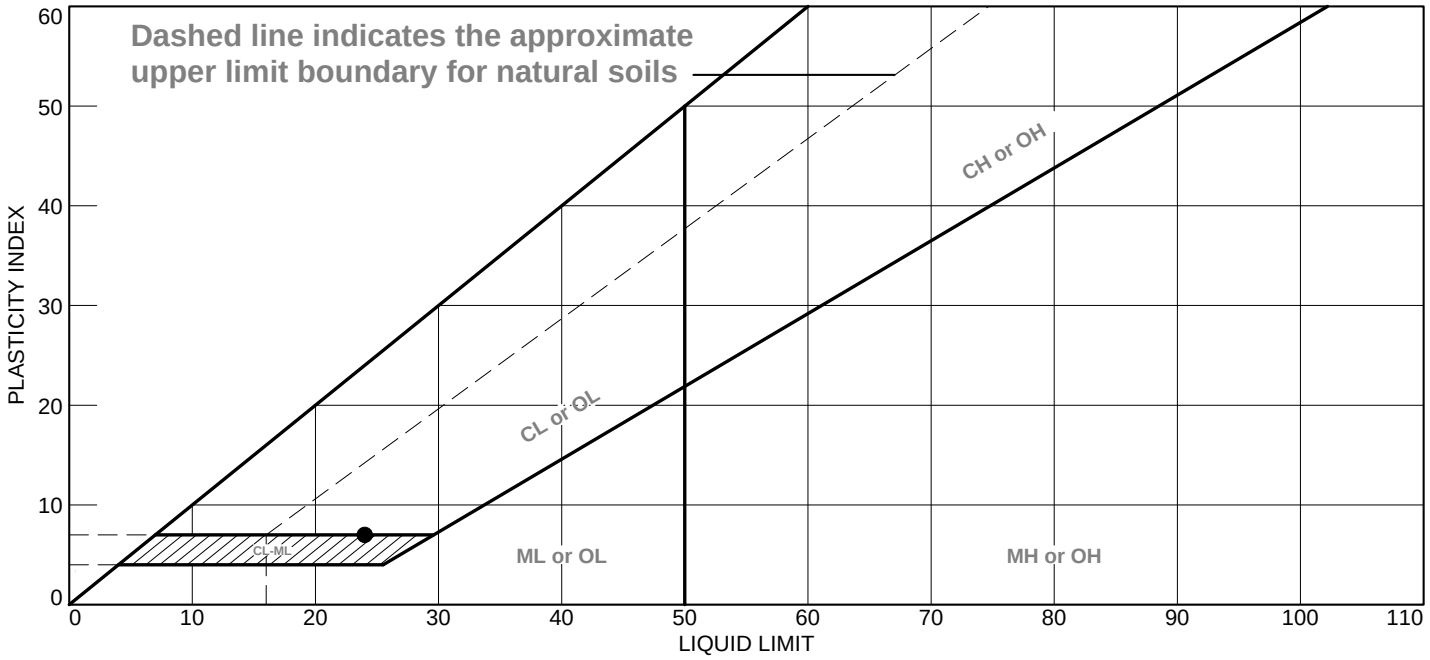
LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		24	17	7			

Project No. 19-1869 **Client:** Burk's Falls

Project: Yonge St

Source of Sample: BH-09 **Depth:** 2.3m - 2.9m
Sample Number: SS5

Remarks:

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Tested By: T. Linley

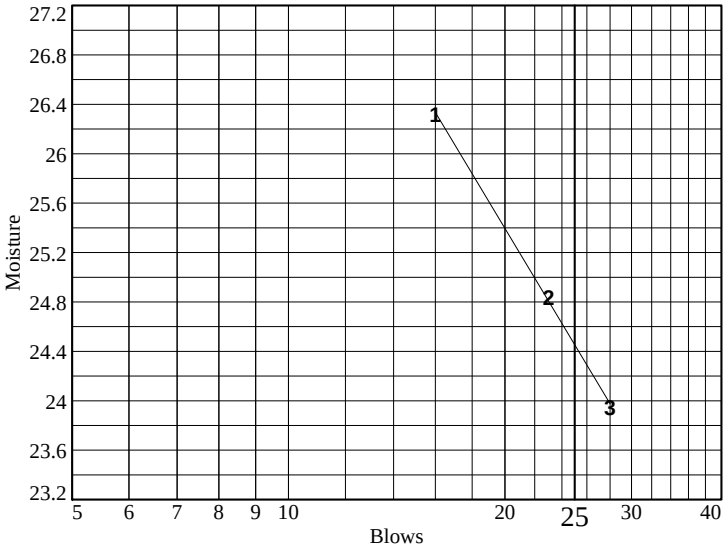
LIQUID AND PLASTIC LIMIT TEST DATA

1/7/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-09
Depth: 2.3m - 2.9m **Sample Number:** SS5
Tested by: T. Linley

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	38.71	36.27	34.57			
Dry+Tare	34.83	32.74	31.54			
Tare	20.09	18.53	18.89			
# Blows	16	23	28			
Moisture	26.3	24.8	24.0			



Liquid Limit= 24
Plastic Limit= 17
Plasticity Index= 7
Natural Moisture= 22.1
Liquidity Index= 0.7

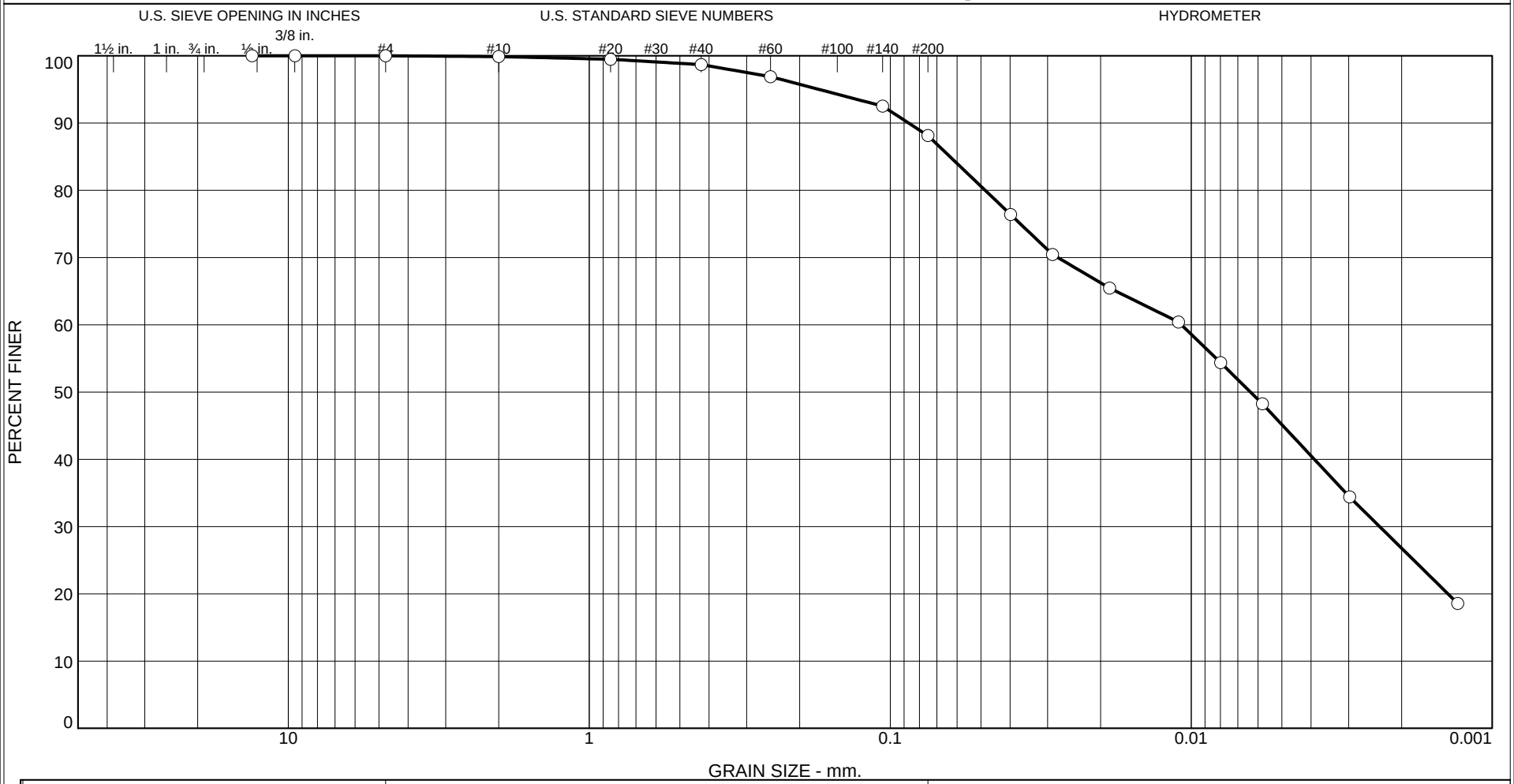
Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	24.74	24.94			
Dry+Tare	23.60	23.68			
Tare	16.95	16.39			
Moisture	17.1	17.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
701.82	602.94	155.3	22.1

Particle Size Distribution Report



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	1.2	10.6	61.3	26.8

Identification	Date Sampled	Date Received	Date Tested
Source of Sample: BH-09 Depth: 2.3m - 2.9m Sample Number: SS5	Dec 4, 2019		Jan 6, 2020

Client Burk's Falls

Project Yonge St

Project No. 19-1869

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Tested By: T. Linley

GRAIN SIZE DISTRIBUTION TEST DATA

1/8/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-09
Depth: 2.3m - 2.9m **Sample Number:** SS5
Date Sampled: Dec 4, 2019 **Date Tested:** Jan 6, 2020
Tested by: T. Linley

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
602.94	155.30	13.2mm	0.00	0.00	100.0
		9.5mm.	0.00	0.00	100.0
		#4	0.00	0.00	100.0
		#10	0.53	0.00	99.9
50.16	0.00	#20	0.20	0.00	99.5
		#40	0.40	0.00	98.7
		#60	0.90	0.00	96.9
		#140	2.20	0.00	92.5
		#200	2.20	0.00	88.1

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.9
Weight of hydrometer sample =50.16
Hygroscopic moisture correction:
Moist weight and tare = 30.39
Dry weight and tare = 30.33
Tare weight = 17.72
Hygroscopic moisture = 0.5%
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -5
Meniscus correction only = -1.0
Specific gravity of solids = 2.70
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 **-** .164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	22.8	43.0	38.6	0.0130	42.0	9.4	0.0398	76.4
2.00	22.8	40.0	35.6	0.0130	39.0	9.9	0.0289	70.5
5.00	22.7	37.5	33.1	0.0130	36.5	10.3	0.0187	65.5
15.00	22.5	35.0	30.5	0.0130	34.0	10.7	0.0110	60.4
30.00	22.3	32.0	27.5	0.0131	31.0	11.2	0.0080	54.4
60.00	21.9	29.0	24.4	0.0131	28.0	11.7	0.0058	48.2
250.00	21.9	22.0	17.4	0.0131	21.0	12.9	0.0030	34.4
1440.00	21.9	14.0	9.4	0.0131	13.0	14.2	0.0013	18.6

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.1	1.2	10.6	11.9	61.3	26.8	88.1

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0014	0.0024	0.0039	0.0064	0.0108	0.0484	0.0633	0.0869	0.1725

Fineness Modulus
0.10

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WATER CONTENT TEST

TEST METHOD: LS 701 / ASTM C 566 / D 2216

CONTRACT NO: 19-1869 DATE SAMPLED: 12/4/2019

PROJECT: Yonge Street - Burk's Falls SOURCE: Boreholes

DATE TESTED: 1/3/2020 TESTED BY: T. Edmonds

			Gross (inc. Tare) (g)				
Tare ID	Sample ID	Depth (m)	Wet Weight	Dry Weight	TARE	Mass Lost	Water %
	BH-10 SS2	0.3 to 0.9	1017.00	943.80	156.74	73.2	9.3%
	BH-10 SS3	0.9 to 1.5	584.74	498.47	151.60	86.27	24.9%
	BH-10 SS4	1.5 to 2.1	439.99	388.41	167.14	51.58	23.3%
	BH-10 SS5	2.3 to 2.9	769.43	647.55	158.52	121.88	24.9%
	BH-10 SS6	3.0 to 3.7	546.41	439.68	166.48	106.73	39.1%

REMARKS:

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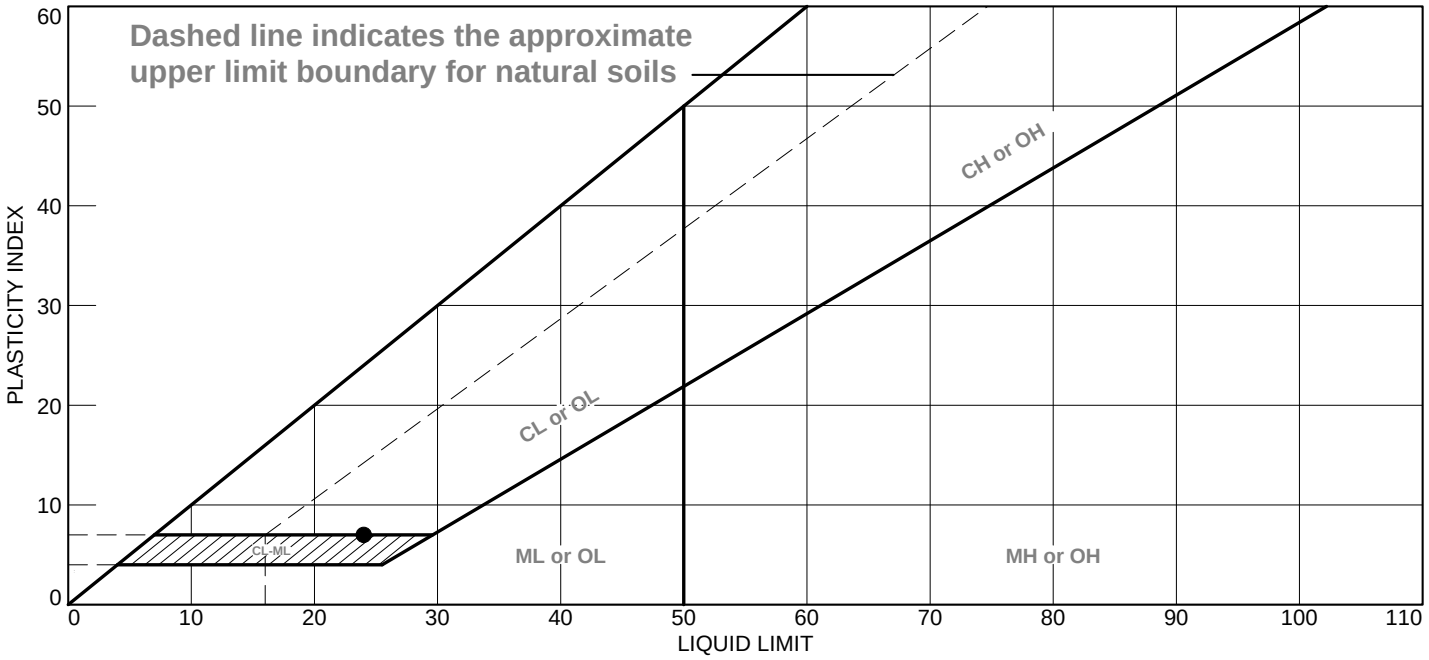
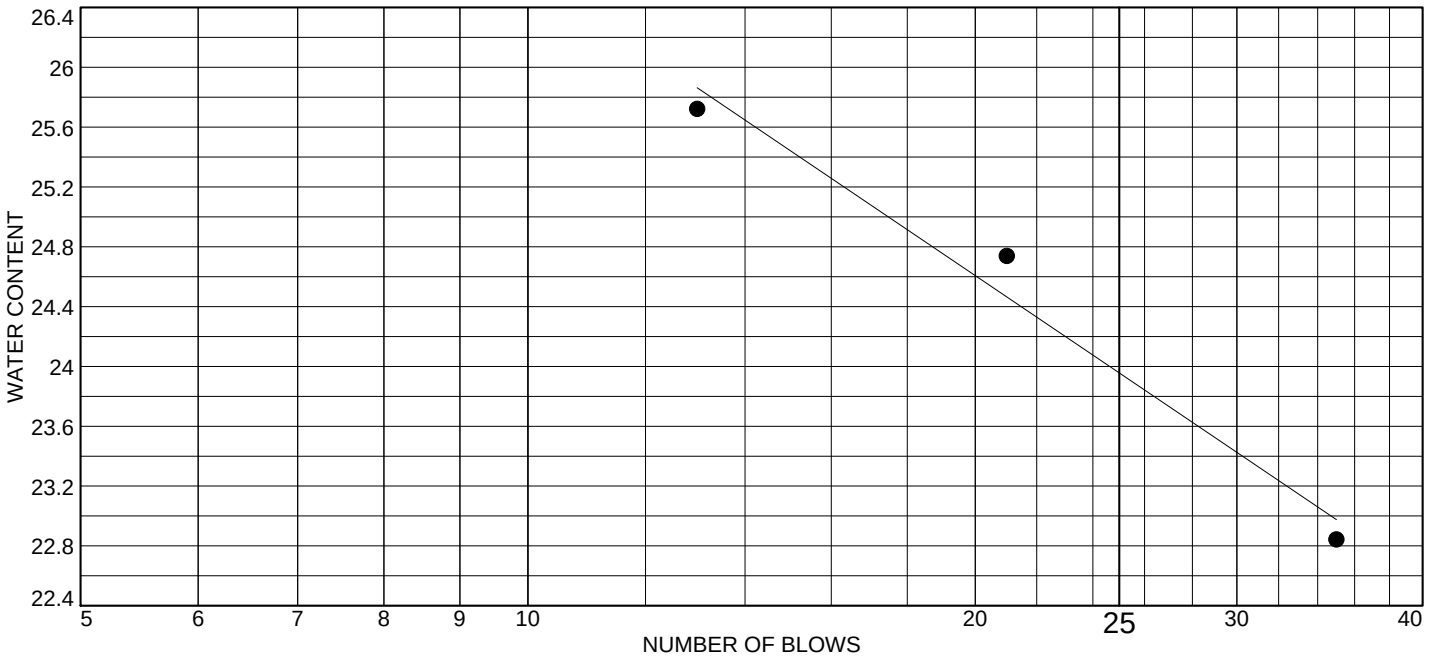
LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		24	17	7			

Project No. 19-1869 **Client:** Burk's Falls

Project: Yonge St

Source of Sample: BH-10 **Depth:** 0.9m - 1.5m
Sample Number: SS3

Remarks:

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Daren.Stadnisky@TULLOCH.ca

Tested By: T. Linley

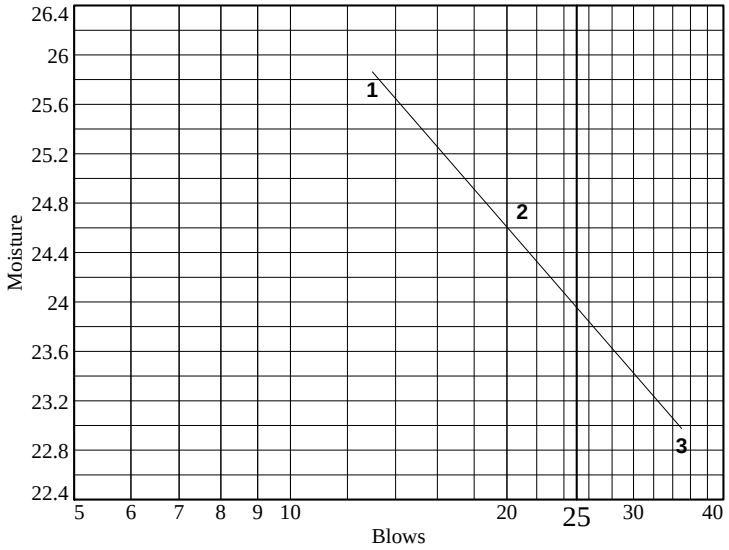
LIQUID AND PLASTIC LIMIT TEST DATA

1/8/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-10
Depth: 0.9m - 1.5m **Sample Number:** SS3
Tested by: T. Linley

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	46.42	38.68	50.33			
Dry+Tare	41.70	34.89	46.20			
Tare	23.35	19.57	28.12			
# Blows	13	21	35			
Moisture	25.7	24.7	22.8			



Liquid Limit= 24
Plastic Limit= 17
Plasticity Index= 7
Natural Moisture= 24.9
Liquidity Index= 1.1

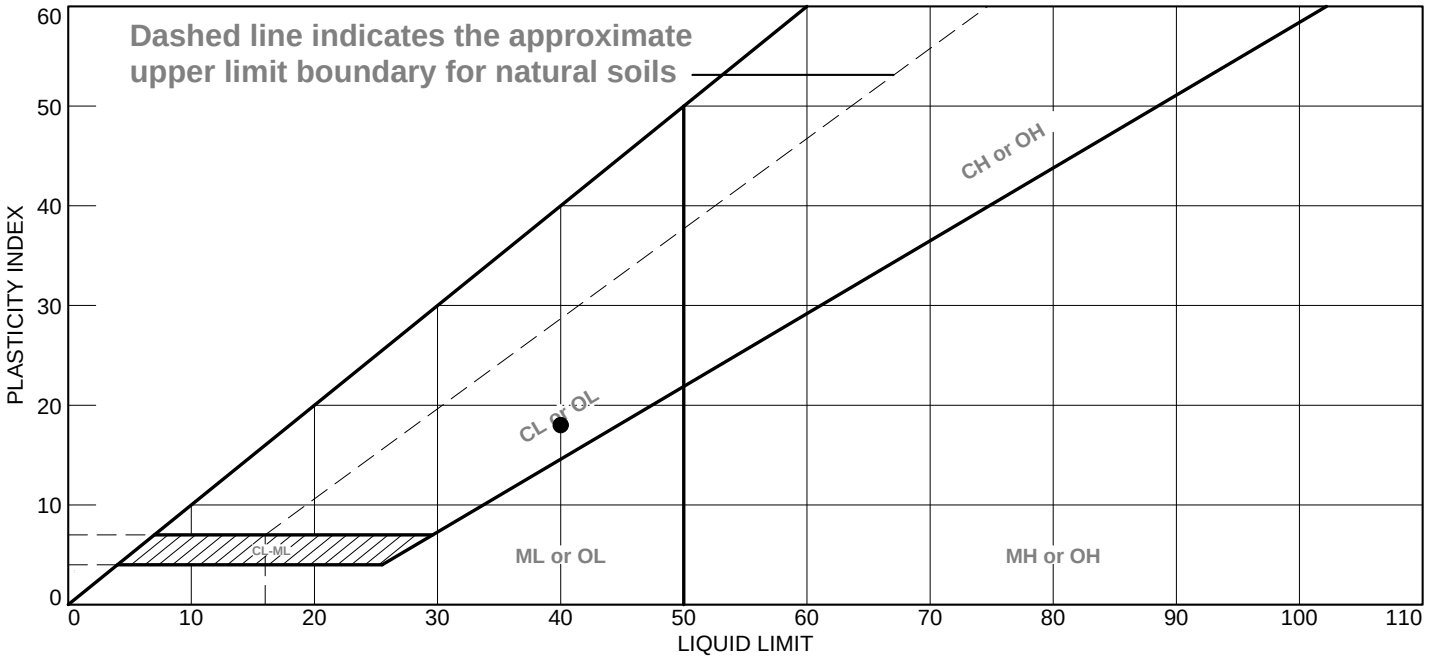
Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	28.78	28.83			
Dry+Tare	27.02	27.20			
Tare	16.78	17.65			
Moisture	17.2	17.1			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
584.74	498.47	151.60	24.9

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		40	22	18			

Project No. 19-1869 **Client:** Burk's Falls

Project: Yonge St

Source of Sample: BH-10 **Depth:** 3.0m - 3.7m
Sample Number: SS6

Remarks:

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Tested By: T. Linley

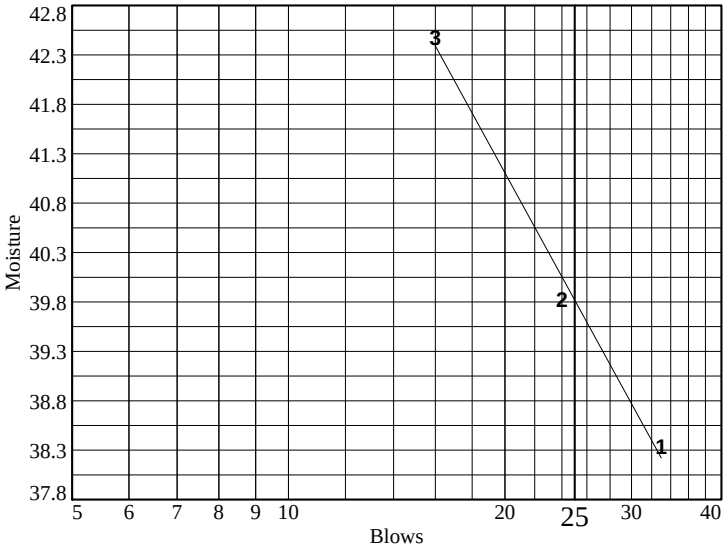
LIQUID AND PLASTIC LIMIT TEST DATA

1/8/2020

Client: Burk's Falls
Project: Yonge St
Project Number: 19-1869
Location: BH-10
Depth: 3.0m - 3.7m **Sample Number:** SS6
Tested by: T. Linley

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	37.09	33.72	36.62			
Dry+Tare	32.04	29.39	31.53			
Tare	18.87	18.52	19.55			
# Blows	33	24	16			
Moisture	38.3	39.8	42.5			



Liquid Limit= 40
Plastic Limit= 22
Plasticity Index= 18
Natural Moisture= 39.1
Liquidity Index= 1.0

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	24.82	25.62			
Dry+Tare	23.47	24.13			
Tare	17.34	17.35			
Moisture	22.0	22.0			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
546.41	439.68	166.48	39.1

APPENDIX E

PHOTOGRAPH LOG

VILLAGE OF BURK'S FALLS – FILL SAMPLING FOR VILLAGE WELL		
Client : Village of Burk's Falls	**Project Number :** 19-1869	
Site Location : George Street, Burk's Falls, Ontario		
Photographer : S.DeBortoli	**Date Photo Taken:** December 05, 2019	**Drawn By** : S.Khan

Photograph 1.

Photo of Fill Sampling Area facing Northwest.

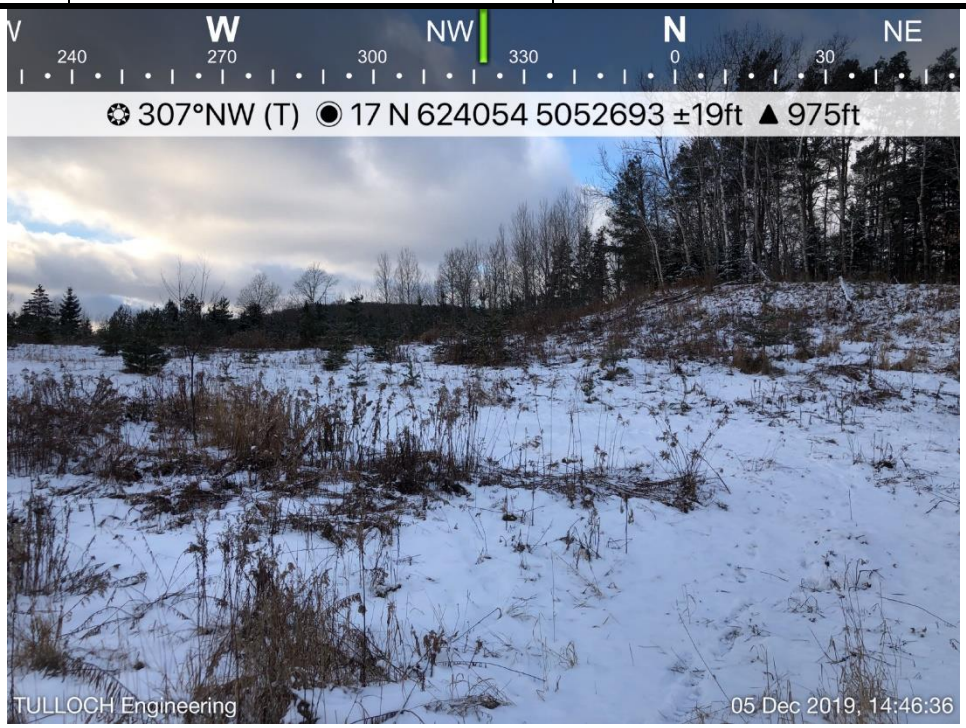
Photograph 2.

Photo of Fill Sampling Area facing East.

VILLAGE OF BURK'S FALLS – FILL SAMPLING FOR VILLAGE WELL		
Client : Village of Burk's Falls	**Project Number :** 19-1869	
Site Location : Young Street, Burk's Falls, Ontario		
Photographer : S.DeBortoli	**Date Photo Taken:** December 05, 2019	**Drawn By** : S.Khan

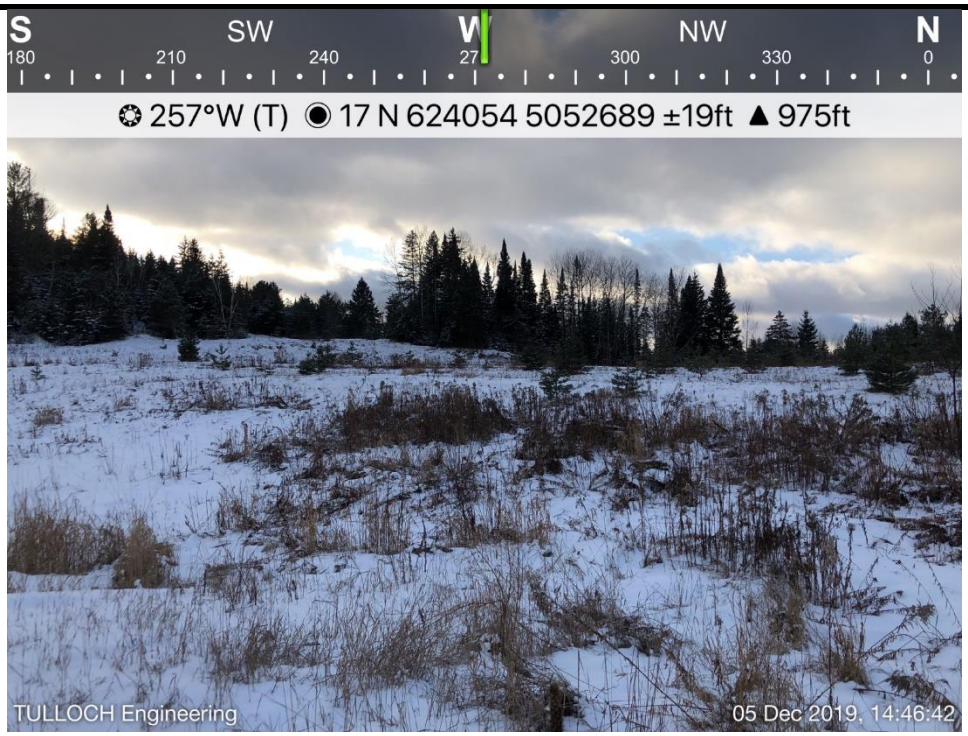
Photograph 3.

Photo of Fill Sampling Area facing Northwest.



Photograph 4.

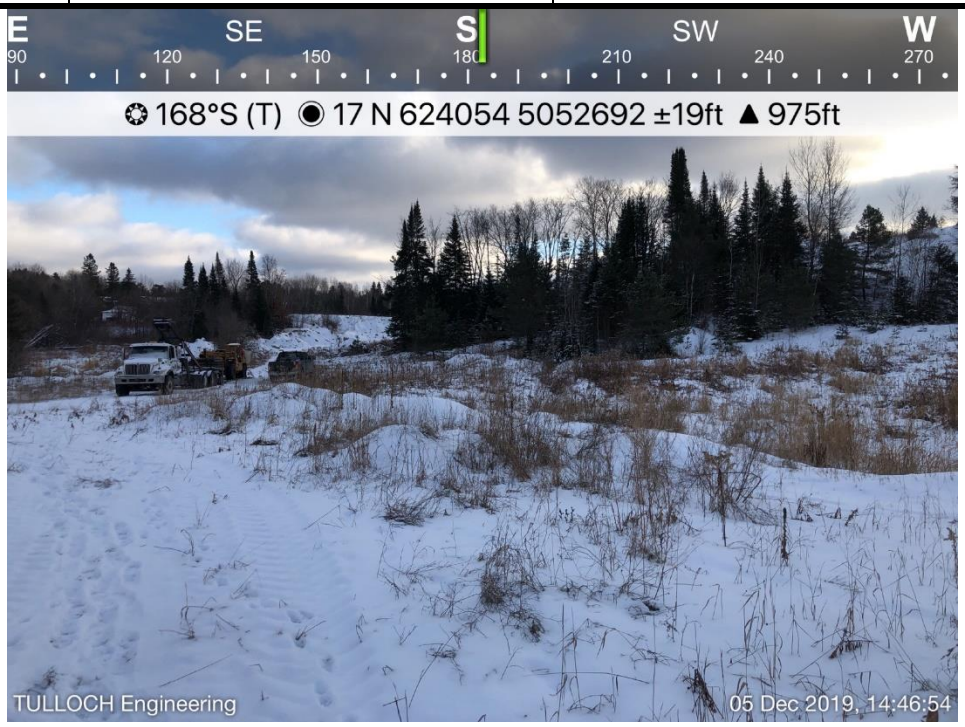
Photo of Fill Sampling Area facing West.



VILLAGE OF BURK'S FALLS – FILL SAMPLING FOR VILLAGE WELL		
Client : Village of Burk's Falls	**Project Number :** 19-1869	
Site Location : Young Street, Burk's Falls, Ontario		
Photographer : S.DeBortoli	**Date Photo Taken:** December 05, 2019	**Drawn By** : S.Khan

Photograph 5.

Photo of Fill Sampling Area facing South.



APPENDIX F

NOTICE TO READER

NOTICE TO READER

This Report has been prepared by TULLOCH Engineering Ltd. ('TULLOCH') for the sole and exclusive use of The Corporation of the Village of Burk's Falls (the 'Client') to support subsurface and pavement design for the proposed rehabilitation of Young Street (the 'Development') in Burk's Falls, Ontario (the 'Site'). The Report shall not be used for any other purpose, or provided to, relied upon or used by any third party without the express written consent of TULLOCH.

A limited number of boreholes were advanced at the Site; and as such, the information collected and presented herein applies to the borehole and test pit locations only. The subsurface conditions between boreholes and test pits can change and accordingly any use of the data contained in this Report should take into consideration the nature of the materials and potential variation between boreholes and test pits.

This Report contains opinions, conclusions and recommendations made by TULLOCH using professional judgment and reasonable care for the purpose of foundation design for the Development. Use of or reliance on this report by the Client is subject to the following conditions:

a) the report being read in the context of and subject to the terms of the Engineering Services Agreement for the Work, including any methodologies, procedures, techniques, assumptions and other relevant terms or conditions specified or agreed therein;
b) the report being read in its entirety. TULLOCH is not responsible for the use of portions of the report without reference to the entire report;
c) the conditions of the site may change over time or may have already changed due to natural forces or human intervention, and TULLOCH takes no responsibility for the impact that such changes may have on the accuracy or validity of the observations, conclusions and recommendations set out in this report;
d) the classification of soils and rocks in this report is based on commonly accepted methods. However, the classification of geologic materials and the boundaries between subsurface layers involves judgement. Boundaries between different soils layers may also be transitional rather than abrupt. TULLOCH does not warrant or guarantee the exactness of these descriptions and boundaries.
e) the subsurface conditions must be verified by a qualified geotechnical engineer during construction to ensure that the borehole data presented herein is representative of the actual site conditions so that the design recommendations contained herein remain valid; and
f) the report is based on information made available to TULLOCH by the Client or by certain third parties; and unless stated otherwise in the Agreement, TULLOCH has not verified the accuracy, completeness or validity of such information, makes no representation regarding its accuracy and hereby disclaims any liability in connection therewith.

This report has been prepared with the degree of care, skill and diligence normally provided by engineers in the performance of comparable services for projects of similar nature. The scope of this report includes foundation engineering design only and it specifically excludes investigation, detection, prevention and assessment of the presence of subsurface contaminants. No conclusions or inferences should be drawn regarding contamination at the site including but not limited to molds, fungi, spores, bacteria, viruses, soil gases such as Radon, PCBs, petroleum hydrocarbons, inorganic and volatile organic compounds, polycyclic aromatic hydrocarbons and or any by products thereof.