

**TOWN OF FORT SMITH
SIDEWALKS AND CONCRETE WORKS
2026**



Fort Smith
NORTHWEST TERRITORIES

PROJECT SPECIFICATIONS

MASKWA PROJECT NO. 25-068

April 2026

ISSUED FOR TENDER

**Prepared For:
Town of Fort Smith
P.O. Box 147
Fort Smith, NT
X0E 0P0**

Prepared By:



**Maskwa Engineering Ltd.
59a King Street.
Fort Smith, NT X0E 0P0**

TOWN OF FORT SMITH
SIDEWALKS AND CONCRETE WORKS 2026

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Town of Fort Smith Sidewalks and Concrete Works 2026

IT.1 Tender Call

- 1.1 Sealed Tenders fully executed, dated and endorsed will be received by the Owner, at the Town of Fort Smith Office, 174 McDougal Street, P.O. Box 147, Fort Smith, NT X0E 0P0 **up to 3:00 PM local time on Friday May 8th-, 2026**
- 1.2 The intent of this Tender is to obtain a formal offer to construct and complete:

**TOWN OF FORT SMITH
SIDEWALKS AND CONCRETE WORKS 2026**

Herein referred to as the “Work”.

- 1.3 Submit one copy of the tender on the tender form provided, signed and sealed, together with the required securities in an opaque envelope, clearly identified with the word “Tender”, and the Project name and the Tenderers name on the outside.
- 1.4 Tender Documents may be obtained in hard copy from:

Town of Fort Smith Office
174 McDougal Road
Fort Smith, NT X0E 0P0
Phone: (867) 872-8400
Fax: (867) 872-8401
- 1.5 Amendments to the submitted Tender will be permitted if received in writing in a sealed envelope, or electronically transmitted (with the original to follow in the mail), prior to tender closing and if endorsed by the same party or parties who signed the Tender.
- 1.6 If an arithmetical error is identified by the Engineer in the submitted Tender between any Unit Price and the price extension (Unit Price x Quantity of Units), the Unit Price shall govern. The price extension and the Total Tender amount will be corrected accordingly.

Town of Fort Smith Sidewalks and Concrete Works 2026

IT.2 Security Deposit

- 2.1 Every Tender valued at \$100,000.00 or over shall be accompanied by a security deposit as follows:
- i. Bid Bond in an amount not less than 10% of the Total Tender amount, or
 - ii. A Certified Cheque Bank Draft or a bank Irrevocable Letter of Guarantee in an amount not less than 10% of the Total Tender amount.
- 2.2 Bid Bonds or Certified Cheques shall be written in the name of the Town of Fort Smith.
- 2.3 Bid Bonds shall be on a form endorsed by the Canadian Construction Association (CCA) and be accompanied by a “Consent of Surety, stating that the Surety is willing to supply the Performance, Labour and Material Payment Bonds as required. Consent of Surety form is attached to the Tender Form as Appendix “I”.
- 2.4 All security deposits except those of the lowest three Tenderers will be returned with reasonable promptness after the opening of Tenders.
- 2.5 The remaining security deposits will be returned after delivery to the Town of the required Performance Bond and Labour and Material Payment Bond by the successful Tenderer.
- 2.6 If no contract is awarded, all security deposits will be returned with reasonable promptness after such decision is made by the Town.

IT.3 Assurance of Performance

- 3.1 The accepted Tenderer shall provide Contract Security as stated in the General Conditions.
- 3.2 The cost of all Contract Security shall be included in the Tender Price.

IT.4 Acceptance of Tender

- 4.1 The Town reserves the right to accept the Tender or any part thereof, which it deems to be most advantageous to its interest. Past performance on Town works will be strongly considered in the acceptance of Tender. The lowest or any Tender will not necessarily be accepted.
- 4.2 Following acceptance by the Town, a written Notice of Award will be issued to the successful Tenderer.

Town of Fort Smith Sidewalks and Concrete Works 2026

- 4.3 Upon notification of acceptance of a Tender, the successful Tenderer shall furnish within 14 days of the date of the notification of acceptance the security specified in the attached contract.

IT.5 Duration of Offer

- 5.1 Tenders shall remain open for acceptance and shall be irrevocable for a period of sixty (60) days after the Tender closing date, irrespective of the acceptance of any tender.

IT.6 Tender Ineligibility

- 6.1 Tenders that are unsigned, submitted electronically without a follow up signed hard copy, late, improperly executed, incomplete, conditional, illegible, obscure or contain arithmetical errors, additions not called for, reservations, erasures, alterations, or irregularities of any kind, may be rejected as informal.

IT.7 Commencement and Completion of Work

- 7.1 The Tenderer, in submitting the Tender, agrees that he can complete the Work by the date stated in the Tender Form.

IT.8 Omissions/Discrepancies/Interpretations

- 8.1 Tenderers finding discrepancies or omissions in the plans and specifications or having doubt as to the meaning or intent thereof, shall at once notify the Town of Fort Smith who will, if necessary, send written instructions or explanations to all Tenderers.
- 8.2 Oral interpretations made to any Tenderer shall not necessarily result in a modification of any provision of the Tender Documents.
- 8.3 Questions arising during the Tender period should be directed to:

Maskwa Engineering Ltd.
59a King Street
Fort Smith, NT X0E 0P0

Mitch Heron
Telephone: (867) 621-0148
email mitch.heron@maskwaeng.ca

- 8.4 During the tendering period, Tenderers may be advised by Addenda of any alterations to the Contract Documents. All such changes shall become part of the Contract, and their effects shall be reflected in the Tender Price and listed on page three (3) of the Tender Form.

Town of Fort Smith Sidewalks and Concrete Works 2026

- 8.5 The Town of Fort Smith will endeavor not to issue any Addenda later than five (5) calendar days prior to the Tender closing date.

IT.9 Alternatives

- 9.1 Where the drawings or specifications stipulate a particular product or methodology (hereinafter collectively referred to as a “product”), alternatives will be considered by the Town of Fort Smith **up to five (5) days prior to the Tender closing date.**
- 9.2 When a request to substitute a product is made to the Town of Fort Smith, the substitution may be approved as an equal or as an alternative and an Addendum will be issued to all Tenderers. If a product is approved as an alternative, all Tenderers may use that product in place of the specified product. The Tenderer shall clearly indicate in the Tender which product they are tendering on.
- 9.3 In their submission of alternatives to products specified, Tenderers shall include and allow for any changes required in the Work to accommodate such alternative products. A later claim by the Contractor for an addition to the Contract Price because of changes in the Work necessitated by use of alternative products shall not be considered.
- 9.4 Alternative Products or Proposals submitted with the tender, and not requested as per clause IT.9.1 and IT.9.2 are subject to the following:
- 9.4.1 The Tenderer has provided a tender in accordance with the specifications of the Town in addition to the alternative product or proposal.
- 9.4.2 Proposals for alternative products may be considered if submitted as an attachment to the Tender, (Appendix “F”).
- 9.4.3 Submissions shall provide sufficient information to enable the Town of Fort Smith to determine the acceptability of such products.
- 9.4.4 provide complete information on required revisions to other work and products to accommodate each alternative product, and the amount of addition or reduction from Tender prices, including required revisions, for each alternative product.
- 9.4.5 Unless a proposal for an alternative product is submitted in this manner and later accepted, provide the product specified.

IT.10 Goods and Services Tax

- 10.1 The Tenderer shall include the Goods and Services Tax from his own bid ***shown on bid forms and appendices.***
- 10.2 ***The Town of Fort Smith will pay the Goods and Services Tax (GST); however, do not include the GST in the bid amounts shown on the tender form and appendices.***

Town of Fort Smith Sidewalks and Concrete Works 2026

- 10.3 The successful Tenderer may invoice for Goods and Services Tax (GST).
- 10.4 Further information in this regard may be obtained from the owner at the specified Tender Address.

IT.11 Site Examination

- 11.1 The Tenderer, either personally or through a representative, shall examine the Place of the Work before submitting a Tender, and shall satisfy himself as to the nature and location of the Work, local conditions, soil structure and topography at the site of the Work, the equipment and facilities needed prior to and during the execution of the Work, the means of access to the site, on-site accommodation, all necessary information as to risks, contingencies and circumstances which may affect his Tender, and all other matters which can in any way affect the Work. The Tenderer is fully responsible for obtaining all information required for the preparation of the Tender.
- 11.2 Claims for additional costs will not be entertained with respect to conditions which would reasonably have been ascertained by an inspection of the site prior to the tender closing date.

IT.12 Tender Signing

- 12.1 The Tender must be executed under seal by the Tenderer. If the Tenderer is an individual or a partnership, the Tender shall be executed by the individual or partner in the presence of a witness and the signatory must show the capacity in which he signs (e.g., “Partner” or “Proprietor”). If the Tenderer is a corporation, the Tender shall be executed under the seal of the company, affixed in the presence of the authorized officers or two directors. If the Tenderer is a joint venture, each party to the joint venture shall execute the Tender under seal in the manner appropriate to such party.

IT.13 Appendices to Tender Form

- 13.1 Appendix “A” lists the documents that form part of the Tender documents.
- 13.2 Tenderers shall complete appendices “B” to “I” attached to the Tender Form and submit these with the Tender. Appendices irrelevant to the Tender shall be crossed out and initialed by the Tenderer.
- 13.3 Tenderers shall list the Geotechnical Consulting Firm(s) they propose to use for Quality control as subcontractor(s) on Appendix “C”, if applicable.

Town of Fort Smith Sidewalks and Concrete Works 2026

IT.14 Company Registration

- 14.1 The successful Tenderer will be required to be registered as a Business in the Northwest Territories and with the Town of Fort Smith

IT.15 Contractor's Capability

- 15.1 The Town considers the capability of a Tenderer to assume quality and timely completion of the Work to be of utmost importance. Accordingly, if a Tenderer intends to engage a subcontractor for a significant or critical portion of the Work, such subcontractor shall be designated in the Tender. As part of its evaluation of Tenders prior to award of the Contract, the Town will take into consideration the contractor's and subcontractor's past performance on Town projects, both as to quality and schedule. At any time up to five (5) clear calendar days before Tender closing, a Tenderer may request in writing from the Town as to whether a particular proposed subcontractor has a favorable or unfavorable performance record with the Town.

IT.16 Workers Compensation Act

- 16.1 Tenderers are hereby notified that the Owner will check with the appropriate agencies prior to award of a contract to ensure that the successful Tenderer complies with these Acts.

END OF INSTRUCTIONS TO TENDERERS

Town of Fort Smith Sidewalks & Concrete Work 2026

Date: _____

Submitted by: _____

(Company's Name)

(Address)

Telephone: _____

To:	Town of Fort Smith 174 McDougal Street P.O. Box 147 Fort Smith, NT X0E 0P0	Telephone: (867) 872-8400 Fax: (867) 872-8401
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Project: **TOWN OF FORT SMITH**
SIDEWALKS AND CONCRETE WORKS 2026

The undersigned Tenderer, having carefully examined the Contract Documents, including the Town's Local Purchase Policy, the locality of the proposed work, and having full knowledge of the work required and of the materials to be furnished and used, hereby agrees to provide all necessary materials, supervision, labour and equipment, and to perform and complete all work and fulfil everything as set forth and in the prices stated in the Tender Form and Unit Price Table.

The undersigned also agrees:

1. that the Town of Fort Smith (the "Town") is in no way obligated to accept this tender;
2. that the Town is in no way obligated to accept the lowest tender.
3. that the Town will apply its Local Purchase Policy;
4. that the Town may elect at its sole discretion to accept any Tender or part thereof or waive any defect, irregularity, mistake or insufficiency and accept any Tender or alternative proposal, in whole or in part, which is deemed by the Town to be most

Town of Fort Smith Sidewalks & Concrete Work 2026

- favorable to its interest; including the tenders past performance on the Town projects.
5. that all applicable taxes and duties are included in the tender price;
 6. that the estimate of quantities shown in the Tender Form serves only to provide a basis for comparing tenders and that no representations have been made by either the Town or the Engineer that the actual quantities will even approximately correspond therewith, and further, that the Town has the right to increase or decrease the quantities in any or all items and to eliminate items entirely from the work;
 7. that this tender is made without knowledge of the tender prices to be submitted for this work by any other company, firm or person;
 8. that this tender is made without connection or arrangement with any company, firm or person submitting a tender for this work;
 9. that this tender is made without any undisclosed connection or arrangement with any other company, firm or person having an interest in this tender or in the proposed contract;
 10. that this tender is irrevocable for a period of sixty (60) days after the closing date for receipt of tenders and that the Town may at any time within such period accept this tender whether any other tender has previously been awarded or not and whether acceptance of another tender has been given or not;
 11. to execute the Articles of Agreement and to present the Town the required contract security within the time specified;
 12. that payment for the work done will be made on the basis of the quantities measured by the Engineer and at the tender prices shown in the Tender Form which shall be compensation in full for the work done under the terms of the Contract;
 13. that the payment of any Contingency Allowance or portion thereof will only be made in the event that the Engineer authorizes work, in which case the amount of payment will be determined as specified in the General Conditions. Any unused portion thereof will be retained by the Town;
 14. to complete the Work in accordance with the schedule referred to in the Contract documents, or if no schedule is available, to substantially complete the Work in weeks after receiving notice of Contract award;
 15. that should the Contractor fail to complete the work in the time specified above, or as specified in the Contract Documents, he shall compensate the Town in accordance with Section 6.0 of the General Conditions;

Town of Fort Smith Sidewalks & Concrete Work 2026

- 16. that to the extent that a Tender call contains provisional items as part of the Scope of Work, the Town, in its sole discretion, reserves the right, prior to the award of a Contract, to include or exclude any provisional item or items in its evaluation of the acceptability of a Tender. Following acceptance of a Tender and award of the Contract, the Town may, in its sole discretion, include or exclude in the Contract the same or different provisional items and the unsuccessful bidders shall have no recourse against the Town for any resulting revisions to the total scope of the Work or the Contract price. It shall be open to the Town to call for new Tenders for provisional items so excluded and the successful Tenderer for the project may submit a Tender if he so chooses, and
- 17. the following Addenda have been received and the modifications noted therein have been considered and the effects are included in the tender prices:

Addendum # _____, dated _____

Addendum # _____, dated _____

Addendum # _____, dated _____

Addendum # _____, dated _____

This tender is executed under seal at _____

this _____ day of _____, 20 _____.

Name of Firm _____

Address _____

Town of Fort Smith Sidewalks & Concrete Work 2026

FOR INDIVIDUAL OR PARTNERSHIP

SIGNED, SEALED AND DELIVERED by:

(Tenderer - please print)

(Signature of Tenderer)

In the presence of:

Name _____

Address _____

Occupation _____

FOR LIMITED COMPANY

The Corporate Seal of:

_____ (Seal)

(Tenderer - please print)

was hereunto affixed in the presence of:

Authorized Signing Officer and Title

Authorized Signing Officer and Title

Note: If the Tender is by joint venture, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

Town of Fort Smith Sidewalks and Concrete Works 2026

LIST OF TENDER DOCUMENTS

Appendix "A"

	No. of Pages
TENDER DOCUMENTS	
Instructions to Tenderers.....	6
Tender Form (Including Appendices "A" through "I")	18
Articles of Agreement.....	4
Terms of Payment.....	7
General Conditions	38
 GENERAL SPECIFICATIONS	
SEE LIST IN TABLE OF CONTENTS	
 STANDARD DRAWINGS	
SEE LIST IN TABLE OF CONTENTS	

Town of Fort Smith Sidewalks and Concrete Works 2026

PROPOSED LOCAL INVOLVEMENT

Appendix “B”

EXPENDITURES	LOCAL \$	OTHER \$	TOTAL \$
General Contractor			
Payroll			
Material			
Equipment			
Transportation			
Accommodation			
Other Costs			
SUB-TOTAL			

Sub-Contractor/Supplier			TOTAL \$
Payroll			
Material			
Equipment			
Transportation			
Accommodation			
Other Costs			
SUB-TOTAL			

Town of Fort Smith Sidewalks and Concrete Works 2026

Sub-Contractor/Supplier			TOTAL \$
Payroll			
Material			
Equipment			
Transportation			
Accommodation			
Other Costs			
SUB-TOTAL			

Additional pages may be photocopied

Town of Fort Smith Sidewalks and Concrete Works 2026

SCHEDULE OF CONTRACT UNIT PRICES

Appendix "D"

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

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

Item	Description	Quantity	Units	Unit Price	Extension
Part A Spot Repairs					
1	Remove and Replace 1.5m wide concrete sidewalk 140mm thickness includes (Common Ex, Subgrade Prep, 150mm Gravel Supply Place and Compact) and all incidental work	76	lin.m		
2	Remove and Replace 1.5m wide concrete sidewalk 200mm thickness includes (Common Ex, Subgrade Prep, 150mm Gravel Supply Place and Compact) and all incidental work	13.5	lin.m		
3	Remove and Replace 1.2m wide concrete sidewalk 140mm thickness	21.0	lin.m		

Total Part A	
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Item	Description	Quantity	Units	Unit Price	Extension
Part B Breynat Portage New 2.0m Sidewalk					
1	Remove Existing Concrete Sidewalk	315	lin.m		
2	Install new 2.0m wide concrete sidewalk 140mm thickness	478	lin.m		
3	Install new 2.0m wide concrete sidewalk in driveways 200mm thickness	24	lin.m		
4	Supply and install new 300mm culverts 4m long	2	ea		
5	Common Excavation	391	m ²		
6	Supply, place and compact Sand Fill varied thickness	109	m ³		
7	Supply, place and compact 20mm base gravel 100mm thickness	155	m ³		

Total Part B	
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Town of Fort Smith Sidewalks and Concrete Works 2026

Item	Description	Quantity	Units	Unit Price	Extension
Part C Conibear New 2.0m Sidewalk					
1	Remove Existing concrete Sidewalk	113	lin.m		
2	Install new 2.0m wide concrete sidewalk 140mm thickness	113			
3	Common Excavation	44	m ³		
4	Supply, place and compact Sand Fill varied thickness	111	m ³		
5	Supply, place and compact 20mm base gravel 100mm thickness	37	m ³		

Total Part C	
--------------	--

Item	Description	Quantity	Units	Unit Price	Extension
Part D King New 2.0m Sidewalk					
1	Remove Existing Concrete Sidewalk	136	lin.m		
2	Install new 2.0m wide concrete sidewalk 140mm thickness	139	lin.m		
3	Install new 2.0m wide concrete sidewalk in driveways 200mm thickness	4	lin.m		
4	Supply and install new 300mm culverts 4m long	1	ea		
5	Common Excavation	109	m ³		
6	Supply, place and compact Sand Fill varied thickness	93	m ³		
7	Supply, place and compact 20mm base gravel 100mm thickness	47	m ³		

Total Part D	
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Item	Description	Quantity	Units	Unit Price	Extension
Part E Cummins New 2.0m Sidewalk					
1	Install new 2.0m wide concrete sidewalk 140mm thickness	211	lin.m		
2	Install new 2.0m wide concrete sidewalk in driveways 200mm thickness	24	lin.m		
3	Common Excavation	229	m ³		
4	Supply, place and compact Sand Fill varied thickness	152	m ³		
5	Supply, place and compact 20mm base gravel 100mm thickness	76	m ³		

Total Part E	
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Town of Fort Smith Sidewalks and Concrete Works 2026

Item	Description	Quantity	Units	Unit Price	Extension
Part F JBT to Drop Off New 2.0m Sidewalk					
1	Install new 2.0m wide concrete sidewalk 140mm thickness	217	lin.m		
2	Install new 2.0m wide concrete sidewalk in driveways 200mm thickness	200	lin.m		
3	Common Excavation	84	m ³		
4	Supply, place and compact Sand Fill varied thickness	21	m ³		
5	Supply, place and compact 20mm base gravel 100mm thickness	70	m ³		

Total Part F	
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Item	Description	Quantity	Units	Unit Price	Extension
Part G Lou's to SRFN Development New 2.0m Sidewalk					
1	Install new 2.0m wide concrete sidewalk 140mm thickness	265	lin.m		
2	Install new 2.0m wide concrete sidewalk in driveways 200mm thickness	4	lin.m		
3	Common Excavation	103	m ³		
4	Supply, place and compact Sand Fill varied thickness	129	m ³		
5	Supply, place and compact 20mm base gravel 100mm thickness	86	m ³		

Total Part G	
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Item	Description	Quantity	Units	Unit Price	Extension
Part H McDougal to Wintergreen New 2.0m Sidewalk					
1	Install new 2.0m wide concrete sidewalk 140mm thickness	126	lin.m		
2	Install new 2.0m wide concrete sidewalk in driveways 200mm thickness	36	lin.m		
3	Supply and install new 300mm culverts 4m long	2	ea		
4	Common Excavation	158	m ³		
5	Supply, place and compact Sand Fill varied thickness	105	m ³		
6	Supply, place and compact 20mm base gravel 100mm thickness	53	m ³		

Total Part H	
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Town of Fort Smith Sidewalks and Concrete Works 2026

Item	Description	Quantity	Units	Unit Price	Extension
Part I McDougal Retaining Wall					
1	Remove Existing Retaining Wall	1	LS		
2	Install New Retaining Wall	1	LS		

Total Part I	
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Combined Total All Parts	
--------------------------	--

Contingency 10% Combined Total	
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Sub-Total	
-----------	--

GST	
-----	--

Total	
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Town of Fort Smith Sidewalks and Concrete Works 2026

PLANT AND EQUIPMENT LIST

Appendix “G”

The following list is the complete description of the plant and equipment I/we propose to use in the execution of this contract. Such equipment is available for inspection prior to the award of contract and shall be moved to the project site upon direction and shall not be removed without written approval; until the completion of the contract. (If not used, bar and initial the space below.)

Description of Unit, Make, Model, Year and Serial No.	Capacity & Horsepower Rating	Auxiliary and/or Special Equipment, Power Take-off, Power Control Units	Condition Rating	Present Location

Town of Fort Smith Water & Sewer Works 2015

SCHEDULE OF WORK

Appendix “H”

The tenderer agrees that the following bar schedule indicates the time frame for the commencement and completion of each activity of the Contract. The Tenderer shall submit on the following form, a schedule in the form of a Bar Chart that indicates the length of each activity as listed below. The first week of the Tenderer’s schedule shall start after the Contract award date, (week zero on the schedule below). This date shall be fixed by the date on the award of Contract letter sent by the Town to the successful Tenderer.

ITEM	1	2	3	4	5	6	7	8	9	10	11	12
Part A Spot Repairs												
Part B Breynat to Portage												
Part C Conibear Street												
Part D King Street												
Part E Cummins												
Part F JBT Main Entrance to Drop Off												
Part G Lou’s to SRFN Development												
Part H McDougal to Wintergreen												
Part I Retaining Wall												

CONSENT OF SURETY

Appendix "I"

Herewith is the Consent of Surety of the Tender submitted by:

To the Town of Fort Smith dated this ____ day of _____, 2026 and which is an integral part of the Tender.

CONSENT OF SURETY COMPANY

Should they be required, the undersigned Surety Company hereby consents and agrees with the Town of Fort Smith to become bound as Surety in all Performance Assurance Bonds required by the Contract Documents, all for the fulfillment of the Contract for the Work covered by the annexed Tender, which may be awarded to:

(Name of Company)

(Address)

at prices set forth in the attached Tender. The said Company is legally entitled to do business in the Northwest Territories.

(Name of Company)

(Address)

c/s	c/s

END OF TENDER FORM

Town of Fort Sidewalks and Concrete Works 2026

THIS AGREEMENT MADE IN DUPLICATE THIS ___ DAY OF _____ 2026,
BETWEEN:

THE MUNICIPAL CORPORATION OF
THE TOWN OF FORT SMITH

("the Town")

- and -

("the Contractor")

ARTICLES OF AGREEMENT

IN CONSIDERATION of the mutual promises and obligations contained in the Contract Documents, the Town and the Contractor agree as follows:

A1 CONTRACT DOCUMENTS

1.1 The documents forming the Contract between the Town and the Contractor, referred to herein as the Contract Documents, are:

- (a) the documents attached hereto entitled "Tender Documents";
- (b) these Articles of Agreement;
- (c) the document attached hereto entitled "General Conditions" and any "Supplementary General Conditions";
- (d) the documents attached hereto entitled "Plans and Specifications", and
- (e) any amendment or variation of the Contract Documents that is made in accordance with the General Conditions.

1.2 The Town hereby designates **Maskwa Engineering Ltd.** and/or any person designated by him as the Engineer and Town of Fort Smith Representative for the purposes of the Contract.

1.3 In the Contract:

- (a) "Fixed Price Arrangement" means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates, and

Town of Fort Sidewalks and Concrete Works 2026

- (b) "Unit Price Arrangement" means that part of the Contract that prescribes the product of a price multiplied by a number of units of measurement of a class as payment for performance of the Work to which it relates.
- 1.4 Any of the provisions of the Contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the Work to which a Fixed Price Arrangement is applicable.
- 1.5 Any of the provisions of the Contract that are expressly stipulated to be applicable only to a Fixed Price Arrangement are not applicable to any part of the Work to which a Unit Price Arrangement is applicable.

A2 DATE OF COMPLETION OF WORK AND DESCRIPTION OF WORK

- 2.1 The Contractor shall, between the date of these Articles of Agreement and the **4th day of September 2026** in a careful and workmanlike manner, diligently perform and complete the following Work:

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

which is more particularly described in the Plans and Specifications.

A3 CONTRACT PRICE

- 3.1 Subject to any increase, decrease, deduction or set-off that may be made under the Contract, the Town shall pay the Contractor at the times and in the manner set out or referred to in the General Conditions, 5.0 "Payment and Completion":
- 3.1.1 the sum of \$ _____ in consideration for the performance of the Work or the part thereof that is subject to a Fixed Price Arrangement, and
- 3.1.2 a sum that is equal to the aggregate of the products of the number of units of measurement of each class of labour, plant and material, as certified by the Engineer, multiplied in each case by the appropriate unit price that is set out in the Unit Price Table in consideration for the performance of the Work or the part thereof that is subject to a Unit Price Arrangement.
- 3.2 For the information and guidance of the Contractor and the persons administering the Contract on behalf of the Town, but not so as to constitute a warranty, representation or undertaking of any nature by either party, it is estimated that the total amount payable by the Town to the Contractor for the part of the Work to which a Unit Price Arrangement is applicable will not exceed \$ _____

Town of Fort Sidewalks and Concrete Works 2026

3.3 A3.1.1 is applicable only to a Fixed Price Arrangement.

3.4 A3.1.2 and A3.2 are applicable only to a Unit Price Arrangement.

A4 ADDRESSES

4.1 For all purposes of the Contract, the Contractor's address shall be deemed to be:

4.2 For all purposes of the Contract, the Town's address shall be deemed to be:

Town of Fort Smith
174 McDougal Street P.O. Box 147
Fort Smith, NT
X0E 0P0

SIGNED, SEALED AND DELIVERED

in the presence of:

CONTRACTOR:

Per: _____

Signature

Witness

Name & Position

Date

Per: _____

Signature

Witness

Name & Position

Date

Town of Fort Sidewalks and Concrete Works 2026

Contractor's Corporate Seal:

**THE MUNICIPAL CORPORATION OF
THE TOWN OF FORT SMITH**

Per: _____

Signature

Mayor

Date

Per: _____

Signature

Senior Administrative Officer

Date

Town of Fort Smith Corporate Seal:

END OF ARTICLES OF AGREEMENT

Town of Fort Smith Sidewalks and Concrete Works 2026

TP1 AMOUNT PAYABLE - GENERAL

- 1.1 Subject to any other provision of the contract, the Owner shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which.
 - 1.1.1 the aggregate of the amount described in TP2 exceeds,
 - 1.1.2 the aggregate of the amounts described in TP3, and
 - 1.1.3 the Contractor shall except that amount as payment in full satisfaction for everything furnished and done by him in respect of the work to which the payment relates.

TP2 AMOUNT PAYABLE TO THE CONTRACTOR

- 2.1 The amounts referred to in TP1.1 are the aggregate of.
 - 2.1.1 the amounts referred to in the Articles of Agreement, and
 - 2.1.2 the amounts, if any, that are payable to the contractor pursuant to the General Conditions.

TP3 AMOUNTS PAYABLE TO THE OWNER

- 3.1 The amounts referred to in TP1.1.2 are the aggregate of the amounts, if any that the Contractor is liable to pay the Owner pursuant to the contract.
- 3.2 When making any payment to the Contractor, the failure of the Owner to deduct an amount referred to in TP3.1, from an amount referred to in TP2 shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.

TP4 TIME OF PAYMENT

- 4.1 For the purposes of this Term of Payment, "payment period" means a period of 30 consecutive days or such other interval as is agreed between the Contractor and the Owner.
- 4.2 The Contractor shall, on the expiration of a payment period, deliver to the Owner in respect of that payment period a written progress claim that fully describes any part of the Work that has been completed, and any material that was delivered to the work site but not incorporated into the Work, during the payment period.
- 4.3 The Owner shall, not later than ten (10) days after receipt by him of a progress claim referred to in TP4.2.
 - 4.3.1 inspect the part of the work and the material described in the progress claim; and

Town of Fort Smith Sidewalks and Concrete Works 2026

- 4.3.2 issue a progress report, which may take the form of an endorsement on the progress claim, a copy of which will be given to the Contractor, that indicates the value of the part of the Work and the material described in the progress claim that, in his opinion,
- 4.3.2.1 is in accordance with the contract, and
- 4.3.2.2 was not included in any other progress report relating to the contract.
- 4.4 Subject to TP1, the Owner shall pay the Contractor in accordance with applicable statutes the amounts stipulated hereunder. Claims will become due and payable 30 days after receipt by the Owner of the claim specified in 4.2.
- 4.4.1 an amount that is equal to 90% of the value that is indicated in that progress report.
- 4.5 Subject to TP1 and TP4.6, the Owner shall, not later than 30 days after the date of issue of a Substantial Certificate of Completion referred to in GC5.3, pay the Contractor the amount referred to in TP1 less the aggregate of;
- 4.5.1 the sum of all payments that were made pursuant to TP4.4,
- 4.5.2 an amount that is equal to the Owner's estimate of the cost to the Owner of rectifying defects described in the Substantial Certificate of Completion; and
- 4.5.3 an amount that is equal to the Owner's estimate of the cost to the Owner of completing the parts of the Work described in the Substantial Certificate of Completion other than the defects referred to in TP4.5.2.
- 4.6 It is a condition precedent to the Owner's obligation under TP4.5 that the Contractor has made and delivered to the Owner a statutory declaration described in TP4.7 in respect of a Substantial Certificate of Completion referred to in GC5.3.
- 4.7 A statutory declaration referred to in TP4.6 and TP4.9 shall be submitted on the attached form, pages 4 & 5. Substitutes will not be accepted.
- 4.8 Subject to TP1 and TP4.9, the Owner shall, not later than 30 days after the date of issue of a Final Certificate of Completion referred to in GC5.4, pay the Contractor the amount referred to in TP1 less the aggregate of;
- 4.8.1 the sum of all payments that were made pursuant to TP4.4, and
- 4.8.2 the sum of all payments that were made pursuant to TP4.5.

Town of Fort Smith Sidewalks and Concrete Works 2026

4.9 It is a condition precedent to the Owner's obligation under TP4.8 that the Contractor had made and delivered a statutory declaration to the Owner as described in TP4.7 in respect of a Final Certificate of Completion referred to in GC5.4.

TP5 PROGRESS REPORT AND PAYMENT THEREUNDER NOT BINDING ON THE OWNER

5.1 Neither a progress report referred to in TP4.3 nor any payment made by the Owner pursuant to these Terms of Payment shall be construed as an admission by the Owner that the Work, material, or any part thereof is complete, is satisfactory or is in accordance with the contract.

TP6 DELAY IN MAKING PAYMENT

6.1 Notwithstanding GC1.4 any delay by the Owner in making any payment when it is due pursuant to these Terms of Payment shall not be a breach of the contract by the Owner.

6.3 The Contractor shall not be entitled to receive interest on any amount that is unpaid including, without limitation, an amount that is calculated in accordance with GC5.

TP7 RIGHT OF SET-OFF

7.1 Without limiting any right of set-off or deduction given or implied by law or elsewhere in the contract, the Owner may set-off any amount payable to the Owner by the Contractor under this contract or under any current contract against any amount payable to the Contractor under this contract or under any current contract.

7.2 For the purposes of this Term of Payment, "current contract", means a contract between the Owner and the Contractor.

7.2.1 under which the Contractor has an un-discharged obligation to perform or supply work, labour or material, or.

7.2.2 in respect of which the Owner has, since the date on which the Articles of Agreement were made, exercised any right to take the work that is subject of the contract out of the Contractor's hands.

TP8 PAYMENT IN EVENT OF TERMINATION

8.1 If the contract is terminated pursuant to GC9.3, the Owner shall pay the Contractor any amount that is lawfully due and payable to the Contractor as soon as is practicable under the circumstances.

TERMS OF PAYMENT

Town of Fort Smith Sidewalks and Concrete Works 2026

Certificate of Completion

STATUTORY DECLARATION

THE MATTER OF a contract bearing

#. _____

between Municipal Corporation of the Town of Fort Smith

(Insert full name of contractor)

herein the Contractor,

for _____

(Briefly describe the work to be performed)

dated the _____ day of _____ 20 _____

and

IN THE MATTER OF the Certificate of Completion relating thereto

TO WIT:

I, _____ of _____

(Print or type full name of declarant)

(declarant's city of residence)

DO SOLEMNLY DECLARE:

(1) That I am

(Print or type declarant's position or title with the Contractor or state that the declarant is the Contractor)

And as such have a personal knowledge of the said contract and of the facts and matters stated herein.

TERMS OF PAYMENT

Town of Fort Smith Sidewalks and Concrete Works 2026

- (2) That all assessments and levies under The Unemployment Insurance Act, The Worker's Compensation Act or other social or labour legislation in respect of the said contract have been fully paid:
- (3) That all subcontractors, labourers and suppliers of materials and equipment whatsoever who have entered into agreements to supply goods or services which have been incorporated into the construction of this project have been fully paid except for contractual holdbacks and the further amount(s), if any, which is (are) listed below which is (are) being withheld from the subcontractor(s) listed herein, due to legitimate dispute(s) arising out of the performance, or lack or performance, of the work by the listed subcontractor(s).

Subcontractor(s) Being	Amount(s) in Dispute and Withheld
_____	_____
_____	_____
_____	_____
_____	_____

and the following amounts, if any which are being withheld pending payment to the Contractor by the Owner.

Subcontractor(s)	Amount(s) Being Withheld
_____	_____
_____	_____
_____	_____
_____	_____

TERMS OF PAYMENT

Town of Fort Smith Sidewalks and Concrete Works 2026

And I 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 LAWS OF CANADA and the NORTHWEST TERRITORIES.

DECLARED before me at

this _____ day of _____ 20_____

(Signature of Declarant)

(signature of person before whom declaration is made)

(Print name of person before whom declaration is made)

A Notary Public, Commissioner, etc.

(Please state clearly authority for receiving solemn declarations - notaries to affix notary seal)

NOTE 1. Where the Contractor is a corporation or a partnership, declarant's position in the corporation or partnership, and the corporation or partnership name should be clearly shown in No. 1

Town of Fort Smith Sidewalks and Concrete Works 2026

NOTE: 2 Where the Contractor is an individual, he must make the declaration himself. Where the Contractor is a partnership, the declaration must be made by one of the partners. Where the Contractor is an incorporated company, the declaration must be made by the President, Vice-President, Secretary Treasurer, or a Director. If any other person makes the declaration, two copies of the by-law issued under the corporation seal, authorizing the individual to execute documents must be submitted with the first declaration of each contract.

If this declaration is not complete in every detail, it will be returned for completion and payment will be delayed.

The following section of the Criminal Code of Canada is hereby brought to the attention of the Declarant:

122. Everyone who, not being a witness in a judicial proceeding but being permitted, authorized or required by law to make a statement by affidavit, by solemn declaration or orally under oath, makes in such statement, before a person who is authorized by law to permit it to be made before him, an assertion with respect to a matter of fact, opinion, belief or knowledge, knowing that the assertion is false, is guilty of an offence and is liable to imprisonment for fourteen years.
- 122.1 (1) Everyone who, not being specially permitted, authorized or required by law to make a statement of affidavit, by solemn declaration orally under oath, makes in such a statement, before a person who is authorized by law to permit it to be made before him, an assertion with respect to a matter of fact, opinion, belief or knowledge, knowing that the assertion is false, is guilty if an offence punishable on summary conviction.

**THE TOWN OF FORT SMITH
CONSTRUCTION CONTRACT
GENERAL CONDITIONS**



GENERAL CONDITIONS

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1.0 GENERAL PROVISIONS

1.1 Definitions

The following terms, whenever used in the Contract Documents, shall mean:

- (a) "**Adjustment**": a change in either the Contract Price or the Contract Time, or both, in accordance with the applicable provisions of the Contract Documents;
- (b) "**Arbitrator**": the person appointed under GC 8.3 (a);
- (c) "**Articles of Agreement**": the executed Articles of Agreement;
- (d) "**Change Order**": a written instrument prepared by the Engineer and signed by the Contractor stating their agreement upon:
 - i. a change in the Work, and
 - ii. the method and/or the amount of Payment Adjustment, if any;
- (e) "**Town**", "**Contractor**", "**Engineer**": the parties identified in the Articles of Agreement, as designated in writing to each of the other parties. Such parties are referred to throughout the Contract Documents as if singular in number and masculine in gender.
- (f) "**Engineer**": is the person designated by the Town to act on its behalf in the administration of this Contract, as identified in the Articles of Agreement, and includes a person specially authorized by the "Engineer" to act on his/her behalf. **Where the Town of Fort Smith is used in the specifications this shall refer to the Engineer.**
- (g) "**Claim**":
 - i. a demand or assertion by the Town or the Contractor seeking an interpretation of Contract terms, an Adjustment, or other relief with respect to the terms of the Contract;
 - ii. other disputes and matters in question between the Town and the Contractor arising out of or relating to the Contract, and/or
 - iii. allegations by the Contractor of errors or omissions on the part of the Engineer;
- (h) "**Completion Date**": the date of Substantial Completion of the Work, as approved by the Engineer;
- (i) "**Contract**": the undertaking by the parties to perform their respective duties and discharge their obligations as set out in the Contract Documents which represents the entire agreement between the parties;
- (j) "**Contract Documents**": the documents referred to in the Articles of Agreement;

-
- (k) "**Contract Price**": the sum stated in the Articles of Agreement and as may be amended during the progress of the Work;
 - (l) "**Contract Time**": the time stated in the Articles of Agreement, and as may be amended during the progress of the Work, elapsing from the date of commencement of the Work until the date of Substantial Completion of the Work, as approved by the Engineer;
 - (m) "**day**": a calendar day;
 - (n) "**Final Completion**": when the Work has been performed in accordance with the Contract Documents, as approved by the Engineer;
 - (o) "**GC**": a reference to a clause in these general conditions;
 - (p) "**Holdback Payment Certificate**": a certificate issued in accordance with GC 5.6 , by the Engineer;
 - (q) "**Laws and Regulations**": any and all applicable laws, rules, regulations, by-laws, codes and orders of any and all government bodies, agencies, authorities and courts;
 - (r) "**Project**": the total construction of which the Work to be performed under the Contract may be the whole or a part;
 - (s) "**Referee**": the person appointed under GC 8.2;
 - (t) "**Site**": the land or actual place designated in the Contract Documents for the performance of the Work;
 - (u) "**Subcontractor**": a party having a contract with the Contractor for the performance of any part of the Work;
 - (v) "**Substantial Completion**": when the Work has progressed to the point where, in the opinion of the Engineer, as evidenced by the certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work can be utilized for the intended purpose;
 - (w) "**Work**": all or any part of the construction and services required by the Contract Documents, including all labour, materials, equipment and services provided or to be provided by the Contractor to fulfill his obligations under the Contract.

1.2 Documents

- (a) It is the intent of the Contract Documents to include all labour, materials, equipment and services necessary to perform the Work in accordance with the Contract Documents. Any work, materials or equipment that may be reasonably inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result, will be furnished and performed by the Contractor, whether or not specifically called for.

The Contract Documents are complementary; what is required by one document shall be as binding as if required by all.

- (b) The Contract represents the entire agreement between the Town and the Contractor and supersedes prior negotiations, representations or agreements, either written or oral.
- (c) When words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents, they shall be interpreted in accordance with that meaning.
- (d) Where specified codes or standards are not dated, the contractor shall conform to the latest issue of specified codes or standards as amended and revised as of the tender closing date.
- (e) The Contract Documents shall not be construed to create a contractual relationship of any kind between:
 - i. the Engineer and the Contractor or any of its subcontractors;
 - ii. the Town and a Subcontractor or sub-subcontractor, or
 - iii. between any persons or entities other than the Town and the Contractor.
- (f) Clarifications and interpretations of the Contract Documents shall be issued by the Engineer as provided in GC 4.1.
- (g) In the event of conflicts between the Contract Documents, the following shall apply.
 - (i) documents of later date shall govern over earlier documents of the same classification;
 - (ii) figured dimensions shown on drawings shall govern over scaled dimensions;
 - (iii) drawings of larger scale shall govern over those of smaller scale;
 - (iv) specifications shall govern over drawings;
 - (v) the general conditions shall govern over the specifications;
 - (vi) supplementary general conditions shall govern over the general conditions, and
 - (vii) the Articles of Agreement shall govern over all documents.
- (h) The Town shall provide the Contractor with as many sets of Contract Documents as is reasonably required for the performance of the Work.
- (i) The Contractor shall keep one copy of all current Contract Documents and Shop Drawings and maintain a set of plan of record drawings on the Site and record accurately and legibly all deviations caused by Site conditions and changes approved by the Engineer. These documents shall be available to the Engineer throughout the duration of the Work.
- (j) All Contract Documents, including copies, and all models furnished by or to the Contractor are and shall remain the property of the Town and are not to be used on other Work. The Contract Documents are not to be copied or revised in any manner without the Town's written consent.

1.3 Notices

- (a) Where a notice is required by the Contract Documents to be given in writing to the Contractor, it may be delivered personally to the Contractor or his site superintendent, or delivered or sent by mail or facsimile transmission to the Contractor's address set out in the Articles of Agreement or to his office at or near the Site.
- (b) Where a notice is required by the Contract Documents to be given in writing to the Engineer, it may be delivered personally, or delivered or sent by mail or facsimile transmission to the Town's address as set out in the Articles of Agreement, or to the office of the Engineer at or near the Site.
- (c) Notwithstanding the above, each party shall use the most expeditious method of giving the written notice or communication. A notice referred to in (a) or (b) above, shall be deemed to have been received on the day of delivery.
- (d) A written notice or communication sent by mail shall be deemed to have been received ten days from the date of posting. Whenever a notice or communication is sent by facsimile transmission, acknowledgment from the receiving party must be given to the other party that the notice or communication has in fact been received, for it to be effective; this acknowledgment may be made verbally in person or by telephone. If no such acknowledgment is given, it shall be deemed to have been received ten days from the date of posting of the original document. Notwithstanding the above, in the case of postal interruption, the parties may communicate by facsimile or telegram which shall be deemed to have been received 24 hours after transmittal.

1.4 Rights and Remedies

- (a) No obligations or responsibilities of any kind by or on behalf of the Town shall be implied into the Contract Documents if in the opinion of the Engineer, it is not reasonable under the circumstances to imply that such obligations or responsibilities form part of the Contract Documents.
- (b) Any failure by the Town or the Engineer to enforce or to require the strict performance of any of the provisions of the Contract shall not, in any way, constitute a waiver of those provisions and affect or impair those provisions or any right the Town has at any time to avail itself of any remedies the Town may have for any breach of these provisions or to require the Work to be performed in accordance with the Contract Documents.

1.5 Assignment

The Contract, or any part of it, or any benefit or interest in it, shall not be assigned by either party without the prior written consent of the other party.

1.6 Successors

This contract shall ensure to the benefit of and be binding on the respective administrators, successors and assigns of each of the parties hereto.

2.0 TOWN'S OBLIGATIONS

2.1 Payment

Subject to any other provision in the Contract Documents, the Town shall make payments to the Contractor at the times and in the manner set out in GC 5.0.

2.2 Site Availability

- (a) The Town shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access to the Site and any other lands designated for the use of the Contractor. The Contractor shall provide for any additional lands and access the Contractor may require, in accordance with GC 3.10(a).
- (b) Except for permits and fees which are the responsibility of the Contractor under GC 3.4, the Town shall obtain and pay for necessary approvals, easements and charges required for the development of the Site and for the use or occupancy of permanent structures or for permanent changes in existing facilities.

2.3 Engineer as Representative

- (a) Unless otherwise provided in the Contract Documents, the Town shall communicate with the Contractor through the Engineer, and the Contractor shall communicate with the Town through the Engineer.
- (b) If the employment of the Engineer is terminated, the Town shall promptly appoint a replacement.
- (c) The Town may, in its absolute discretion, appoint an employee of the Town to act as the Engineer pursuant to these General Conditions.

2.4 Reference Points

Unless otherwise specified in the Contract Documents, the Town will establish reference points for construction which are, in the opinion of the Engineer, necessary to enable the Contractor to proceed with the Work. The Contractor shall safeguard such reference points in accordance with GC 3.17(d).

2.5 Materials Supplied by the Town

Any materials, instructions, information or services required to be supplied by the Town under the Contract, shall be furnished with reasonable promptness to avoid delay in the orderly progress of the Work.

2.6 Control of the Work

Neither the Town nor the Engineer shall supervise or have control or authority over, nor be responsible for, the Contractor's means, methods, techniques or procedures of construction. Neither the Town nor the Engineer will be responsible for the Contractor's failure to perform the Work in accordance with the Contract Documents, nor for its failure to comply with applicable Laws and Regulations.

2.7 Breach By the Town

In the event that the Town breaches its obligations under the Contract, it shall not be liable to the Contractor, its Subcontractors or any other parties acting on their behalf, for consequential loss, loss of profit or loss of business opportunity.

3.0 CONTRACTOR'S OBLIGATIONS

3.1 General Obligation

Notwithstanding any omissions from the Contractor's tender, the Contractor is required to perform all of the Work required by the Contract Documents and which can be reasonably inferred from them as being necessary to produce the intended result. The Contractor is to perform the Work within the Contract Time, in accordance with the schedule referred to in GC 3.14. The Contractor shall execute the Articles of Agreement, in the form set out in the Contract Documents.

3.2 Confidentiality

Any information obtained from, or concerning, the Town, or the Town's clients, by the Contractor, its agents or employees in the performance of any contract shall be confidential. The Contractor shall take such steps as are necessary to ensure that any such information is not disclosed to any other person and shall maintain confidential and secure all materials and information that is the property of the Town and in the possession of or under the control of the Contractor. This clause survives the termination of this contract.

3.3 Independent Contractor

The Contractor is an independent contractor and shall have complete control of the Work. The Contractor shall effectively direct and supervise the Work to ensure conformance with the Contract Documents. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all parts of the Work, except as may be otherwise specified in the Contract Documents.

3.4 Review of Contract Documents

The Contractor shall study and compare the Contract Documents with each other and shall verify the dimensions, quantities and details described in them. The Contractor shall notify the Engineer of all errors, omissions, conflicts and discrepancies found. Failure to discover or correct errors, omissions, conflicts or discrepancies which ought to have been discovered by such a study, shall not relieve the Contractor from full responsibility for unsatisfactory Work, faulty construction or improper operations resulting therefrom, nor from rectifying such conditions at the Contractor's expense.

3.5 Permits and Regulations

- (a) The Contractor shall procure and post at the Site all permits, certificates and licenses required for the construction of the Work.
- (b) The Contractor shall comply with all Laws and Regulations affecting the execution of the Work, including all applicable Federal, Territorial and local laws and regulations pertaining to socio-economic and environmental matters.

3.6 Site Conditions

- (a) By executing the Contract, the Contractor represents that the Contractor is familiar with the conditions under which the Work is to be performed. The Contractor further represents that the Contractor understands the requirements of the Contract Documents and what effects the Site conditions will have on the Work. The Contractor's failure to visit the Site will not excuse the Contractor from the responsibility which otherwise would have been assumed, had the Contractor visited the Site.
- (b) Following the start of the Work, if the sub-surface conditions are substantially different from what could reasonably have been expected, based on a reasonable and proper examination of the site by the Contractor and the information provided in the tender documents, if any, the Contractor must promptly notify the Engineer prior to these sub-surface conditions being disturbed any further. The Contractor shall then follow the instructions from the Engineer. The Contractor may make a claim for changed site conditions in accordance with GC 8.1.

3.7 Public Ceremonies and Signs

- (a) The Contractor shall not permit any public ceremony in connection with the Work without the prior written consent of the Town.

- (b) The Contractor shall not erect or permit the erection of any sign or advertising on the Site without the prior written consent of the Town.

3.8 Superintendent

- (a) The Contractor shall assign a competent superintendent and necessary assistants, one or more of whom shall be in attendance at the Site at all times during the progress of the Work. The superintendent and necessary assistants, if any, shall be designated in writing to the Engineer and shall act as the Contractor's authorized representative at the Site. All written or oral communications to the superintendent shall be deemed to have been given to the Contractor. The superintendent shall only be replaced after the Contractor has received written approval from the Town.
- (b) The Town may order the removal from the Work of any superintendent, supervisor, foreman or other employee who is in the opinion of the Town, unfit for the work or unskilled in the work assigned to him. Any person so removed shall not be re-employed on the Work by the Contractor or by a Subcontractor.

3.9 Subcontractors

- (a) The Contractor shall not employ any Subcontractor without the approval of the Town. Once the names of the proposed Subcontractors have been submitted, the Contractor shall not change these Subcontractors without the advance written consent of the Town. If any changes are made without consent, the Contract may be terminated at the Town's option, in accordance with GC 9.3.
- (b) The Contractor shall be fully responsible to the Town for the acts and omissions of Subcontractors, their agents, employees, and all parties engaged by the Contractor or its Subcontractors for the provision of work or the supply of materials.
- (c) The Contractor agrees to incorporate the terms of the Contract Documents into all the Contractor's subcontract agreements.

3.10 Local and Northern Involvement

The Contractor shall use local and northern labour and material in the performance of the Work to the full extent to which they are procurable, consistent with proper economy and the expeditious carrying out of the Work.

3.11 Access to Site by Others

- (a) Where, in the opinion of the Town, it is necessary that the Engineer, inspectors, testing personnel and equipment, or other contractors with or without plant and material be sent onto the Site, the Contractor shall, to the satisfaction of the Town, allow them access and cooperate with them in the carrying out of their duties and obligations.

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- (b) If the sending of workers or other contractors onto the Site results in a delay in the performance of the Work, which could not have been reasonably foreseen or anticipated by the Contractor when executing the Articles of Agreement, the Contractor may make a claim therefore in accordance with GC 6.2 and 8.1.
 - (c) The Contractor shall not interfere in any way with the work or scheduling of any other contractor or employee of the Town. In order to avoid or minimize such interference, the Town may in its absolute discretion, establish schedules or methods and shall notify the Contractor accordingly.
 - (d) The Engineer shall at all times have access to the Work and the Contractor shall provide proper facilities and equipment for such access, inspection and tests and shall make good any work disturbed by the inspections and tests.

3.12 Use of the Site

- (a) The Contractor shall make every effort to confine the Contractor's equipment and plant, storage of materials and operations, to limits indicated by the Contract Documents, by a specific direction of the Engineer or by Laws and Regulations, and shall not unreasonably encumber the Site. Where the Contractor requires additional land for the erection of temporary facilities and storage of materials, including access to them, the Contractor shall arrange for such and assume all costs and liabilities arising therefrom.
- (b) The Contractor shall not load or permit to be loaded on any part of the Work, a weight or load or force that will endanger its safety or exceed the design loads.

3.13 Protection of the Work, Property and the Public

- (a) The Contractor shall be responsible for protecting the Work, the Town's property at the Site including the Contract Documents and any plant and material, including plant and material supplied by the Town to the Contractor, against loss or damage from any cause but subject to GC 3.15(c). In particular, the Contractor shall take necessary precautions, at the Contractor's expense, to ensure that:
 - i. no person, adjacent property, right, easement or privilege is injured, damaged or infringed by reason of the Contractor's activities in performing the Work;
 - ii. pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted or endangered by the performance or existence of the Work;
 - iii. fire hazards in or about the Work or the Site are minimized;
 - iv. adequate medical services are available to all persons employed on the Work at all times during the performance of the Work;
 - v. adequate sanitation measures are taken in respect of the Work;
 - vi. all stakes, buoys, signs and marks placed at the site, and approved by the Owner, are not removed, defaced, altered or destroyed, and

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- vii. all facilities necessary for the purpose of maintaining security are provided, and the Contractor shall assist any person authorized by the Town to inspect or to take security measures on the Site.
 - (b) The Engineer may order the Contractor to do such things and to perform such additional Work as the Engineer considers reasonable and necessary to ensure compliance with or to remedy a breach of GC 3.12 (a) and the Contractor shall comply with the directions of the Engineer, at the Contractor's expense.

3.14 Historical Resources

- (a) Any item of suspected palaeontological value, historic value, or archaeological value shall remain the property of the Town, and recovery of such items is governed by the Historical Resources Act.
- (b) Upon discovering any item as described herein, the Contractor shall:
 - (i) supply shoring, barricades and all equipment required for safe recovery of such items, and
 - (ii) notify the Engineer when any item of historic, paleontological or archaeological value is discovered, and suspend work immediately until the Engineer authorizes that Work may proceed.
- (c) The Engineer will issue a Change Order, in accordance with GC 7.0, if in the opinion of the Engineer, the Contractor is unduly delayed or is required to perform extra work. The Engineer will not issue a Change Order if the Contractor is able to proceed immediately on another part of the project and continue work.
- (d) The following definitions shall apply to this section:
 - i. an historic resource means any work of nature or of man, that is primarily of value for its palaeontological, archaeological, prehistoric, historic, cultural, natural, scientific or aesthetic interest, including, but not limited to, a palaeontological, archaeological, prehistoric, historic or natural site, structure or object;
 - ii. an archaeological resource means a work of man that is primarily of value for its prehistoric, historic, cultural or scientific significance and is, or was buried or partially buried in land or in water;
 - iii. an historic object means any historic resource of a moveable nature including any specimen, artifact, document or work of art, and
 - iv. a palaeontological resource means a work of nature consisting of or containing evidence of extinct multi-cellular beings and includes those works of nature or classes of works of nature that are designated by the regulations as palaeontological resources.

3.15 Schedule

- (a) Seven days before Work commences, the Contractor shall submit to the Engineer for review, a detailed schedule that follows the proposed schedule as submitted in Appendix "H" of the

Tender Documents. This detailed schedule shall show the anticipated time of commencement and completion of each of the various operations to be performed. This schedule shall include the sequence and coordination of the various operations and the estimated time required for the Work and shall provide sufficient detail to permit the Engineer to monitor the progress of the Work. The Contractor shall revise the proposed schedule as requested by the Engineer and after approval, the Contractor shall strictly adhere to the revised schedule unless it is changed in accordance with the terms of the Contract.

- (b) If at any time it should appear to the Engineer that the actual progress of the Work does not conform to the schedule referred to above, the Contractor shall produce at the Engineer's request, a revised schedule showing the modifications necessary to ensure completion of the Work in accordance with the previously approved schedule and shall promptly adopt acceptable additional means and methods of construction, at no cost to the Town, which will make up for the time lost and will ensure completion in accordance with the approved schedule referred to in GC 3.14 (a).
- (c) The Engineer's consent to such schedules shall not relieve the Contractor of any of the Contractor's obligations under the Contract.

3.16 Material and Plant Supplied by Town

- (a) The Contractor is liable for any loss or damage to material, plant or real property that is supplied or placed by the Town in the care, custody and control of the Contractor for use in connection with the Work, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- (b) The Contractor shall not use any material, plant or real property placed in the Contractor's care, custody and control, except for the purpose of performing the Work.
- (c) The Contractor is not liable to the Town for any loss or damage to material, plant or real property if that loss or damage results from and is directly attributable to reasonable wear and tear.

3.17 Equipment, Plant and Material Supplied by Contractor

- (a) Unless otherwise specified in the Contract Documents, the Contractor shall furnish and assume full responsibility for all materials, equipment, labor, transportation, traffic signs, barricades, fences, shoring equipment, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the performance, testing, finishing, start-up and completion of the Work. All materials, equipment, facilities, etc., furnished by the Contractor shall be maintained in a clean and sanitary manner.

3.18 Quality Control

- (a) Unless otherwise specified in the Contract Documents, the Contractor shall be responsible for all quality control, and shall perform such testing as specified in the Contract Documents or may be required, to ensure that the Work complies in all respects with the Contract Documents.
- (b) The contractor shall meet or exceed the minimum specifications as outlined in the General Specifications and the Special Provisions of this Contract.
- (c) In addition to the above testing by the Contractor, the Engineer may conduct quality assurance tests regarding the acceptability of materials used in the Work and the Contractor shall furnish for the Engineer's approval such samples as the Engineer may reasonably require, at the Contractor's expense.
- (d) The Engineer reserves the right to order the Contractor to do additional testing above the minimum testing specified in the Contract. Any additional costs incurred by the Contractor shall be borne by the Town, if the tests indicate that the Work in question is within specification. The Contractor shall not be reimbursed for costs incurred for the additional testing, if the tests indicate that the Work in question is out of specification.
- (e) If any work, specified by the Contract to be inspected and approved by the Engineer, should be covered without the approval or consent of the Engineer, it must, if required by the Engineer, be uncovered for examination and subsequently recovered, both at the Contractor's expense.
- (f) Any inspection of the Work by the Engineer or the failure of the Engineer to make any inspection, or:
 - i. the thoroughness or lack of thoroughness of any inspection made by the Engineer;
 - ii. the failure of the Engineer to observe defective workmanship or materials either by the Contractor or a Subcontractor;
 - iii. the failure to direct the attention of the Contractor or Subcontractor, or of any other person, to the inadequacy of the manner in which the Contract is being performed, or
 - iv. the inadequacy or insufficiency of any equipment or material used in the performance of or incorporated in the Work,

shall not relieve the Contractor from the responsibility for any failure to supply materials and complete the Work strictly in accordance with the Contract Documents.

3.19 Temporary Structures

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. The Contractor shall engage and pay for professional engineering personnel, registered to practice in the

Northwest Territories, skilled in the appropriate discipline, to perform these functions where required by law or by the Contract Documents and in all cases where such temporary facilities and their method of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.

3.20 Workers' Compensation Act

- (a) The Contractor shall comply with, and ensure compliance by all Subcontractors, with the requirements of the Workers' Compensation Act, R.S.N.W.T. 1988, c. W-6, as amended. The Contractor and its Subcontractors shall maintain accounts in good standing with the Workers' Compensation Board. The Contractor shall provide verification from the Workers' Compensation Board that the Contractor's account is in good standing prior to the release of holdback, at the end of the warranty period and as requested by the Engineer. The Town may refuse to make a payment to the Contractor unless the Contractor furnishes evidence from the Workers' Compensation Board that the Contractor's account is in good standing.
- (b) If the Town receives a notice from the Workers' Compensation Board that the Contractor's accounts, or any Subcontractors' accounts are not in good standing, or if a demand for payment is received, the Town may suspend payments due to the Contractor until a letter of clearance is obtained from the Workers' Compensation Board or the Town has paid the amount on behalf of the Contractor.
- (c) If the Town is required to pay any amount to the Workers' Compensation Board on behalf of the Contractor, or any Subcontractor, the Town may deduct the amount from any amount owing to the Contractor under this or any other contract, or may demand a reimbursement by the Contractor to the Town for the amount paid by the Town.

3.21 Occupational Health and Safety

In any case where, pursuant to the provisions of the Safety Act, R.S.N.W.T. 1988, c. S-1, as amended, the Director of Inspections or a Safety Officer orders the Contractor or any Subcontractor performing the Work, to cease work because of failure to install or adopt safety devices directed by the regulations made under the said Act, or required by it, or because the Director of Inspections or a Safety Officer is of the opinion that conditions of immediate danger exist that would likely result in injury to any person, the Town may terminate the Contract or suspend the Work immediately, in accordance with GC 9.0, until the default or failure is corrected.

3.22 Cutting and Patching

- (a) The Contractor shall do all cutting, fitting or patching of the Work that may be required to tie in properly with the Work of other contractors shown in, or reasonably infer able from the Contract Documents.
- (b) The Contractor shall not endanger any existing Work by cutting, patching or otherwise, and shall not cut or alter the Work of any other contractor save with the consent of the Engineer and then only to the extent permitted by the Engineer.

- (c) The Contractor shall not unreasonably withhold from the Town or a separate contractor the Contractor's consent to cutting or otherwise altering the Work in accordance with any direction given by the Engineer.

3.23 Defective Work

- (a) Defective work whether the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the Contractor or any Subcontractor, and whether incorporated in the Work or not, which has been rejected by the Engineer as failing to conform to the Contract Documents, shall be removed promptly from the Work and replaced or re-executed by the Contractor in accordance with the Contract Documents, at the Contractor's expense.
- (b) Where any part of the Work is damaged by such removals, replacements or re-execution, it shall be made good, promptly, at the Contractor's expense.
- (c) Where the Contractor fails to correct defective or rejected work within the time limits specified by the Engineer, the Town may correct defective or rejected work and deduct the cost of same from the Contract Price, or may terminate the Contract in accordance with GC 9.3.
- (d) In cases of emergency, the Town may take whatever action it deems necessary to correct defective or rejected work and deduct the cost of same from the Contract Price.
- (e) If, in the opinion of the Engineer, it is not expedient to correct defective work or work not done in accordance with the Contract Documents, the Town may deduct from the Contract Price the difference in value between the work as done and that required by the Contract, as determined and certified by the Engineer.

3.24 Site Cleanliness

- (a) The Contractor shall maintain the Site in a tidy condition and free from the accumulation of waste material and debris, to the satisfaction of the Engineer.
- (b) Before the issuance of a certificate of Substantial Completion, the Contractor shall remove all the Contractor's plant and material not required for the remaining Work, and all waste material and other debris, and shall ensure that the Work and the Site are clean and suitable for occupancy or use by the Town, unless otherwise directed by the Engineer.
- (c) Before the issuance of a certificate of Final Completion, the Contractor shall remove from the Site all the Contractor's plant and material and any waste material and other debris, to the satisfaction of the Engineer.
- (d) The Contractor's obligations described above do not extend to waste material and other debris caused by the Town's agents or other contractors.

3.25 Claims Against and Obligations of the Contractor

- (a) The Contractor shall discharge all its lawful obligations and shall satisfy all lawful claims against it arising out of the performance of the Work at least as often as the Contract requires the Town to pay the Contractor.
- (b) The Contractor shall, in accordance with the Contract Documents and whenever requested to do so by the Engineer, make a statutory declaration regarding the existence and condition of any obligations and claims. Where the statutory declaration is sworn outside the Northwest Territories, it shall be notarized. Upon request by the Town, the Contractor shall provide letters from his Subcontractors and major suppliers regarding the status of any accounts with the Contractor and the details of any claims, if any.
- (c) The Town may, in its absolute discretion, and at any time prior to the final release of holdbacks, in order to discharge lawful obligations of and satisfy lawful claims against the Contractor, Subcontractor or any sub-subcontractors, arising out of the performance of the Work, pay any amount that is due and payable to the Contractor pursuant to the Contract, directly to the obligees of and the claimants against, the Contractor, Subcontractor or sub-subcontractor. When the parties involved in the claim are in agreement on the validity and amount of the claim, the Town may treat this as a lawful claim.
- (d) Where no agreement is reached between the parties as referred to above, the Town may withhold payment, without any obligation to pay interest, until the validity and amount of the Claim is established by legal proceeding. The Town may, in its absolute discretion, bring the matter before the Supreme Court of the Northwest Territories by way of Interpleader, and shall dispose of the funds withheld in accordance with the direction of the Court.
- (e) A payment made pursuant to this provision is, to the extent of the payment, a discharge of the Town's liability to the Contractor under the Contract and may be deducted from an amount payable to the Contractor under the Contract.

3.26 Patent Rights

The Contractor shall indemnify the Town from and against all claims and proceedings for or on account of infringement of any patent rights, design trademark or name or other protected rights in respect of the Contractor's equipment, materials or plant used for or in connection with, or for incorporation into the Work, and from and against all damages, costs, charges and expenses whatsoever relating thereto, except where such infringement results from compliance with the design or specifications provided by the Town.

3.27 Royalties

Except where otherwise stated, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for obtaining building materials required for the Work.

3.28 Records to be Kept by Contractor

- (a) The Contractor shall maintain complete records of the Contractor's estimated and actual costs of the Work together with all tender calls, quotations, contracts, correspondence, invoices and receipts. In accordance with the terms of the Contract, these documents shall be available for audit and inspection by the Town or by persons acting on behalf of the Town when requested. The Contractor shall furnish any such person with any information he may require from time to time in connection with these records.
- (b) Records maintained by the Contractor shall be kept intact for six years following the end of the warranty period or such other period of time as directed by the Engineer.
- (c) The Contractor shall ensure that all its Subcontractors comply with the above requirements.

3.30 Non-compliance by Contractor

- (a) If the Contractor fails to comply, within a reasonable time, with any decision or direction given by the Engineer, the Town may employ such methods as the Town deems advisable to do that which the Contractor failed to do.
- (b) The Contractor shall pay the Town the total of all costs, expenses and damages incurred or sustained by the Town by reason of the Contractor's failure to comply with any decision or direction referred to above, including the cost of any method employed by the Town. Where the amounts owing to the Contractor under the Contract are insufficient to cover such costs, the Contractor shall pay the balance to the Town.

4.0 ADMINISTRATION BY ENGINEER**4.1 Engineer's Duties and Authority**

- (a) The Engineer will administer the Contract as provided in the Contract Documents.
- (b) The Engineer will be the Town's representative until the Work has been completed in accordance with the Contract Documents.
- (c) Except as expressly stated in the Contract Documents or as agreed to in writing by the Town, the Engineer will have no authority to relieve the Contractor of any of the Contractor's obligations under the Contract.
- (d) The Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work performed and will deal with Claims as they arise, in accordance with GC 8.1.
- (e) During the progress of the Work, the Engineer will have authority to issue written additional instructions regarding the Work which may, in the opinion of the Engineer, be necessary to supplement or clarify the Contract Documents. Such additional instructions shall be

- consistent with the intent of the Contract Documents, shall not entitle the Contractor to an Adjustment and shall be binding upon and be carried out promptly by the Contractor.
- (f) Wherever, under the Contract, the Engineer is required to exercise discretion by:
- i. rendering a decision, opinion or consent;
 - ii. expressing satisfaction or approval;
 - iii. determining value, or
 - iv. otherwise taking action which may affect the rights and obligations of the Town or the Contractor,

the Engineer shall do so impartially, consistent with the terms of the Contract and having regard to all of the circumstances. Any such decision, opinion, consent, expression of satisfaction or approval, determination of value or action, may be opened up, reviewed or revised as provided in GC 8.0.

4.2 Observing the Work

The Engineer will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. However, the Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of Work. On the basis of such on-site observations, the Engineer will keep the Town informed of the progress of Work, and will endeavor to guard the Town against defects and deficiencies in the Work.

4.3 Engineer's Decision

Except as provided in GC 4.1(f), neither the Engineer's authority or responsibilities under GC 4.0 or under any other provision of the Contract Documents nor any decision made by the Engineer in good faith, either to exercise or not exercise such authority or responsibility, shall create, impose or give rise to any duty owed by the Engineer to the Contractor, any Subcontractor, or to any surety for or employee or agent of any of them.

5.0 PAYMENT AND COMPLETION

5.1 Progress Payments

- (a) At the end of each calendar month, or such other period as is agreed to between the Engineer and the Contractor, the Contractor shall deliver to the Engineer a written progress claim that describes the Work that has been completed and any material that was delivered to the Site but not yet incorporated into the Work since the last progress claim.
- (b) The Engineer shall, within fourteen days' receipt of the Contractor's progress claim, review the claim and prepare a certificate for payment which may take the form of an endorsement

on the progress claim. If the Engineer amends the progress claim, he will promptly notify the Contractor in writing, giving reasons for the amendment.

- (c) Where the Contractor does not submit a progress claim or where the Engineer does not endorse the Contractor's progress claim, the Engineer may calculate the progress payment and prepare a certificate for payment by the Town. Where unit prices apply, payment will be calculated on the basis of the unit prices specified in the Contract Documents and the units of Work completed as determined by the Engineer. Where a lump sum price applies, payment will be calculated on the basis of the Engineer's estimate of the percentage of the Work completed.
- (d) The progress certificate will show, to the end of the period covered by the progress claim, the estimated value of all labour and materials incorporated into the Work, GST monies paid, all materials stored at the site and all Change Orders certified by the Engineer. The certificate shall also show the aggregate of previous payments and the amounts withheld. The gross amount shown on such certificate, less the aggregate of all payments to date and sums withheld, shall become due and be payable by the Town to the Contractor within twenty days following receipt by the Town of the progress certificate.
- (e) The estimates referred to above shall not bind the Town or the Engineer in any manner in the preparation of the final estimate of the Work done, but shall be held to be approximate only and shall in no case be taken as an acceptance of the Work or as a release of the Contractor from the Contractor's responsibilities under the Contract.

5.2 Contract Holdbacks

- (a) The Town will retain Contract holdbacks in accordance with the following:
 - (i) fifteen percent from each progress payment made prior to the issuance of the first Holdback Payment Certificate by the Engineer, and
 - (ii) five percent from any payments made to the Contractor following the issuance of the first Holdback Payment Certificate.

5.3 Substantial Completion

- (a) When the Contractor considers the Work ready to be utilized for its intended purpose, the Contractor may apply in writing to the Engineer to issue a certificate of Substantial Completion. The Contractor shall submit with its application a comprehensive list of items to be completed or corrected and a statutory declaration as per GC 3.25 (b) , and shall submit the "Certificate of Compliance with Plans and Specifications" on the form as provided in 8.0 "Forms" of the General Specifications. The Contractor shall proceed promptly to complete and correct the items on the list. Failure to include an item on this list does not alter the Contractor's responsibility to complete the Work in accordance with the Contract Documents.
- (b) Following the receipt of an application from the Contractor for a certificate of Substantial Completion, the Engineer will, with reasonable promptness, schedule an inspection and

assessment of the Work. This inspection will be held with the Contractor and the Contractor's Engineer in attendance. Within seven days of the inspection, the Engineer shall notify the Contractor of his approval, or reasons for disapproval of the application. If the Engineer determines that the Work is substantially completed, he shall issue a certificate of Substantial Completion to the Town and the Contractor. A list of items to be completed or rectified shall accompany the certificate. If the Engineer does not consider the Work to be substantially completed, he shall notify the Contractor in writing of the reasons why and list the items to be completed or rectified, of which the Engineer is aware.

- (c) The Town may deduct from the Contract Price, or any amounts due to the Contractor, the costs associated with the Engineer being called upon to perform more than one inspection for the purpose of determining Substantial Completion, when in the opinion of the Engineer, the Work was clearly not yet substantially complete.
- (d) The certificate of Substantial Completion shall establish the date of Substantial Completion and shall fix the time within which the Contractor shall complete or correct all items on the list accompanying the certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion, unless otherwise provided in the certificate of Substantial Completion.
- (e) Similarly, in accordance with the procedure set out above, the Contractor may request and the Engineer may in its absolute discretion, issue a certificate of Substantial Completion in respect of any part of the Work which has been both completed to the satisfaction of the Engineer and which the Town has elected to occupy or use prior to completion.

5.4 Final Completion

- (a) Following Final Completion of the Work, including any testing, the Contractor shall provide the Engineer with the following:
 - (i) a declaration that the Work has been completed in accordance with the Contract Documents;
 - (ii) a declaration that no claims exist or the particulars of any claims relating to personal injury or death or property loss or damage arising out of the Work, and any alleged infringement by the Contractor of a patent or other property right in performing the Contract, and
 - (iii) particulars of, or a waiver of, all outstanding claims against the Town, arising out of the Work.
- (b) Following receipt of the above documents, the Engineer shall, with reasonable promptness, conduct an inspection and assessment of the Work to verify that the Work has been completed in accordance with the Contract Documents. Within fourteen days of receipt of the above documents, the Engineer shall either issue a certificate of Final Completion to the Town and the Contractor or a list of items to be completed or rectified, of which the Engineer is aware. The Town may deduct from monies owed to the Contractor the costs associated with the Engineer being called upon to perform more than one inspection.
- (c) A Certificate of Final Completion will not be issued before the end of the Warranty period in

accordance with GC 10.4.

- (d) Receipt by the Contractor of the certificate of Final Completion shall entitle the Contractor to payment in accordance with GC 5.5.

5.5 Final Progress Payment

(a) The Final Progress Payment Certificate will be prepared following the issuance of the Certificate of Final Completion. The Final Progress Payment Certificate will show the total amount payable to the Contractor, less any amounts retained.

- (b) The final progress payment amount shall be paid by the Town to the Contractor within twenty days following receipt by the Town of the Final Progress Payment Certificate.

5.6 Holdback Release

- (a) Forty-five days following the date of the issuance of the Certificate of Substantial Completion by the Engineer, the Contractor may apply to the Town for release of (two thirds) of the Contract holdback. The Engineer shall, within fourteen days' receipt of the Contractor's application, issue a Holdback Payment Certificate or a list of items to be rectified prior to payment.

- (b) Following release of the holdback referred to in GC 5.6(a), the Contractor may apply in writing for release of the remainder of the holdback funds retained by the Town, provided an irrevocable letter of credit for the same amount is presented for the Town's consideration. The Town may, in its absolute discretion, accept or reject the Contractor's irrevocable letter of credit in place of holdback funds.

- (c) The irrevocable letter of credit referred to in this provision must be for the same amount as the holdback funds and must remain in place until expiry of the warranty period referred to in GC 10.4. Should the Contractor's irrevocable letter of credit be scheduled to expire prior to the end of such warranty period, the Town will, one week prior to the expiry date, cash the irrevocable letter of credit, unless the Contractor presents a renewal thereof.

- (d) One year following the date of the issuance of the Certificate of Substantial Completion by the Engineer, the Contractor may apply to the Town for release of the remainder of all Contract holdbacks or the return of irrevocable letters of credit, if any. The Engineer shall, within fourteen days' receipt of the Contractor's application, issue a Holdback Payment Certificate or a list of items to be rectified prior to payment.

- (e) The Town may withhold from monies owing to the Contractor, an amount equal to the Engineer's estimate of the value of all outstanding deficiencies.

- (f) Subject to any applicable lien legislation requirements, holdback payments shall become payable or irrevocable letters of credit shall be returned by the Town to the Contractor, within thirty days following receipt by the Town of the Holdback Payment Certificate.

5.7 Delay in Making Payment

- (a) Delay by the Town in making payments when they are due pursuant to this provision shall not be a breach of the Contract by the Town.
- (b) Unless otherwise stated in the Contract, when the Town delays in making a payment that is due pursuant to this clause, the Contractor shall be entitled to receive simple interest on the amount that is overdue, at the current lending rate granted to the Town by the Town's main banker.

5.8 Right of Set-off

Without limiting any right of set-off or deduction given or implied by law or elsewhere in the Contract Documents, the Town may set-off any amount payable to the Town by the Contractor against any amount payable to the Contractor by the Town.

6.0 TIME AND DELAYS**6.1 Time of the Essence**

The dates and time limits stated in the Contract Documents are of the essence of the Contract. By executing the Contract, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

6.2 Delays

- (a) Where a delay occurs in the progress of the Work and:
 - (i) the delay is attributable to or within the control of the Contractor or its Subcontractors, or was reasonably foreseeable by them at the time the Contract was entered into, the Completion Date will not be adjusted. The Contractor will be liable to the Town for all costs and expenses incurred by the Town, as well as for any losses resulting from the Town's inability to utilize the Work for its intended purpose resulting from the delay, and the Town may deduct such costs from payments owing to the Contractor under the Contract;
 - (ii) the delay is due to an act or neglect by the Town, the Engineer, or other contractor, or of an employee of any of them, then the Contractor may make a Claim therefor, in accordance with GC 8.1, or
 - (iii) the cause for the delay does not fall within the circumstances described in (i) or (ii) above, the Contractor may make a Claim for an Adjustment in the Contract Time, in accordance with GC 8.1. This shall be the Contractor's sole and exclusive remedy for such delays.
- (b) Subject to the Town's absolute discretion, adverse weather will not be considered to be a cause of delay beyond the Contractor's or his Subcontractors' control or not reasonably foreseeable by them at the time the Contract was entered into.

7.0 CHANGE ORDERS

7.1 Changes in the Work

- (a) Without invalidating the Contract, the Town may, through the Engineer, direct the Contractor to make changes in the Work by adding to, deleting from or revising the Work.
- (b) Changes in the Work directed by the Town shall only be initiated by written authorization of the Town through the Engineer, unless the Engineer considers it necessary to give such direction orally, in which case the Contractor shall comply with such direction. However, this change order will be put in writing by the Engineer within twenty-four (24) hours after the oral instruction.
- (c) Upon receipt of a Change Order, the Contractor shall promptly proceed with the Work involved under the applicable provisions of the Contract Documents, except as specifically provided in the Change Order.
- (d) When no Change Order has been issued by the Engineer, and the Contractor claims that any of the Work being performed or proposed constitutes a change in the work, entitling the Contractor to an Adjustment, the Contractor may make a Claim therefor in accordance with GC 8.1.
- (e) If notice of any change in the Work is required by the provisions of any bond to be given to a surety, the Contractor will be responsible for giving such notice, and the amount of each applicable bond shall be adjusted accordingly. The Contractor shall provide to the Town, written confirmation of such changes. For the purposes of this provision, the Contractor will be considered to be the surety's agent.

7.2 Valuation of Changes

- (a) When a change results in a decrease in the Work, the Contract Price may be decreased by an amount to be determined by the Engineer.
- (b) When a change causes an increase in the Work, the Contract Price may be increased in accordance with this provision.
- (c) If the Contract specifies unit prices for changes to the Work, and the Engineer concurs in their use on a particular change or portion thereof, then the Contractor shall be paid for such change or portion, a sum determined by applying the unit prices to the actual quantity, as measured by the Contractor and verified by the Engineer.
- (d) Where the Contract specifies force account rates for labour, equipment and materials, and the Engineer concurs in their use on a particular change or portion thereof, then the Contractor shall be paid for such change or portion, a sum determined by applying the force account rates to the number of hours of labour and equipment expended and quantities of materials utilized. The Contractor shall present records of the work done to the Engineer for approval, at the times and in the manner specified by the Engineer.

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- (e) If there are changes, or portions of changes, for which unit prices or force account rates are not applicable or specified, then the Contractor shall propose to the Engineer a fixed price for such changes or portions. Upon agreement by the Town on the amount thereof, the proposed fixed price shall become the sum the Contractor shall be paid for such change or portion.
- (f) If the Contractor and the Town are unable to agree on a fixed price, then the Contractor shall be reimbursed his costs, consistent with the following:
- (i) wages, salaries and traveling expenses of the Contractor's employees while actually engaged on the Work, excluding any and all expenses of head office personnel;
 - (ii) workers' compensation assessments, unemployment insurance premiums, pension plan payments and paid holidays;
 - (iii) rental cost of machinery and equipment that is used in the performance of the Work, or an allowance for depreciation if owned by the Contractor;
 - (iv) operation and maintenance costs for machinery and equipment used in the performance of the Work, other than costs of repairs arising out of defects existing before the machinery and equipment was brought on to the Site;
 - (v) cost of materials necessary for and incorporated into the Work or consumed in the performance of the Work;
 - (vi) cost of premiums for all bonds and insurance;
 - (vii) other expenses incurred by the Contractor as approved in advance by the Engineer for the proper performance of the Work;
 - (viii) Subcontractor costs calculated in accordance with GC 7.2 (f) (i to vii) above, and
 - (ix) an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, and every other cost, charge and expense, in an amount that is equal to twenty percent of the expenses referred to in GC 7.2 (f) (i to viii) above.
- (g) Whenever the cost of any Work is to be determined in accordance with GC 7.2(f), the Contractor will establish and maintain records in accordance with GC 3.28.
- (h) Pending final determination of cost, amounts not in dispute shall be included in progress payments.
- (i) If the method of valuation of any increase cannot be promptly agreed upon, the Engineer shall determine the method of valuation and issue a written authorization for the change setting out the method of valuation.

7.3 Contingency Allowance

- (a) The Contract Price includes the contingency allowance, if any, stated in the Contract Documents.

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- (b) Expenditures under the contingency allowance shall be authorized in accordance with GC 7.1, and the value shall be determined in accordance with GC 7.2.
 - (c) The unexpended portion of the contingency allowance shall be credited to the Town upon completion of the Work.

8.0 DISPUTE RESOLUTION

8.1 Engineer's Decision

- (a) Where a Claim arises out of, or in connection with the Contract or the performance of the Work, whether during the performance of the Work or after its completion and whether before or after termination of the Contract, the Claim shall, in the first instance, be referred in writing to the Engineer in accordance with this provision.
- (b) A written notice stating the general nature of the Claim shall be delivered by the party making the Claim to the other party and to the Engineer promptly, and in no event later than seven days after the occurrence of the event giving rise to the Claim. Any work for which a claim has been made, shall be kept readily accessible and shall not be covered without the express permission of the Engineer.
- (c) Notice of the extent of the Claim with supporting data shall be delivered within fourteen days after such occurrence. The Contractor shall keep contemporary records as may reasonably be necessary to support the Contractor's Claim, which may be inspected by the Engineer, as he deems necessary.
- (d) The Engineer shall review the information submitted, consult with the parties and make reasonable efforts to obtain agreement between the Town and the Contractor regarding the Claim. The parties agree that, both during and after the performance of the Work, each of them shall use their best efforts to resolve any disputes arising between them by amicable negotiations, and shall provide frank, candid and timely disclosure of all relevant facts, information and documents to facilitate those negotiations. The Engineer may request the parties to refer the matter to more senior levels of management within their organizations, in an effort to resolve the Claim.
- (e) Where the Town and the Contractor reach an agreement on the Claim, the Engineer will, where appropriate, prepare a Change Order for the Town's approval, which shall be sufficient to effect a change in the Contract, in accordance with the terms of the Change Order and the Contract Documents.
- (f) If the Town and the Contractor cannot reach an agreement regarding the Claim, the Engineer shall decide the matter and notify the parties in writing of his decision, within fourteen days of the last submission, and in no event later than thirty days following the date of the occurrence giving rise to the Claim. Valuation of Adjustments in the Contract Price shall be determined by the Engineer in accordance with GC 7.2.

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- (g) Unless the Contract has already been terminated, the Contractor shall, in every case, proceed with the Work with all due diligence and the Town and the Contractor shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided.
 - (h) Where either party disputes the decision of the Engineer or where the Engineer fails to notify the parties of his decision in accordance with GC 8.1 (f) then either party may, within fourteen days, notify the other party of its intention to refer the matter to the Referee in accordance with GC 8.2. No referral may be made unless such notice is given. Notices shall be copied to the Engineer for information.
 - (i) If the Engineer has given notice of his decision as to a matter in dispute to the parties and no notice of intention to refer the matter to the Referee has been given by either the Town or the Contractor within thirty days, the Engineer's decision shall become final and binding upon the parties.
 - (j) No act by the claimant shall be construed as a renunciation or waiver of any of its rights or recourses provided the claimant has given the required notices and carried out the instructions specified. The presentation of a Claim shall not be grounds for delay or interruption of the Work.

8.2 Appointment of Referee

- (a) Unless otherwise stated in the Plans & Specifications, or as amended by a change order, the person so named in the Plans & Specifications shall act as the Referee. This Referee may be called upon during the performance of, or after the completion of the Work, to settle any Claims or disputes arising under the Contract. Where the Referee appointed in accordance with this provision refuses to act, is incapable of acting or dies, the parties shall name a new Referee at the earliest opportunity. Should the parties be unable to agree on a Referee within the time specified, the matter shall be decided by the Engineer whose decision shall be final.
- (b) Where either party has disputed a decision of the Engineer in accordance with GC 8.1(h), the Referee shall review the decision of the Engineer and may, if he deems it appropriate, require the parties to supply him with further information or documentation, giving each party an opportunity to respond. The Referee may inspect the Work after giving reasonable notice to each party of the time he intends to do so.
- (c) Not later than thirty days after receipt of the last documentary submission, where the matter has not been resolved, the Referee shall issue his written decision with reasons, to the parties.
- (d) The costs of retaining the Referee shall be shared equally between the Town and the Contractor, unless the Referee directs otherwise. The Town may deduct such costs assessed against the Contractor by the Referee, from any amount due and payable by the Town to the Contractor under the Contract.

8.3 Appointment of Arbitrator

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- (a) Within thirty days after the Referee has rendered his decision, either party may, by written notice to the other party and to the Engineer for information, refer the decision of the Referee to a single Arbitrator, in accordance with the Arbitration Act of the Northwest Territories, subject to the following provisions:
- (i) the Arbitrator shall have the authority to call upon the Referee to give evidence during the arbitration proceedings, including all documentation prepared by the Referee or reviewed by him;
 - (ii) the decision of the Arbitrator shall be final and binding upon the parties who covenant that their disputes shall be so decided by arbitration alone and not by recourse to any court by way of action at law;
 - (iii) arbitration proceedings may be commenced prior to or after completion of the Work, provided that the obligations of the Town, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Work;
 - (iv) before the arbitration proceeds on the substantive issues, a budget for the proceedings shall be established by the Arbitrator and each party shall deposit, as security for costs, a sum equal to half of such budget with the Arbitrator, who shall thereupon deposit such funds in an interest bearing trust account with a chartered bank. Subject to the award and payment of costs as hereinafter provided, the balance of the security deposits and interests shall be properly returned to the respective parties, and
 - (v) the cost of arbitration may be awarded against the parties hereto or against any one of them as the Arbitrator may decide.
- (b) If a Claim involves the Work of a Subcontractor, either the Town or the Contractor may join such Subcontractor as a party to the arbitration between the Town and the Contractor. The Contractor shall include in all its subcontracts a specific provision whereby its Subcontractors consent to being joined in an arbitration between the Town and the Contractor involving the Work of such Subcontractors. Nothing in this provision nor in the provision of such subcontracts consenting to joinder shall create any claim, right or cause of action in favour of the Subcontractors as against the Town or the Engineer, that does not otherwise exist.
- (c) If no notice is received within the limits set out in GC 8.3 (a), the decision of the Referee shall be final and binding on the parties.
- (d) The Contractor agrees that it shall join other arbitration proceedings with respect to the Project, as requested in writing by the Town.
- (e) The procedure and sequences outlined in GC 8.1 to 8.3 for the resolution of disputes shall be strictly adhered to by both parties.

9.0 WITHDRAWAL, SUSPENSION AND TERMINATION

9.1 Withdrawal of the Work

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- (a) After giving the Contractor seven days written notice within which the Contractor may remedy any delay or default specified, the Town may, through the Engineer, withdraw the Work from the Contractor where he is not diligently performing the Work to the satisfaction of the Engineer or has not completed the Work within the time specified in the Contract.
 - (b) On withdrawal of the Work, the Town may:
 - (i) take possession of all plant, equipment and materials on the Site and ordered by the Contractor for the Work but not yet delivered to the Site, and
 - (ii) complete the Work withdrawn from the Contractor.
 - (c) Withdrawal of the Work by the Town does not terminate the Contract and does not relieve the Contractor of its obligation to complete the remainder of the Work.
 - (d) The Contract Price will be reduced by the value of the Work withdrawn, as determined by the Engineer. The Contractor shall be liable to the Town for all extra costs incurred by the Town to complete the Work withdrawn from the Contractor and the Town may deduct such costs from payments owing to the Contractor under the Contract.

9.2 Suspension of the Work

- (a) The Town may through the Engineer suspend the progress of the Work at any time by giving the Contractor a written notice, which shall include the reason for the suspension.
- (b) Where such a suspension results in a delay in the progress of the Work, the rights of the parties shall be determined in accordance with GC 6.2(a)(i), (ii) or (iii), and shall be based on the reason for the suspension.
- (c) During the period of suspension, the Contractor shall protect, preserve and maintain the Work in a manner satisfactory to the Town and shall not remove any part of the plant, equipment and materials from the Site without the prior written consent of the Town.
- (d) Following the suspension, the schedule shall be revised by the Contractor, for approval by the Town, and the Work shall be completed as provided in the revised schedule.
- (e) Where the Work or any part thereof is suspended on the written instructions of the Town and if permission to resume Work is not given by the Town within a period of thirty days from the date of suspension, the Contractor may request permission from the Town to proceed with the Work. If the Town does not grant permission within 14 days' receipt of the Contractor's written request, the Contractor may elect to treat the suspension, where it affects only part of the Work, as an omission of such Work by giving a further notice to the Town to that effect or, where it affects the whole of the Work, treat the Contract as having been canceled by the Town, in accordance with GC 9.4.

9.3 Termination by Town

- (a) Without limitation, the following actions by or circumstances relating to the Contractor shall

constitute default on the part of the Contractor:

- (i) committing any act of insolvency or bankruptcy, voluntary or otherwise;
 - (ii) having a receiver appointed on account of insolvency or in respect of any property;
 - (iii) making a general assignment for the benefit of creditors;
 - (iv) failing to comply with or persistently disregarding statutes, regulations, by-laws or directives of competent authorities relating to the Work;
 - (v) failing to comply with any requests, instruction or direction of the Engineer;
 - (vi) failing to pay accounts relating to the Work as they come due;
 - (vii) failing to prosecute the Work with skill and diligence;
 - (viii) assigning or subletting the Contract or any portion thereof without the required consent;
 - (ix) failing or refusing to correct defective or deficient Work, and
 - (x) being otherwise in default in carrying out any of its obligations under the Contract, whether such default is similar or dissimilar in nature to the causes listed previously.
- (b) Notice that the Contractor is in default may be given verbally by the Town if the default relates to the GC 9.3(a) (i) to (iv) above. Ten days' written notice shall be given in the event of other defaults.
- (c) If the Contractor is in default under the Contract, the Town shall be entitled to:
- (i) take possession of all Work in progress, materials and construction equipment at the Site, at no additional charge for the retention or use of the construction equipment;
 - (ii) eject and exclude from the Project Site all personnel of the Contractor and any Subcontractor;
 - (iii) terminate the Town's utilization of the Contractor to perform the Work;
 - (iv) finish the Work by whatever means the Town may deem appropriate under the circumstances, and
 - (v) withhold any further payments to the Contractor until the Contractor's liability to the Town is ascertained.
- (d) The Contractor shall be liable to the Town for:
- (i) the extra expense of finishing the Work, including compensation to the Town for additional Engineering, managerial and administrative services;
 - (ii) the cost of correcting deficiencies in that portion of the Work performed by the Contractor;
 - (iii) all other loss, damage and expense occasioned to the Town by reason of the Contractor's default, and

the Town may deduct such expenses and damages from payments owing to the Contractor under the Contract.

- (e) Any action by the Town under this clause shall be without prejudice to the Town's other

rights or remedies under any security held by the Town for performance of the Contract by the Contractor.

9.4 Contract Cancellation

- (a) The Town shall have the right, which may be exercised from time to time, to cancel any uncompleted or unperformed portion of the Work. In the event of such cancellation, the Contractor shall be entitled to the following:
 - (i) reimbursement at the Contract rate for all items completed and delivered;
 - (ii) reimbursement for the costs to the Contractor for Work in progress and expenses incurred in the course of the Work, plus a reasonable return on such costs and expenses, and
 - (iii) reimbursement for costs and expenses directly caused by the cancellation.
- (b) Title to all Work for which reimbursement is made shall vest in the Town.
- (c) The Town shall not be liable to the Contractor for consequential loss, loss of business opportunity or loss of anticipated profit on the canceled portion or portions of the Work.
- (d) This section shall not apply to situations in which the Town is entitled to terminate the Contract by reason of default by the Contractor.

9.5 Termination by Contractor

Where the Town is in substantial breach of the terms of the Contract, the Contractor may, without prejudice to any other rights or remedies it has, terminate the Contract by giving the Town ten days' written notice, during which time the Town may remedy the breach.

10.0 BONDS AND WARRANTY

10.1 Obligations to Provide Contract Security

- (a) The Contractor shall promptly provide to the Town the surety bonds called for in the Contract Documents, not later than ten days following receipt by the Contractor of the Contract award letter.
- (b) Such bonds shall be issued by a duly licensed surety company authorized to transact the business of surety ship in the Northwest Territories and shall be maintained in good standing until the fulfillment of the Contract. Any changes in the status or otherwise of Contract Security, shall be promptly issued to the Town, in writing.
- (c) Prior to or at the time of making a Claim under such bonds, the Town shall send written notification to the Contractor, stating the nature of the default for which a Claim is being made.

10.2 Prescription of Acceptable Contract Security

- (a) The Contractor shall deliver to the Town:
 - (i) a performance bond and a labour and material payment bond each in an amount that is equal to and not less than fifty percent of the Contract Price referred to in the Articles of Agreement, or
 - (ii) a security deposit in an amount that is equal to ten percent of the Contract Price referred to in the Articles of Agreement.
- (b) The performance bond and the labour and material payment bond referred to in GC 10.2(a)(i) shall be in a form as approved by the Federal Treasury Board (Federal Contracts).
- (c) A security deposit referred to in GC 10.2(a)(ii) shall be in a form of:
 - (i) "a letter of irrevocable guarantee" in a form authorized by the Town payable to the Town;
 - (ii) a certified cheque or bank draft from a bank acceptable to the Town and made payable to the Town.
- (d) The "letter of irrevocable guarantee" referred to in GC 10.2(c)(i) shall be held uncashed until fourteen days prior to its expiry date, unless the expiry date is extended for a further term, beyond the Contract Completion Date stated in the Articles of Agreement.

10.3 Return of Security Deposit

- (a) Following issuance of the certificate of Substantial Completion, the Town may, in its absolute discretion, release all or part of the security deposit referred to herein.
- (b) Following issuance of the certificate of Final Completion, the Contractor shall, subject to the terms of the Contract, be entitled to the remainder of any security deposit.
- (c) Interest shall not be paid on security deposits.

10.4 Warranty

- (a) The Contractor warrants and guarantees that the Work is free from all defects or deficiencies arising from faulty materials or workmanship in any part of the Work for the period of one year from the date of Substantial Completion of the Work, or such longer period as may be specified for certain products or Work.
- (b) The Contractor shall promptly correct, at his own expense, defects or deficiencies in the Work which appear prior to and during the warranty described in GC 10.4(a). The Contractor shall correct or pay for all damages resulting from corrections made under this provision, including the fees for Engineering Services related to the correction of such deficiencies, as well as an administration fee of 10% of the value of these services payable to the Town.
- (c) Work performed to correct defects or deficiencies shall be warranted for a period of one year from the day said work was completed.

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- (d) The Town or the Engineer shall promptly give the Contractor written notice of observed defects and deficiencies.
 - (e) If any defects or deficiencies in the Work appear at any time prior to the end of the warranty period, the Engineer may instruct the Contractor to search for the cause thereof. If such defect or deficiency is one for which the Contractor is liable, the cost of the Work carried out in searching shall be at the Contractor's expense, and he shall in such case remedy such defect or deficiency at his own cost, otherwise it shall be at the Town's expense.
 - (f) In an emergency or if the Contractor neglects for any reason to correct defects or deficiencies within a reasonable time, the Town may perform the Work or direct another party, on the Town's behalf, to do the Work. All costs associated with the correction of such defects or deficiencies shall be paid for by the Contractor and the Town may deduct such costs from amounts owing to the Contractor.

11.0 INDEMNIFICATION AND INSURANCE

11.1 Indemnification

- (a) The Contractor shall defend, indemnify and save harmless the Town and the Engineer, their agents and employees from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the Work, or by reason of any matter or thing done, permitted or omitted to be done, by the Contractor, his Subcontractors, or their agents or employees, whether occasioned by negligence or otherwise. Such indemnity shall survive completion or termination of the Contract.
- (b) Nothing contained in the Contract Documents or any approval, express or implied, of the Engineer or Town shall relieve the Contractor of any liability for latent defects or any liability which may be imposed by law.

11.2 Policies of Insurance

Without restricting the generality of GC 11.1, the Contractor shall provide, maintain and pay for the insurance coverages listed in this provision. Unless otherwise stipulated, the duration of each insurance policy shall be from the date of commencement of the Work until the date of issuance of the certificate of Final Completion. Prior to commencement of the Work, the Contractor shall provide the Town with confirmation of coverage in the format attached as Appendix A to these General Conditions, and, if required, a certified true copy of the policies certified by an authorized representative of the Insurer. The insurance coverages required are as follows:

- (a) **General Liability Insurance**

Contractor's comprehensive general or commercial general liability insurance shall have limits of not less than two million dollars per occurrence with a property damage deductible not exceeding two thousand five hundred dollars. The insurance provided shall be no less broad than the insurance provided by IBC Form 2100 or its equivalent replacement and shall include a standard non-owned automobile policy including a blanket contractual liability

endorsement. To achieve the required limit, umbrella or excess liability insurance may be used. All liability coverage shall be maintained for completed operations hazards from the date of Final Completion of the Work, as set out in the certificate of Final Completion, on an ongoing basis for a period of not less than six years from the date of such certificate. The policy shall be endorsed to provide the Town with not less than thirty days' written notice in advance of any cancellation, change or amendment restricting coverage.

(b) Automobile Liability Insurance

Automobile liability insurance in respect of licensed vehicles shall have limits of not less than two million dollars inclusive per occurrence for bodily injury, death, and damage to property and covering all licensed vehicles owned or leased by the Contractor, endorsed to provide the Town with not less than fifteen days' written notice in advance of any cancellation, change or amendment restricting coverage.

(c) Property and Boiler and Machinery Insurance

- (i) "All risks" property insurance shall be in the joint names of the Contractor, the Town and the Engineer, insuring not less than the sum of the amount of the Contract Price and the full value of all labour, plant, equipment and materials that are to be provided by the Town for incorporation into the Work, with a deductible not exceeding two thousand five hundred dollars. The insurance provided shall be no less broad than the insurance provided by IBC Form 4042 or its equivalent replacement. The policy will contain a waiver of rights of subrogation against all those insured by the policy. Such coverage shall be maintained continuously until the date the certificate of Final Completion is issued or an earlier date specified in writing by the Town.
- (ii) The policy will allow for partial or total use or occupancy of the Work. If because of such use or occupancy the Contractor is unable to provide coverage, the Contractor shall notify the Town in writing prior to such use or occupancy. In this eventuality the Town shall provide, maintain and pay for property and, if necessary, boiler insurance insuring the full value of the Work as in (i) above, including coverage for such use or occupancy and shall provide the Contractor with proof of such insurance. The Contractor shall refund to the Town the unearned premium applicable to the Contractor's policy upon termination of coverage.
- (iii) Where, due to the nature of the Work, the full insurable value of the Work is substantially less than the Contract Price, the Town may, at its sole discretion, reduce the amount of insurance required or waive the course of construction insurance requirement.
- (iv) Where such risks exist, the Contractor shall provide boiler and machinery insurance insuring not less than the replacement value of boilers, pressure vessels and other objects insurable under a boiler & machinery policy and forming part of the Work.
- (v) The policies shall provide that, in the event of a loss or damage, payment shall be made to the Town and the Contractor as their respective interests may appear. The Contractor shall act on behalf of the Town for the purpose of claiming the amount of loss or damage from 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 in

accordance with the terms of the Contract.

- (vi) The Contractor shall be responsible for deductible amounts under the policies except where such amounts may be excluded from the Contractor's responsibility in accordance with the Contract documents.

(d) **Aircraft and Water craft Liability Insurance**

Where such risks exist, the Contractor shall obtain aircraft and Water craft liability insurance with respect to owned or non-owned aircraft and Water craft if used directly or indirectly in the performance of the Work, including use of additional premises, and shall have limits of not less than two million dollars inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof, and limits of not less than two million dollars for aircraft passenger hazard. Such insurance shall be in a form acceptable to the Town. The policies shall be endorsed to provide the Town with not less than fifteen days' written notice in advance of any cancellation, change or amendment restricting coverage.

(e) **Contractor's Equipment Insurance**

The Contractor shall give proof of insurance in a form acceptable to the Town of "all risks" Contractor's equipment insurance covering construction machinery and equipment used by the Contractor for the performance of the Work, including boiler insurance on temporary boilers and pressure vessels. The insurance shall be in a form acceptable to the Town and shall not allow subrogate claims by the insurer against the Town. The policies shall be endorsed to provide the Town with not less than fifteen days' written notice in advance of cancellation, change or amendment restricting coverage.

(f) **Other Insurance**

The Contractor shall provide, maintain and pay for any additional insurance required to be provided by law, or which the Contractor considers necessary to cover risks not otherwise covered by insurance specified in the Contract Documents.

11.3 Insurance - General

- (a) All required insurance policies shall be with insurers licensed to underwrite insurance in the Northwest Territories and signed by representatives licensed to do so for insurance in the Northwest Territories.
- (b) The Contractor shall require and ensure that his Subcontractors maintain liability insurance comparable to that required above.
- (c) If the Contractor fails to provide or maintain insurance as required by this General Condition or elsewhere in the Contract Documents, then the Town shall have the right to provide and maintain such insurance and give evidence to the Contractor and the Engineer. The Contractor shall pay the cost thereof to the Town on demand or the Town may deduct the costs from monies which are due or may become due to the Contractor.

- (d) Where an insurer fails or refuses to pay any claims under an insurance policy covering the activities of the Contractor or a Subcontractor relating to or arising out of the Work, the Contractor shall not be released from any liability arising under the Contract.

END OF GENERAL CONDITIONS

CONTRACT DOCUMENTS

**TOWN OF FORT SMITH
SIDEWALKS AND CONCRETE WORKS 2026**

DIVISION 1 – GENERAL SPECIFICATIONS



Town of Fort Smith Sidewalks and Concrete Works 2026

1. WORK UNDER THIS CONTRACT

1. The work under this Contract consists of the following:
 - i. Removal and Disposal of the Existing Concrete sidewalk – shall include all materials, labour and equipment required to complete the Work. Also included are the removal, stockpile, load, haul, and disposal at the TOFS Landfill of the concrete material removed. Saw cutting will be included in all ties to existing concrete and asphalt
 - ii. Common Excavation & Sub-grade Preparation – shall include all materials, labour and equipment required to complete the work as per lines and elevations provided in the drawings. Also included are the excavation, stockpile, load, haul, and disposal of unsuitable material not used for embankment at the TOFS Landfill,
 - iii. Place and Compact Granular Base Material- shall include all materials, labour and equipment required to complete the Work. Also included are the load, haul and stockpile, the material excavated, placement, compaction, and final grading of imported 20mm minus granular base course material
 - iv. New Concrete Sidewalk and Driveway Crossing - shall include all materials, labour and equipment required to complete the Work. Also included are the load, haul and stockpile and disposal offsite of the material excavated.
 - v. New Retaining Wall and Removal of Existing Wooden Retaining - shall include all materials, labour and equipment required to complete the Work. Also included are the load, haul and stockpile and disposal offsite of the material excavated.

All work shall be in accordance with the terms of this Contract and built to the dimensions and specifications identified in the contract drawings.

2. WORK INCLUDED

1. The work, unless specifically stated otherwise, shall include the furnishing of all materials, equipment, products, labour, permits and transportation necessary to complete the work. The intent is that a complete job is called for.
2. The work shall include a detailed traffic control plan outlining the means and measures for controlling traffic at the various project sites. This plan shall be submitted to the Engineer for approval.

Town of Fort Smith Sidewalks and Concrete Works 2026

3. The work shall not be deemed complete until all items are placed in operation by the Contractor and are operating satisfactorily.
 4. Any work called for in specifications but not specifically mentioned as an item for which payment will be made, shall be considered necessary but incidental to the item of work for which prices are tendered and no additional payment will be made for this incidental work.
3. WORK BY OTHERS
 1. There is no work by others for this contract
 4. INCIDENTAL WORK
 1. When performing work adjoining property lines, Contractor is responsible for making good properties and roadways affected by his operations. All properties shall be restored to the state of the property at the beginning of contract work.
 2. Provide all approaches and road ties for transitioning between new sidewalk surfaces and existing road surfaces. This includes ties between parking lots and roadways.
 5. CONTINUITY OF ACCESS TO PROPERTIES
 1. When unavoidable disruption of vehicle access to properties is necessary, confirmation of access must be provided by the Engineer. Requests for access from the Contractor must be made 48 hours in advance to the Engineering in writing.
 6. SCHEDULE
 1. The contractor will schedule his work to be completed within the dates of May 15th and September 4th, 2026. The completion date for the work under this contract will be September 4th, 2026.
 2. Within one (1) week after award, the contractor will provide a schedule which will detail the work plan to meet the specified schedule. The schedule should be in the form of a Gant chart and detail each aspect of the work.

Town of Fort Smith Sidewalks and Concrete Works 2026

7. DOCUMENTS REQUIRED

1. Maintain at the job site at least one copy of each of the following:
 - Specifications
 - Addenda
 - Change Orders
 - Modifications to the Contract
 - Construction Schedule

8. SITE CONDITIONS

1. The Contractor should visit the site and examine existing conditions. Contractors may make subsurface investigations, but such investigations shall be performed only as directed by the Town or the Engineer. The Contractor shall be responsible for utility locations, restoration, and damage to any existing structures.

9. CONSTRUCTION SITE

1. The Contractor will provide the lands upon which the Work under this contract is to be done,
2. The Contractor is encouraged to provide temporary access as required for the public. The Contractor's attention is drawn to GC17 "Cooperation with other Contractors".

10. COORDINATION

1. Although these specifications set forth broadly the work of various trades under separate Divisions, it is not intended that the work of that trade is necessarily limited to nor inclusive of all work set forth in that Division. It shall remain the responsibility of the Contractor to delegate the extent and to subsequently coordinate the work of all trades to the end so that the combined work shall produce a complete and operating job.
2. Although the specifications are separated into titled divisions, the Engineer will not be an arbitrator to establish limits of any contracts between the Contractor and his subcontractors.

END OF SUMMARY OF WORK

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 GENERAL

1.1 Related Requirements

1.1.1 Record Documents

1.1.2 Owner's identification of existing survey control points and property limits.

1.2 Qualifications of Surveyor

1.2.1 Qualified construction surveyor employed directly by the Contractor and acceptable to Owner to track the volumes of materials produced. The Engineer will provide his own survey to confirm the volumes of materials produced.

2.0 ELEVATIONS AND LINES

2.1 Benchmarks, reference points and baselines, to be used as a datum for all other elevations and line, will be set by the Engineer. Establish all other required lines and grades from the Engineer's reference points.

2.2 One (1) set only of benchmarks, baselines or reference points will be established for any one stretch of line.

2.3 Baselines will be established along the length of the work area at ten (10) metre stations.

2.5 Do not disturb reference points. Contractor will be responsible for resetting if displaced or removed.

2.6 Give forty-eight (48) hours notice of need for reference points and ensure that line for reference points has been cleared.

2.7 Supply all stakes, batter boards, pins, templates, flagging, etc. required for the Work.

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3.0 SURVEY REFERENCE POINTS

- 3.2 Locate, confirm, and protect control points. Preserve permanent reference points during construction.
- 3.3 Make no changes or relocations without prior written notice to the Engineer.
- 3.4 Report to Engineer when a reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations.

4.0 RECORDS

- 4.1 The Contractor will maintain a complete, accurate log of control and survey work as it progresses.

5.0 SUBSURFACE CONDITIONS

- 5.1 Promptly notify the Engineer, in writing, if subsurface conditions at the place of the Work differ materially from those indicated, or a reasonable assumption of probable conditions based thereon.
- 5.2 After investigation, should the Engineer determine that the conditions do differ materially, instructions will be issued for changes in the Work as provided in agreed upon Change Order procedures in Section 01055.

END OF FIELD ENGINEERING

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 SITE CONDITIONS/LIMITS

1.1 Examination of Site

- 1.1.1 Prior to commencing actual construction work, inspect field conditions, obtain, and confirm actual site dimensions, examine surface conditions as required to ensure correct execution of the Work.
- 1.1.2 Commencement of construction constitutes acceptance of existing conditions and means dimensions have been considered, verified and are acceptable.
- 1.1.3 Recording of existing conditions: If rock removal, blasting or construction activities may interfere with properties take photographs to record existing conditions and review with Engineer before construction is started.

2.0 DOCUMENTS/INSTRUCTIONS

2.1 Documents Provided

- 2.1.1 The Engineer will provide, without charge, as many copies of the Contract Documents or parts thereof as are reasonably necessary for the performance of the Work.

2.2 Discrepancies/Omissions

- 2.2.1 Notify the Engineer immediately upon discovery of discrepancies or omissions in the Contract Documents or of any doubt as to the meaning or intent of any part thereof.

2.3 Documents on the Site

- 2.3.1 Maintain one copy of all current Contract Documents and all shop drawings on site, in good order and available to the Engineer or his representatives.
- 2.3.2 This requirement does not include the executed Contract Documents.

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3.0 CHANGES TO THE WORK

- 3.1 Refer to General Conditions.
- 3.2 Addendum: issued prior to Tender closing to provide for certain revisions as noted therein. All such revisions will become part of the Contract and the effects shall be included in the Tender Price. All work shall be performed in accordance with the Contract Documents.
- 3.3 Contemplated Change Notice (CCN): issued after award of Contract, does NOT constitute an order to perform the change but is a notice of a proposed change only. Submit to the Engineer within seven (7) days after receipt of "Contemplated Change Notice" a statement of cost adjustments and effect upon construction schedule required by the proposed change. Itemize statement in accordance with all items separately listed.
- 3.4 Field Instructions: A field instruction is used to clarify specific items or give additional instructions which will not affect the Contract Price nor the Contract Time. If it does involve extra costs the matter will be dealt with through an emergency Field Order or a CCN.
- 3.5 Field Order (FO): during Construction, the Engineer may issue a Field Order to authorize a change or additional work of an emergency nature. A firm total cost (extra or credit) or a method for determining this cost must be included (unit price, cost plus or time basis).
- 3.6 Change Order (CO): after receipt of the statement of cost adjustment and Owner's approval of same, the Engineer will issue a "Change Order" in the amount of the approved cost adjustment which will authorize the Contractor to proceed with the change to the Work, or alternatively will notify the Contractor that the proposed change is cancelled.

END OF SITE CONDITIONS AND INSTRUCTIONS

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 PERMITS/INSPECTIONS

- 1.1 The Contractor shall obtain and pay for all permits, licenses, certificates and governmental inspections required for the performance of the Work in force at the Tender closing date.
- 1.2 Should a utility company require an inspector (or the utility company personnel) to be present during any part or parts of construction; the Contractor shall pay for inspector's time and any related expenses.
- 1.3 Give all required notices and comply with all local, territorial and federal laws, ordinances, rules, regulations, codes and orders relating to the Work, which are or become in force during the performance of the Work.

2.0 APPLICABLE CODES/STANDARDS

- 2.1 Where specified codes/standards are not dated, conform to latest issue of specified codes/standards as amended and revised to the Tender closing date.
- 2.2 Confine apparatus, the storage of Products and the operations of workers to limits indicated by laws, ordinances, permits and by directions of the Engineer. Do not unreasonably encumber the premises with Products.

3.0 SAFETY

- 3.1 Observe and enforce all construction safety measures required by code, Workers' Compensation Board, The Northwest Territories Safety Act, General Safety Regulations and all applicable statutes. Appoint a suitably qualified employee who has sole responsibility on site on behalf of the Contractor, for compliance with the requirements and so advise the Owner in writing with a copy to the Engineer.
- 3.2 In the event of discrepancy between such provisions, the most stringent provision shall apply.
- 3.3 Employ a qualified specialty Engineer for the design of all shoring and falsework for the temporary supports of all structural elements, earth banks, roads, etc.
- 3.4 Make available four (4) "Visitor safety helmets" for authorized visitors.
- 3.5 The burning of refuse is strictly forbidden.
- 3.6 If "NO SMOKING" regulations are in effect in areas of the Work, ensure that all workers comply with the regulations.

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- 3.7 Ensure that all workers comply with the Owner's safety regulations where such regulations are in effect.
 - 3.8 Do not load or permit to be loaded any part of the Work with a weight, load or force that will exceed the design load and/or endanger its safety.
 - 3.9 Provide dedicated flagmen when working in residential areas to guide equipment and pedestrian traffic.
- 4.0 CLEANING OF STREETS
- 4.1 Conform to local ordinances and by-laws relating to littering of streets.
 - 4.2 Take precautions to prevent depositing mud or debris on public or private roadways adjacent to the Work. Clean up immediately, otherwise the Engineer will direct necessary cleanup with all costs back charged to the Contractor.
- 5.0 WORKING LIMITS/TEMPORARY EASEMENTS
- 5.1 Confine all operations within the Owner's property limits.
 - 5.2 Arrange for encroachment on areas beyond property lines separately with the property owners.
 - 5.3 Obtain consent of adjoining property owners regarding need for any temporary easements or any other encroachments. Upon completion of Contract, make good any damage to adjacent property.
- 6.0 EXISTING UTILITIES
- 6.1 Conform to Territorial and Municipal regulations during construction in proximity to utility structures.
 - 6.2 Make arrangements with utility companies and municipal department for protection of pipelines, conduits, drain lines, wiring and other structures, whether underground, on the surface or overhead, and satisfy the company or department that the methods or operations are effective. Pay any inspection charges for utility company inspectors if inspection of work is deemed necessary by utility company.

END OF REGULATORY REQUIREMENTS

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 GENERAL

- 1.1 The Town of Fort Smith will have the Project Manager and/or the Resident Engineer in attendance. The Contractor shall have in attendance the Superintendent, the Project Manager and representatives of the subcontractors if requested by the Engineer.
- 1.2 The Town of Fort Smith representative will chair, record discussions and decisions and circulate the minutes to all parties concerned.

2.0 PRECONSTRUCTION MEETING

- 2.1 A preconstruction meeting will be arranged within seven (7) days by the Town of Fort Smith after the Contract is awarded.
- 2.2 Agenda to include the following:
 - i. Appointment of official representatives of participants in the work.
 - ii. Schedule of the work.
 - iii. Requirements for temporary facilities, plant site, site sign, offices, storage sheds, utilities, fences.
 - iv. Delivery schedule of specified equipment.
 - v. Site security.
 - vi. Change orders, procedures, approvals required, time extensions, overtime, administrative requirements.
 - vii. Holdbacks, release of holdbacks, certificate of substantial completion, certificate of final completion, warranty.

3.0 PROGRESS SITE MEETINGS

- 3.1 Progress meetings will be held on a regular bi-weekly basis or more frequently if requested by the Town of Fort Smith.
- 3.2 Accommodation for progress meetings shall be provided by the Town.
- 3.3 The Town of Fort Smith will give to all parties advance notice of meeting dates, times and locations.
- 3.4 The Town may have a representative in attendance.
- 3.5 Minutes will be taken by the Town of Fort Smith and copies will be distributed to attendees.

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- 3.6 Agenda for the progress meeting to include the following:
- i) Review and approval of minutes of previous meetings.
 - ii) Review of work progress since previous meeting. Contractor to submit weekly activity/progress report.
 - iii) Field observations, problems conflicts, construction schedule.
 - iv) Corrective measures and procedures to regain projected schedule.
 - vi) Quality Control
 - vii) Pending changes and substitutions.

END OF PROJECT MEETINGS

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 SHOP DRAWINGS

- 1.1 All Shop Drawings shall be accurately drawn to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work.
- 1.2 Unless otherwise specifically directed by the Engineer, make all Shop Drawings prints in blue or black on white background.
- 1.3 Submit 3 (3) copies of all Shop Drawings.

2.0 RECORD DRAWINGS

- 2.1 After award of Contract the Engineer 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 Engineer. Update daily.
- 2.2 Identify drawings as "Project Record Copy". Maintain in good condition and make available for inspection on site by Engineer at all times.
- 2.3 Not less than two (2) weeks prior to application for a Certificate of Substantial Performance, submit record drawings to Engineer for review.

3.0 PHOTOGRAPHS AND PUBLICITY

- 3.1 No photographs of the site or of any portion of the Work will be permitted without prior approval of the Engineer.
- 3.2 No press or publicity releases will be permitted without prior approval of the Engineer.

4.0 CERTIFICATES AND TRANSCRIPTS

- 4.1 Immediately after award of Contract and prior to final payment submit Workers' Compensation Board status and Transcript of insurance.

END OF SUBMITTALS

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 SCHEDULE

- 1.1 Within seven (7) days after acceptance of Tender, prepare and submit a schedule for review to the Engineer.
- 1.2 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 Engineer.
- 1.3 All orders for materials shall be placed in ample time for adherence to the schedule.
- 1.4 Prepare definitive schedules for the following specific items:
 - Schedule of mobilization
 - Schedule of construction phases
 - Schedule of Demobilization

2.0 MANPOWER/OVERTIME

- 2.1 Should the Work fail to progress according to the approved progress schedule, work such additional time (including weekends and holidays), employ additional workers, or both, as may be required to bring the Work back on schedule, at no additional cost to the Owner.
- 2.2 Night work will be permitted only with written permission of the Engineer and in accordance with existing municipal regulations. Provide sufficient lighting to permit night work to be performed safely and satisfactorily.

3.0 PROPERTIES AFFECTED BY THE WORK

- 3.1 Advise, in writing, all affected stakeholders of the expected time and location of construction.
- 3.2 Should the schedule change significantly, advise, in writing, all affected stakeholders as to the new schedule.
- 3.3 Written notices to affected stakeholders shall include telephone numbers to call 24 hours per day.

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4.0 PROGRESS REPORTS

- 4.1 Maintain an accurate record of the progress of Work. Submit weekly reports to the Engineer.
- 4.2 The reports shall state dates of commencement and percentage of work completed for the different parts of the Work and include particulars regarding daily weather conditions, number of workers for each trade, percentage of work completed weekly and shall relate to the Schedule.

END OF SCHEDULES AND PROGRESS REPORTS

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 ENGINEER'S INSPECTIONS

- 1.1 The Engineer may inspect and test materials and the work, for conformance with the design intent; however the Engineer does not undertake to check the quality of the work on behalf of the Contractor.
- 1.2 Inspections and tests by the Engineer do not relieve the Contractor of his responsibility to supply materials and perform the work in accordance with the requirements of the Contract Documents.

2.0 INSPECTION AND TESTING OF WORK

2.1 Laboratories/Agencies

- 2.1.1 Independent Inspection/Testing Agencies will be engaged by the Engineer for the purpose of inspecting and/or testing portions of the Work. All costs of such services will be borne by the Engineer.
- 2.1.2 All equipment required for carrying out inspection and/or testing will be provided by the respective Agencies.
- 2.1.3 Employment of Inspection/Testing Agencies in no way relieves the Contractor of responsibility to perform the Work in accordance with the Contract Documents.
- 2.1.4 Allow the Inspection/Testing Agencies access to all portions of the Work on site and manufacturing or fabrication plants, as may be necessary. Provide facilities for such access.

2.2 Design Standards, Code Requirements

- 2.2.1 Inspection and/or testing will be performed in accordance with the following:
 - 2.2.1.1 ASTM D698 Standard Proctor for compacted fill.
 - 2.2.1.2 AIT Alberta Infrastructure and Transportation
 - 2.2.1.3 AASHTO American Association of State Highway and
Transportation Officials

2.3 Tests and Mix Design

- 2.3.1 30 days prior to commencement of the Work, the Contractor, shall submit to the Engineer the following, which are inclusive to the work:
 - Test results and mix designs, reviewed and bear the seal of an Engineer registered in the NWT, for the Redi Mix Concrete.

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- Quality Control Plan, reviewed by an Engineer registered in the NWT, for the Production and Placement of Redi Mix Concrete.

2.3.2 Inspections and tests performed by the Contractor to ensure the performance of the work in accordance with the requirements of the Contract Documents will be provided to the Engineer within 48 hours of from time of sampling.

3.0 PROCEDURES

- 3.1 Notify the Engineer well in advance of the requirements for tests in order that necessary arrangements can be made.
- 3.2 Submit samples and/or materials required for testing with reasonable promptness so as to cause no delay in the Work.
- 3.3 Provide facilities to allow inspection and/or testing and make available space for storage and curing of the test samples.
- 3.4 If defects are revealed during inspection and/or testing the Engineer may issue instructions for removal or correcting defective work and irregularities. The Contractor shall notify the Engineer within two (2) working days if such instructions are in error or at variance with the Contract Documents.
- 3.5 Refer to General Conditions GC 3.20 for "Defective Work".
- 3.6 Costs for re-inspection and/or testing of rejected work shall be borne by the Contractor.

4.0 REFERENCE STANDARDS

- 4.1 Within the text of the specifications reference may be made to the following standards:

ASTM	American Society for Testing and Materials
CGSB	Canadian Government Specification Board
CSA	Canadian Standards Association
NBC	National Building Code
CCiL	Canadian Council of independent Laboratories

Conform to such standards, in whole or in part, as specified.

- 4.2 If there is question as to whether any product or system is in conformance with applicable standards, the Engineer reserves the right to have such products or

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systems tested to prove or disprove conformance. The cost for such testing will be borne by the Owner in the event of conformance with Contract Documents or by the Contractor in the event of non-conformance.

- 4.3 Where specified standards are not dated, conform to latest issue of specified standards as amended and revised to the Tender closing date.

5.0 FREQUENCY OF TESTS

- 5.1 The Engineer will undertake testing on the basis of the following:

5.1.1 Redi Mix Concrete: Each Days Production, Every 25m³ placed. Fresh Property Testing will include Slump, Air, Temperature and Cylinder Casting (Set of 4). Compressive strength tests will be done at 7day, 2x28 day with 1 cylinder for spare.

5.1.2 Granular base and sub-grade compaction testing will be done every 50m on the newly placed and compacted 20mm minus granular material. Sub-grade compaction testing will be done every 50m on the existing sub-grade

- 5.2 Engineer may arrange extra tests where appropriate.

END OF QUALITY OF WORK

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1.0 FIELD OFFICES AND SHEDS

1.1 Contractor's Office

1.1.1 The Contractor may, at his discretion, provide and maintain in clean condition during entire progress of the Work, a suitable office adequately lighted, heated and ventilated, for own use.

1.1.2 Location of the office will be the responsibility of the Contractor.

1.1.3 Provide space adequate for first aid facilities as recommended by the N.W.T. Safety Division and Worker's Compensation regulations.

1.2 Subcontractors' Offices

1.2.1 Subcontractors are to provide own offices as necessary. Locate where directed by Engineer.

1.3 Equipment and Tool Storage

1.3.1 Provide and maintain in a clean and orderly condition adequate lockable storage sheds for tools and equipment.

2.0 UTILITIES

2.1 Sanitary Facilities

2.1.1 Provide sanitary facilities for workers in accordance with local health authorities. Maintain facilities in clean and tidy condition.

2.2 Temporary Heating

2.2.1 Provide all temporary heating required during construction period, including attendants, maintenance and fuel. Maintain temperatures of minimum 10°C in all areas in which construction is in progress, unless indicated otherwise in specifications. Properly ventilate all heated areas.

2.2.2 Provide exhaust vents to the exterior for all temporary heaters.

2.2.3 Pay for all costs in maintaining and providing temporary heat.

2.2.4 Be responsible for any damages to the Work due to failure in providing adequate heat and protection during construction.

2.3 Temporary Telephone

2.4.1 Provide and pay for temporary telephones necessary for own use.

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- 2.4.2 Make own telephone available for use by all Subcontractors engaged for the purpose of placing and receiving calls.
 - 2.4.3 Long distance calls made by the Engineer will be paid by the Engineer.
- 2.4 Welding Machines and Air Compressors
- 2.5.1 Welding machines and air compressors required for performance of the Work are to be the responsibility of the respective users.
- 2.5 Gas Welding Apparatus
- 2.6.1 Gas welding apparatus required for performance of the Work is to be the responsibility of the respective user.
- 2.6 Dewatering
- 2.7.1 Provide temporary drainage and pumping facilities as necessary to keep excavations and site free from water at all times.
 - 2.7.2 Do not discharge drainage water into Municipal sewers or across adjacent properties without written approval.
 - 2.7.3 Do not discharge drainage water containing silt in suspension into sewage lines.
- 3.0 CONSTRUCTION AIDS
- 3.1 Temporary Retaining Walls
- 3.1.1 Provide temporary sheeting, piling or shoring as required to protect excavations, and trenches from damage caused by rain water, ground water and other soil and weather conditions. Erect in a manner which will not encumber the performance of the Work.
- 3.2 Ladders, Stairs
- 3.2.1 Provide and maintain adequate temporary ladders and stairs required for construction and for safe access to deep excavations.
 - 3.2.2 Ladders and stairs are to comply with all requirements of safety authority.

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4.0 ROADS

4.1 Access to Site

- 6.1.1 Provide and maintain access roads, ramps and construction runways as required for access to and on site.

4.2 Traffic

- 4.2.1 Provide and maintain signage and barricades necessary to direct traffic around routes blocked by construction. TAC standards shall be followed as a guideline.

4.2.2 Detour routes will be as directed by the Town.

4.2.3 Type and size of detour signage must be approved by Engineer.

4.2.4 The Contractor must provide seven (7) days notice, to all businesses and residents in the area to be affected by detours and road closures, in advance of all planned disruptions to access. Notice must be given in writing.

4.2.5 Procedure for effecting public traffic flow disruption shall be as follows:

4.2.5.1 Contractor shall propose method of traffic signage and control to Engineer.

4.2.5.2 Engineer shall review proposal and, when satisfied, make recommendation to the Town.

4.2.5.3 The Town shall approve, modify or reject the proposal.

4.2.5.4 Once proposal is approved, the Town will arrange radio advertisements, and advise the Fire Department, Municipal Enforcement and the RCMP of the traffic control methods the Contractor will follow.

4.2.5.5 The Contractor shall affect the detour and/or public traffic flow disruption on the day following the radio advertisements.

4.2.6 The Contractor shall assign a representative on the site to oversee barricades, signing and traffic control.

4.2.7 The Town of Fort Smith may allow the closure of portions of the roadways affected by the proposed work for construction purposes. The Town may require that only one of these streets shall be closed at any one time. Local traffic to apartments, businesses and houses shall be maintained.

The Contractor shall schedule his work such that only one (1) intersection is closed to vehicle traffic at any one time. Roadway closures require the Fire Chief's approval.

Town of Fort Smith Sidewalks and Concrete Works 2026

5.0 PROTECTION OF WORK AND PROPERTY**5.1 Protection for Off-Site and Public Property**

5.1.1 Protect surrounding private and public property from damage during the performance of the Work.

5.1.3 Be responsible for all damages incurred due to improper protection.

5.2 Fire Protection

5.2.1 Provide and maintain adequate temporary fire protection equipment during performance of the Work as required by insurance companies having jurisdiction, and local and/or territorial governing codes, regulations, and bylaws.

5.2.2 Handle gasoline and like combustible materials with good, safe practice.

5.2.3 Remove combustible debris from site daily. Open fires and burning of rubbish are not permitted on the site.

5.3 Protection of Adjacent Property

5.3.1 Provide adequate protection adjacent property and equipment during the performance of the Work. Provide necessary screens, covers, hoardings, etc. as required. Be responsible for all damages incurred due to improper or lack of protection.

5.4 Snow Removal

5.4.1 Remove snow and ice from access roads, parking areas, office and storage areas.

5.4.2 Remove snow and ice from building surfaces as necessary for construction.

6.0 SECURITY**6.1 Temporary Site Lighting**

6.1.1 Provide and pay for temporary site lighting, if required, for night time work. Install lamps in suitable locations to obtain unobstructed light over the entire site.

Town of Fort Smith Sidewalks and Concrete Works 2026

- 6.1.2 Perform daily inspection of temporary site lighting and replace burned out and missing lamps. Relocate promptly any lights that become obstructed by new work.
- 6.1.3 Provide and pay for temporary power required during construction, for temporary lighting and the operating of power tools.

6.2 Security

- 6.2.1 Where necessary, provide and pay for responsible security personnel to guard the site and contents on site after working hours, on weekends, and during holidays. Allow security personnel access to sanitary facilities, telephone and warm weatherproof shelter.

7.0 PROJECT CLEANLINESS

- 7.1 Maintain the Work in tidy condition, free from accumulation of waste products and debris, other than that caused by the Owner or other Contractors.
- 7.2 Remove waste material and debris from the site at the end of each working day.

8.1 WARNING AND TRAFFIC SIGNS

- 8.2.1 When Work is performed within public areas, provide and erect adequate warning and traffic signs as necessary to give the public and traffic proper warning. Place signs sufficiently in advance to enable the public and traffic to respond to directions.
- 8.2.2 Warning and traffic signs shall be illuminating type, visible to the public and traffic during nighttime hours.

END OF CONSTRUCTION FACILITIES

Town of Fort Smith Sidewalks and Concrete Works

1.0 PRODUCTS

1.1 Quality of Products

- 1.1.1 Provide new materials, equipment and articles incorporated in the Work, not damaged or defective and of the best quality (compatible with specifications) for the purpose intended. If requested furnish evidence as to type, source and quality of products provided.
- 1.1.2 Defective materials, equipment and articles whenever found may be rejected regardless of previous inspection. Inspection by the Engineer 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.
- 1.1.3 Should any dispute arise as to the quality or fitness of materials, equipment or articles, the decision rests strictly with the Engineer based upon the requirements of the Contract Documents.

1.2 Transportation Costs of Products

- 1.2.1 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.
- 1.2.2 Transportation costs for products supplied by the Owner will be paid by the Owner. Be responsible for unloading, handling and storage of such products unless specified otherwise.

2.0 WORKMANSHIP

2.1 General Requirements

- 2.1.1 Workmanship is to be of the best quality, executed by workers fully experienced and skilled in their respective trades.
- 2.1.2 At all times enforce discipline and good order among workers. Do not employ any unfit person or anyone unskilled in the duties assigned to him. The Engineer reserves the right to require the removal from site of workers deemed incompetent, careless, insubordinate or otherwise objectionable.
- 2.1.3 Decisions as to the quality of or fitness of workmanship in cases of any dispute rest solely with the Engineer whose decision is final.

Town of Fort Smith Sidewalks and Concrete Works

2.2 Co-ordination

2.2.1 Co-ordinate the work of all Subcontractors.

2.2.2 Ensure that all Subcontractors examine the drawings and specifications for other parts of the Work which may affect the performance of their work.

2.3 Protection of Work in Progress

2.3.1 Adequately protect all work completed and in progress. Repair or replace all damaged work.

2.3.2 Prevent overloading of any part of the Work.

2.4 Cleaning

2.4.1 Remove waste materials and debris from the site at regular intervals. Do not burn waste materials and debris on site.

3.0 MEASUREMENT

3.1 Metric Project

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

3.1.2 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.

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

END OF PRODUCTS AND WORKMANSHIP

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 RELATED REQUIREMENTS

- 1.1 General Conditions of the Contract: fiscal provisions, legal submittals and other administrative requirements.

2.0 FINAL CLEANING

- 2.1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining Work.
- 2.2 Remove waste products and debris and leave the Work clean and suitable for occupancy by any stakeholders.
- 2.3 When the Work is Totally Performed, remove surplus products, tools, construction machinery, equipment, waste products and debris.
- 2.4 Leave the Work room clean before the final inspection process commences.
- 2.5 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- 2.6 Sweep and wash clean site paved areas and sidewalks.

3.0 DOCUMENTS

- 3.1 Collect reviewed submittals (Section 01300) and assemble documents executed by Subcontractors, Suppliers and Manufacturers.
- 3.2 Submit material prior to final Application for Payment. For equipment put into use with Owner's permission during construction, submit within ten (10) days after start-up.
- 3.3 Provide bonds fully executed and notarized.
- 3.4 Execute transition of Performance and Labour and Materials Payment Bond to warranty period requirements.
- 3.5 Submit a final statement of accounting giving total adjusted Contract Sum, previous payments and monies remaining due.
- 3.6 Engineer will issue a final change order reflecting approved adjustments to Contract Sum not previously made.

4.0 REMOVAL OF TEMPORARY FACILITIES

- 4.1 Prior to application for Certificate of Substantial Performance, remove all temporary offices and furniture, hoardings, fencing, tree and plant protection and all other items used to aid the performance of the Work. Make good surfaces and features to original condition or better.

Town of Fort Smith Sidewalks and Concrete Works 2026

5.0 PROJECT COMMISSIONING

- 5.1 Expedite and complete deficiencies and defects identified by the Engineer.
- 5.2 Review cash and contingency allowances in relation to contract prices, change orders, retainage, holdbacks and other contract price adjustments.
- 5.3 Submit required documentation such as statutory declarations, Workers' Compensation Certificates, warranties, certificates of approval or acceptance from regulating bodies.
- 5.4 Review inspection and testing reports to verify conformance to the intent of the documents and those changes, repairs or replacements have been completed.
- 5.5 When partial use of uncompleted project is required by the Owner, coordinate Owner's uses, requirements, access, with Contractor's requirements to complete the Project.
- 5.6 Coordinate Owner's initiating use of system with Contractor's and Subcontractor's cleaning-up and completion activities all to suit Owner's work schedule and not disrupt Owner's productivity.

6.0 INSPECTION/TAKEOVER PROCEDURES

- 6.1 Prior to application for certificate of Substantial Performance, carefully inspect the Work and ensure it is complete, that major and minor construction deficiencies are complete and/or corrected. Notify the Engineer in writing, of satisfactory completion of the Work and request a final inspection.
- 6.2 During the final inspection, a list of deficiencies and defects will be tabulated and submitted to the Owner and Contractor.
- 6.3 When the Engineer considers deficiencies and defects have been corrected and it appears all requirements of the Contract have been performed, make application for final payment. Refer to General Conditions for specifics to application.

END OF CONTRACT CLOSEOUT

CONTRACT DOCUMENTS

**TOWN OF FORT SMITH
SIDEWALKS AND CONCRETE WORKS 2026**

DIVISION 2 – TECHNICAL SPECIFICATIONS



Town of Fort Smith Sidewalks and Concrete Works 2026

1 General**1.1 RELATED SECTIONS**

1.1.1 Excavation, Backfilling and Compaction Section 02315

1.2 SUMMARY

1.2.1 Requirements for demolishing, salvaging and removing wholly or in part, various items designated to be removed or partially removed and for backfilling resulting trenches, holes and pits.

1.3 SCOPE

1.3.1 The demolition work in this Bid package includes, but is not limited to the following:

1.3.1.1 Removal of existing concrete sidewalks and asphalt by means of saw cutting. Also included is the loading, hauling and disposal of the existing concrete sidewalks and asphalt off site as directed by the Engineer. Haul distance shall be equivalent to the distance from each project site to the local community landfill.

1.3.1.2 Removal of existing culverts. Also included is the loading, hauling and disposal of the existing culverts off site as directed by the Engineer. Haul distance shall be equivalent to the distance from each project site to the local community landfill

1.3.1.3 Removal of existing over burden and organic soil not suitable for backfill or sub grade. Also included is the loading, hauling and disposal of the existing soil materials as directed by the Engineer. Haul distance shall be equivalent to the distance from each project site to the local community landfill

1.4 REFERENCES

1.3.2 CSA S350-M1980 (R2003), "Code of Practice for Safety in Demolition of Structures."

1.5 QUALITY ASSURANCE

1.5.1 Conform to Provincial Occupational Health and Safety Act and Regulations there under.

1.5.1 Conform to Workers' Safety and Compensation Commission Regulations.

1.5.2 Conform to local bylaws and regulations governing this type of work.

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- 1.5.3 Conform to CSA S350, "Code of Practice for Safety in Demolition of Structures".
- 1.6 SCHEDULING
 - 1.6.1 Contractor shall schedule his Work and sequence of operations in coordination with Town and Engineer.
- 1.7 SITE CONDITIONS
 - 1.7.1 Examine site carefully and note exact extent and nature of existing elements involved in demolition Work.
 - 1.7.2 The Contractor shall notify the Town and Engineer in writing immediately upon discovery of asbestos or other hazardous building products and shall cease all demolition work in affected areas until further directed by Town and Engineer.
- 1.8 STORAGE AND PROTECTION
 - 1.8.1 Perform all work in accordance with Section 01010 – Summary of Work and Section 01535 – Construction Facilities.
 - 1.8.2 Protect existing items designated to remain and items designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Engineer and at no cost to Town.
 - 1.8.3 In all circumstances ensure that demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
 - 1.8.4 Do not dispose of waste of volatile materials such as, mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers. Ensure proper disposal procedures are maintained throughout the project.
 - 1.8.5 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers or onto adjacent properties.
 - 1.8.6 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authorities.
 - 1.8.7 Protect trees, plants and foliage on site and adjacent properties where indicated.
- 1.9 EXISTING CONDITIONS
 - 1.9.1 Prior to the start of any demolition work, remove contaminated or hazardous materials as defined by authorities having jurisdiction as directed by Engineer from site and dispose of at designated disposal

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facilities in safe manner in accordance with TDGA and all other applicable regulatory requirements.

1.10 REGULATORY REQUIREMENTS

1.10.1 Ensure all work is performed in compliance with all applicable provincial regulations.

1.11 PROTECTION

1.11.1 Protect existing items designated to remain and materials designated for salvage. In event of damage, immediately replace such items or make repairs to approval of Engineer and at no additional cost to Town.

2 Products

2.1 DEBRIS

2.1.1 Make all arrangements for transport and disposal of all demolished materials from site.

2.2 EQUIPMENT

2.2.1 Provide all equipment required for safe and proper selective demolition of building components.

2.3 SALVAGEABLE MATERIAL

2.3.1 Salvage materials on site for re-use as directed by Engineer or indicated on Drawings.

3 Execution

3.1 PREPARATION

3.1.1 Inspect site and verify with Engineer items designated for removal and items to be preserved.

3.1.2 Locate and protect utility lines. Preserve in operating condition active utilities traversing site.

3.1.3 Notify utility companies before starting demolition.

3.2 REMOVAL

3.2.1 Remove items indicated.

3.2.2 Do not disturb adjacent items designated to remain in place.

3.2.3 In removal of pavements, curbs and gutters:

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- 3.2.3.1 Square up adjacent surfaces to remain in place by saw cutting or other approved method.
- 3.2.3.2 Protect adjacent joints and load transfer devices.
- 3.2.3.3 Protect underlying granular materials.
- 3.2.4 When removing pipes under existing or future pavement area, excavate at least 300 mm below pipe invert.
- 3.3 SEALING
 - 3.3.1 Seal pipe ends and walls of manholes or catch basins where indicated or directly by Engineer. Securely plug to form a watertight seal.
- 3.4 DISPOSAL OF MATERIAL
 - 3.4.1 Dispose of materials not designated for salvage or reuse in work off site.
- 3.5 BACKFILL
 - 3.5.1 Backfill in accordance with Section 02315.
- 3.6 RESTORATION
 - 3.6.1 Upon completion of Work, remove debris, trim surfaces and leave work site clean.
 - 3.6.2 Reinstate areas and existing works outside areas of demolition to match condition of adjacent, undisturbed areas.

END OF SITEWORK DEMOLITION AND REMOVAL
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1. GENERAL

- 1.1.1 Contact all required utility companies prior to commencing work and become informed of the exact location of utilities. Protect utilities during the contract and assume liability for damage to utilities.
- 1.2 Notify Engineer if any utility lines have been omitted from the drawings.
- 1.3 Where existing overhead line poles are adjacent to the work temporarily support them as required to the approval of the engineer and the Utility company concerned.
- 1.4 Protect any buildings adjacent to the work. Restore and make good any damage.
- 1.5 Protect any benchmarks, reference lines and points and notify the engineer if any are disturbed or destroyed. The cost of restoration or replacement is the Contractor's responsibility.

2. LINES OF WORK

- 2.1 The Contractor shall ensure that employees and equipment stay within the lines of work.
- 2.2 The Town will provide the stake out or marking required to clearly show the lines of work.

3. TRAFFIC PROVISION

- 3.1 Provide and maintain any roadways needed for access during the contract.
- 3.2 Ensure that minimum disruption to existing buildings is caused by this contract.

4. SITE CLEARING

- 4.1 Remove trees, shrubs, roots, vegetation and nay large surface rock or other obstruction within the lines of the work.
- 4.2 Cut and salvage all trees with a diameter of 140 mm. or greater within the lines of the work. The wood shall be cut into lengths not exceeding 1.83 m. and neatly stacked
- 4.3 All brush and stumps shall be removed either by burning or by hauling to a location designated by the Town and no greater than the distance from the construction site to the local landfill.

END OF SITE CLEARING AND GRUBBING

1.0 GENERAL

1.1 Related Work Specified Elsewhere

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|-------|---------------------------|---------------|
| 1.1.1 | Granular Base Preparation | Section 02317 |
| 1.1.2 | Aggregates; General | Section 02701 |

1.2 Definitions

- 1.2.1 Top soil: material capable of supporting good vegetation growth and suitable for use in top dressing, landscaping and seeding.

1.3 Protection

1.3.1 Existing Buried Utilities:

- 1.3.1.1 Size, depth and location of existing utilities as indicated are for guidance only; completeness and accuracy are not guaranteed.
- 1.3.1.2 Prior to commencing any excavation work, notify applicable utility authorities; establish location and state of use of buried services. Clearly mark such locations to prevent disturbance during work.
- 1.3.1.3 Confirm locations of buried utilities, if necessary or where ordered, by careful test excavations.
- 1.3.1.4 Maintain and protect from damage, water, sewer, electric, telephone and other utilities encountered.
- 1.3.1.5 Obtain direction of owner of utility and Engineer before moving or otherwise disturbing utility.

1.3.2 Existing Surface Features:

- 1.3.2.1 Protect existing buildings, trees and other plants, lawns, fencing, poles, wires, sidewalks, curbs, bench marks, paving and other surface features located within right-of-way or adjoining properties from damage while work is in progress and repair damage resulting from work. Excavations are not to encroach on normal 45° bearing support under any foundation.
- 1.3.2.2 Avoid disturbing roots of trees to remain. If excavation through roots is required, excavate by hand and cut roots cleanly.
- 1.3.2.3 Avoid disturbing trees to remain. If pruning is necessary, make cuts clean, smooth and slanted. Apply tree paint on all wounds.
- 1.3.2.4 Define service routing on private property with the Engineer to preserve existing trees, where necessary.

1.3.3 Shoring, Bracing and Underpinning:

1.3.3.1 Whenever underpinning, shoring, sheeting, timbering and bracing of excavations is required engage services of a professional engineer to design and assume responsibility for adequacy of shoring, bracing and underpinning. Professional Engineer shall be registered in Northwest Territories.

1.3.3.2 Prefabricated cages or shields may be used to supplement or replace conventional shoring, provided they comply with all applicable safety regulations and permit placing and tamping of bedding material under and around utility piping.

1.3.3.3 When requested, submit for review drawings and calculations signed and stamped by professional engineer responsible for their preparation.

1.3.3.4 Shoring, bracing and underpinning shall be inspected by the Professional Engineer responsible for their preparation.

1.3.3.5 Close sheeting, when required, shall be designed and constructed to prevent adjacent soil from entering excavation and to control water infiltration.

1.3.3.6 Underpin and support structures, service lines and piping which will, or may be damaged by excavation work.

1.3.3.7 Maintain unobstructed access to fire and police appurtenances, telephone, electric, water, sewer, gas and other public utilities and private properties.

1.3.3.8 Make good all damage occurring as a result of inadequate, unauthorized or defective methods of protection.

2.0 PRODUCTS

2.1 Materials

2.1.1 Native Material

Native material from roadway excavation or trench excavations, where approved for use by the Engineer shall be free of frozen material, organics, rock and other debris.

2.1.2 Base Granular Material

Base Granular Material imported for base prep provided by the contractor. The Base Granular Material will be a crushed 20mm minus granular aggregate.

2.1.3 Nonwoven Geo-textile

Nonwoven Geo-textile for excavation or trench excavations shall be, Nilex 4553 Nonwoven geo-textile or approved equal.

3.0 EXECUTION**3.1 Site Preparation**

- 3.1.1 Remove trees, shrubs, vegetation, fences and other obstructions, ice and snow, from surfaces to be excavated within limits indicated.
- 3.1.2 Cut pavement or sidewalk neatly along limits of proposed work in order that surface will break evenly and cleanly.
- 3.1.3 Remove frost, if required, in areas to be excavated. Comply with local regulations when burning.
- 3.1.4 Strip topsoil from full width of right-of-way where roadway is to be built by Contractor. Stripping shall be completed before any excavation is begun.
- 3.1.5 Clear and grub, and strip topsoil from specified areas where selected trench material is to be placed and covered with clay.
- 3.1.6 Remove and stockpile existing granular material where service trench on private property will cross granular driveway.

3.2 Stockpiling

- 3.2.1 Stockpile fill materials in approved areas. Stockpile granular materials in manner to prevent segregation.
- 3.2.2 Protect fill materials from contamination.
- 3.2.3 When working on private property, place tarps or polyethylene sheets where stockpiles will be placed to prevent contamination of roadway gravel, lawns or driveways.

3.3 Shoring, Bracing and Underpinning

- 3.3.1 Construct temporary works to depths, heights and locations as approved by Engineer.
- 3.3.2 During backfill operation:
 - 3.3.2.1 Unless otherwise indicated or directed from Engineer, remove sheeting and shoring from excavations.
 - 3.3.2.2 Do not remove bracing until backfilling has reached respective levels of such bracing.
- 3.3.3 When sheeting is required to remain in place, cut off tops at elevations indicated or directed by Engineer.

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- 3.3.4 upon completion of substructure construction:
 - 3.3.4.1 Remove shoring and bracing.
 - 3.3.4.2 Remove excess materials from site.
 - 3.4 Dewatering
 - 3.4.1 Keep excavations dry while work is in progress.
 - 3.4.2 Protect open excavations against flooding and damage due to surface run-off.
 - 3.4.3 Dispose of water in a manner not detrimental to public health, environment, public and private property, or any portion of work completed or under construction.
 - 3.4.4 Do not discharge drainage water lines into municipal sewers without municipal approval. Ensure water discharge does not contain silt held in suspension.
 - 3.4.5 Control grading in and adjacent to excavations to prevent water running into excavated areas or onto adjacent properties or public thoroughfares
 - 3.4.6 Water flow over fresh concrete is not permitted. Do not pump during placing of concrete and for at least 24 hours after, unless from sumps separated from concrete with watertight walls or bulkheads.
 - 3.4.7 Contractor shall be responsible for all dewatering of excavations and construction site. The Town will not provide any equipment or man power for dewatering activities.
 - 3.5 Excavation
 - 3.5.1 Excavate to lines, grades, elevations and dimensions indicated or as directed.
 - 3.5.2 Separate all excavated pipe from excavated material. Dispose of pipe material at the community landfill at designated locations.
 - 3.5.3 Remove and dispose concrete, masonry, paving, demolished foundations and rubble and other obstructions encountered during excavation. Do not use these materials in backfill.
 - 3.5.4 Minimum trench width to be 400 mm greater than outside pipe diameter or as specified.
 - 3.5.5 Maximum trench width at top of pipe to be not greater than outside pipe diameter plus 900 mm, or as specified.
 - 3.5.6 Notify Engineer when soil at proposed elevation of excavation or trench bottom appears unsuitable for foundation of installation. Remove

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- unsuitable material from trench bottom to extent and depth directed by Engineer.
- 3.5.7 Unless otherwise authorized by Engineer in writing, do not excavate more than 30 m of excavation or trench in advance of installation operations and do not leave open more than 15 m at end of day's operation. Provide secure barricades around all open excavations at the end of each day's operation.
- 3.5.8 Where work is stopped for more than 24 hours, backfill all excavations.
- 3.5.9 Stockpile materials required for trench backfill in approved location.
- 3.5.10 Dispose of surplus and unsuitable excavated material as specified.
- 3.5.11 Do not obstruct flow of surface drainage or natural watercourses.
- 3.5.12 If maximum excavation or trench width is exceeded through error, provide a better class of material to Engineer's approval at no additional cost to Owner.
- 3.6 Trench Bottom Preparation
- 3.6.1 Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil.
- 3.6.2 Where required due to removal of unsuitable material or unauthorized over-excavation, bring bottom of excavation to design grade with specified granular material. Compact material to a minimum 95% of maximum density ASTM D698 Method D unless ordered not to.
- 3.6.3 Granular material must not be placed in water laden excavation or trench bottom; water must be removed from excavation for granular placement and compaction.
- 3.6.4 Install, geo-textiles, geo-grids, and wick drains where ordered, prior to placement of granular sub-base material. Provide minimum of 600 mm overlap at ends. Support material to prevent dislodging during backfill. Engineer shall approval placement of geo-textiles, geo-grids, and wick drains prior for backfilling.
- 3.7 Pre-installation Inspection
- 3.7.1 Excavations require inspection and approval prior to commencement of installation operations.
- 3.8 Backfilling
- 3.8.1 Do not proceed with trench backfilling operations until Engineer has inspected and approved installations.

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- 3.8.2 Ensure bedding of pipes and utilities to 300 mm above top of pipes and utilities, specified in other Sections, is satisfactorily completed.
- 3.8.3 Ensure trenches are free from debris, snow, ice and water and that ground surfaces are not in a frozen condition.
- 3.8.4 Do not use backfill material which is frozen or contains ice, snow or debris.
- 3.8.5 Use approved granular backfill material as indicated or directed.
- 3.8.6 Do not backfill around or over cast-in- place concrete within 24 h after placing.
- 3.8.7 Place layers simultaneously on both sides of installed work to equalize loading.
- 3.8.8 Place material by hand under, around and over installations until 300 mm of cover is provided. Dumping material directly on installations will not be permitted.

- 3.8.9 Do not place backfill in freezing weather without written permission of Engineer.
- 3.8.10 Place backfill material in uniform layers not exceeding 150 mm in thickness up to sub-base elevation. Compact each layer before placing succeeding layer.
- 3.8.11 Compaction of backfill:
 - 3.8.11.1 In all areas, compact pipe-zone (bottom of trench to 300 mm above top of pipe) to a minimum density of 98% of maximum density ASTM D698, method D.
 - 3.8.11.2 Under pavement, sidewalks, curbs, structures and graveled areas, compact to a minimum of 98% of maximum density ASTM D698, Method D.
 - 3.8.11.3 Compact using approved mechanical tamping devices or by hand tamping to achieve specified compaction.

- 3.9 Restoration
 - 3.9.1 Upon completion of work, remove surplus materials and debris, trim slopes, and correct defects noted by Engineer.
 - 3.9.2 On Private Property
 - .1 In lawn areas, install 150 mm of silt or clay and topsoil to a thickness existing on trench walls. Screen topsoil to remove rock,

roots, etc. Place new sod over topsoil to elevations which existed prior to excavation.

- .2 In granular driveways, place 150 mm of 20 mm crush granular material, compact and grade to match existing.
- .3 In hard surfaced areas (pavement, concrete, paving stones, etc.) place 150 mm of 20 mm crush granular material immediately below the hard surface material and compact.

3.10 Clean-Up

3.10.1 Clean and reinstate areas affected by work as directed.

3.10.2 As backfilling proceeds, keep roads, streets and sidewalks clean of dirt and excavated material.

3.10.3 Clean up and wash down to remove all dirt and excavated materials caused by work of this Section.

3.10.4 Clean up at end of each working day as directed by Engineer.

3.10.5 Grade and level excess excavation stockpiles to suit surrounding grades.

3.11 Settlement

3.11.1 Promptly repair any settlement of backfill which occurs prior to the end of the warranty period.

3.11.2 Re-compact defective areas and place and compact additional backfill up to grade. Use material matching adjacent surface and compact to specified density.

3.11.3 Pay all costs to repair damages to other work caused by such settlement.

4.0 MEASUREMENT FOR PAYMENT

4.1 Common Excavation and Sub-grade Preparation

Excavation will be measured for payment in cubic metres based on the cubic metres excavated as measured in its original position. Payment will be made at the unit price bid for “Common Excavation and Sub-grade Preparation”. This payment will be considered full compensation for excavating, loading, hauling and disposing of the material at a location acceptable to the Engineer. The distance to the disposal location will be no greater than the distance from the project site to the community land fill. Also included, and considered incidental to the work, is the shaping to the required cross sections and elevations for the sub-grade as provided in the drawings; including any blading, watering or drying, mixing and compaction as required by the Engineer.

4.2 Ditching

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Ditching will be measured for payment in lineal meters based on the ditching as measured in its original position. Payment will be made at the unit price bid for "Ditching". This payment will be considered full compensation for excavating, loading, hauling and disposing of the material at a location acceptable to the Engineer. The distance to the disposal location will be no greater than the distance from the project site to the community land fill. Also included, and considered incidental to the work, is the shaping to the required cross sections and elevations for the ditching as provided in the drawings.

END OF EXCAVATION, BACKFILLING AND COMPACTION

1. GENERAL

- 1.1 Site Works Demolition and Removal Section 02223
- 1.2 Excavations, Backfilling and Compaction Section 02315

2. PRODUCTS

2.1 Gradations for materials table:

Granular Base Course Aggregate		
Sieve	Class 20 (mm)	
20000	100	
10000	63	86
5000	40	67
1250	20	43
630	14	34
315	9	26
160	5	18
80	2	10
% Fractured by weight (2 faces) All + 5000	60+	
Plasticity Index (P.I.)	NP-4	
L.A. Abrasion Loss Percent Max.	50	

3. EXECUTION

3.1 Placing

- 3.1.1 Place granular base after sub grade is inspected and approved by Engineer
- 3.1.2 Ensure no frozen material is placed
- 3.1.3 Place the material on clean unfrozen surface, free from snow or ice
- 3.1.4 Place the granular base materials using methods which do not lead to segregation or degradation.

- 3.1.5 Place the material to full width in uniform layers and do not exceed 150mm in compacted thickness. Engineer may authorize thicker lifts (layers) if specified compaction can be achieved.
- 3.1.6 Shape each layer to smooth contour and compact to specified density before succeeding layer is placed
- 3.1.7 Remove and replace portion of layer in which material has become segregated during spreading.

3.2 Compaction

- 3.2.1 Compaction equipment is to be capable of obtaining material densities.
- 3.2.2 Compact 20mm Base material to density not less than ninety eight (98%) percent maximum dry density in accordance with ASTM D698
- 3.2.3 Compact existing sub-grade to density not less than ninety eight (98%) percent maximum dry density in accordance with ASTM D698
- 3.2.4 Shape and roll alternately to obtain smooth, even uniformly compacted surface
- 3.2.5 Apply water as necessary during compaction to obtain specified density
- 3.2.6 For areas not acceptable to rolling equipment, compact to specified density with mechanical tampers approved by Engineer.
- 3.2.7 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance

3.3 Site Tolerance

Finished sub-base surface shall be within 20mm of design elevation, and finished base surface shall be within 10mm of design elevation but not uniformly high or low.

3.4 Protection

Maintain finished sub-base and base condition is conforming to this section until succeeding base is constructed or until granular sub base is accepted by the Engineer

4. MEASUREMENT FOR PAYMENT

- 4.1 Payments for Granular Base Preparation shall considered incidental and shall include loading, hauling, placing, shaping, watering and compacting. The Granular Base Materials will be provided by the Town.

END OF EXCAVATION, BACKFILLING AND COMPACTION

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

1 General

1.1 SECTION INCLUDES

1.1.1 Materials and installation for pipe culverts.

1.2 RELATED SECTIONS

1.2.1 Submittal Procedures Section 01300

1.2.2 Site Demolition and Removal Section 02223

1.2.3 Excavation, Backfilling and Compaction Section 02315

1.2.4 Granular Sub Grade and Base Preparation Section 02317

1.3 MEASUREMENT PROCEDURES

1.3.1 Measure excavation bedding and backfill for culverts under Section 02315 - Excavating Backfilling and Compaction.

1.3.2 No separate measurement will be made for couplings and fittings for steel pipe and plastic pipe culverts.

1.3.3 Measure supply and installation of pipe culvert including excavation and backfill in metres in place for each size, type and class of pipe.

1.3.4 Cost of supply and installation will include any necessary dewatering prior to placing of bedding and construction maintenance and removal of any temporary bypass roads.

1.4 REFERENCES

1.4.1 American Society for Testing and Materials International, (ASTM)

1.4.1.1 ASTM C14M-99, Standard Specification for Concrete Sewer, Storm Drain and Culvert Pipe (Metric).

1.4.1.2 ASTM C76M-02, Standard Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe (Metric).

1.4.1.3 ASTM C117-95, Standard Test Method for Material Finer Than 0.075 mm (No. 200) Sieve in Mineral Aggregates by Washing.

1.4.1.4 ASTM C136-01, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

1.4.1.5 ASTM C144-02, Standard Specification for Aggregate for Masonry Mortar.

1.4.1.6 ASTM C443M-02, Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets (Metric).

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- 1.4.1.7 ASTM D698-00a, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
- 1.4.1.8 ASTM D1248-02, Standard Specification for Polyethylene Plastics Extrusion Materials For Wire and Cable.
- 1.4.1.9 ASTM F667-97, Standard Specification for Large Diameter Corrugated Polyethylene Pipe and Fittings.
- 1.4.2 Canadian General Standards Board (CGSB)
 - 1.4.2.1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
 - 1.4.2.2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
 - 1.4.2.3 Canadian Standards Association (CSA International)
 - 1.4.2.4 CAN/CSA-A3000-03, Cementitious Materials Compendium.
 - 1.4.2.5 CAN/CSA-A257 Series-M92(R1998) Standards for Concrete Pipe.
 - 1.4.2.6 CSA-G401-01, Corrugated Steel Pipe Products.
- 1.5 SUBMITTALS
 - 1.5.1 Submit samples in accordance with Section 01300 - Submittals.
 - 1.5.2 Inform Engineer at least 4 weeks prior to beginning Work, of proposed source of bedding materials and provide access for sampling.
 - 1.5.3 Submit manufacturer's test data and certification at least 4 weeks prior to beginning Work.
 - 1.5.4 Certification to be marked on pipe.
- 1.6 DELIVERY, STORAGE AND HANDLING
 - 1.6.1 Deliver, store and handle materials in accordance with Section 01600.
- 2 Products
 - 2.1 CORRUGATED STEEL PIPE
 - 2.1.1 Corrugated steel pipe: to CSA-G401.
 - 2.1.2 Water-tight cut-off collars: as indicated.
 - 2.1.3 Prefabricated end sections, and wing walls: as indicated.
 - 2.1.4 Corrugated fluming: to CSA-G401.

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3 Execution

3.1 TRENCHING

- 3.1.1 Do trenching Work in accordance with Section 02135.
- 3.1.2 Obtain Engineer's approval of trench line and depth prior to placing bedding material or pipe.

3.2 BEDDING

- 3.2.1 Dewater excavation, as necessary, to allow placement of culvert bedding in dry condition.
- 3.2.2 Place minimum thickness of 200 mm of approved granular material on bottom of excavation and compact to minimum 95% of corrected maximum dry density.
- 3.2.3 Shape bedding to fit lower segment of pipe exterior so that width of at least 50% of pipe diameter is in close contact with bedding and to camber as indicated or as directed by Engineer, free from sags or high points.
- 3.2.4 Place bedding in unfrozen condition.

3.3 LAYING CORRUGATED STEEL PIPE CULVERTS

- 3.3.1 Begin pipe placing at downstream end.
- 3.3.2 Ensure bottom of pipe is in contact with shaped bed or compacted fill throughout its length.
- 3.3.3 Lay pipe with outside circumferential laps facing upstream and longitudinal laps or seams at side or quarter points.
- 3.3.4 Lay paved invert or partially lined pipe with longitudinal centre line of paved segment coinciding with flow line.
- 3.3.5 Do not allow water to flow through pipes during construction except as permitted by Engineer.

3.4 JOINTS: CORRUGATED STEEL CULVERTS

- 3.4.1 Corrugated steel pipe:
 - 3.4.1.1 Match corrugations or indentations of coupler with pipe sections before tightening.

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- 3.4.1.2 Tap couplers firmly as they are being tightened, to take up slack and ensure snug fit.
- 3.4.1.3 Insert and tighten bolts.
- 3.4.1.4 Repair spots where damage has occurred to spelter coating by applying two coats of asphalt paint approved by Engineer or two coats of zinc rich paint.
- 3.4.2 Structural plate:
 - 3.4.2.1 Erect in final position by connecting plates with bolts at longitudinal and circumferential seams.
 - 3.4.2.2 Drift pins may be used to facilitate matching of holes.
 - 3.4.2.3 Place plates in sequence recommended by manufacturer with joints staggered so that not more than three plates come together at any one point.
 - 3.4.2.4 Draw bolts up tight, without overstress, before beginning backfill.
 - 3.4.2.5 Repair spots where damage has occurred to spelter coating by applying two coats of asphalt paint or two coats of zinc rich paint approved by Engineer.

END OF CULVERTS

Town of Fort Smith Sidewalks and Concrete Works 2026

1.0 GENERAL

1.1 Related Sections

1.111 Excavation, Backfilling and Compaction Section 02315

1.2 Scope

1.2.1 This section covers the general requirements for the production, gradation and stockpiling operations for the crushed aggregate materials required for the project.

1.3 General

1.3.1 Aggregate produced shall comply fully with the specifications and the Contractor shall recognize and satisfy himself as to the type and amount of work that may be necessary to produce the required material.

1.3.2 The aggregate shall meet the requirements for the materials specified.

1.3.3 The Contractor shall adjust and modify aggregates as required in order to meet the specification requirements.

1.3.4 The crushed aggregate shall be composed of sound, hard and durable particles of sand, gravel and rock and shall be free from elongated particles, injurious quantities of flaky particles, soft shales, organic matter, clay lumps and other foreign matter.

1.3.5 A tolerance of three (3.0) percent in the amount passing the maximum size sieve will be permitted, providing all oversize material passes the next larger standard sieve size.

1.3.6 The Contractor shall be entirely responsible for the quantity and quality of crushed aggregate produced.

1.4 Measurement for Payment

1.4.1 Production of aggregate and crush gravel will not be measured separately for payment.

1.5 Quality Control and Quality Control Testing

1.5.1 General

In all sources, quality control and quality control testing are the responsibility of the Contractor throughout every stage of the Work.

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Tests performed by the Engineer will not be considered to be quality control tests.

The Contractor shall provide, pay for and maintain equipment and qualified personnel to carry out all field sampling and testing necessary to determine and monitor the characteristics of the materials produced and the final product to be delivered.

The Contractor shall provide safe and convenient means for accurately and representatively sampling each aggregate stream being produced during all screening, splitting and crushing processes.

Prior to commencement of the Work, the Contractor shall provide the Engineer with his program and schedule of testing for quality control and shall demonstrate to the satisfaction of the Engineer that the program and schedule are adequate to provide reliable quality control within the limits specified.

1.5.2 Sampling and Testing

The Contractor shall retain and utilize Professional Engineering Services provided by a registered Engineering Consulting Firm to carry out all quality control sampling and testing and to assess and, where necessary, recommend modifications to the aggregate materials being produced to ensure their end use meets all specification requirements. The engineering firm shall promptly report all such recommendations to the Contractor and the Town of Fort Smith in writing. The firm shall be licensed to operate in the Northwest Territories.

All quality control tests and test results shall be calculated, recorded and submitted to the Engineer on industry standard worksheets. The tests and test results shall be certified for correctness by the Engineering Consulting Firm employed by the Contractor to perform the tests and shall be signed by the Contractor's representative. All worksheets shall be reviewed and certified for correctness by a Professional Engineer from the Engineering Consulting Firm employed by the Contractor to perform the tests, on a minimum weekly basis.

1.5.3 Test Methods

Unless otherwise specified, the latest edition of the following test methods shall be used to determine material characteristics:

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Test Description	Standard
1. Sampling Aggregates	ASTM D3665
2. Sieve Analysis of Fine and Coarse Aggregates	ASTM C136/C136M
3. Sieve Analysis of Materials Finer than 75 Micron Sieve by Washing	ASTM C117
4. Mineral Filler	ASTM D42

1.5.4 Quality Control Testing Requirements

The Contractor's quality control and quality control testing program shall include the carrying out of quality control testing using the latest edition of the specified test methods at the minimum specified frequencies

Test	Standard	Minimum Frequency
(A) Sampling		
1. Sampling Aggregates	ASTM D3665	One per 1,000 tonnes. (This frequency applied to each fraction being produced.)
(B) Sieve Analysis		
1. Crushed Aggregate a) Fine and Coarse Aggregates b) Materials Finer than 75 Micron Sieve by Washing	ASTM C136/C136M ASTM C117	One each per 1,000 tonnes. (This frequency applied to each fraction being produced.)
2. Blend Sand a) Mineral Filler	ASTM D42	One per 1,000 tonnes of aggregate produced

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3. Manufactured Blend Sand a) Mineral Filler	ASTM D42	One per four (4) hours of plant production
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1.5.5 Reporting of Sieve Analysis Test Results and Production Quantities

The Contractor shall record all sieve analysis test results on industry standard grain size curve sheets and worksheets which provide all test data, calculations, error checks, test results and any additional information requested by the Engineer. The Contractor shall also determine and record on each sieve analysis worksheet, the time and date of sampling, the total quantity of granular material produced at the time of sampling, the location from which the sample was obtained and, where applicable, the test lot that the sample refers to.

1.5.6 Quality Acceptance

Acceptance of processed aggregates will take place when they are in their final position and have met all the requirements of the Contract. The Engineer may test at any time at the work site and reject material that does not meet the specifications. The Contractor shall promptly remove rejected material from the site.

The Engineer and his representatives reserve the right to sample, test, inspect and monitor the quality of material being produced and incorporated into the work by the Contractor at any time and as often as he deems necessary. The Contractor shall cooperate with the Engineer and his representatives for such sampling, testing, inspecting and monitoring. The Engineer is under no obligation to provide the Contractor with test results and this testing shall in no way relieve the Contractor of his responsibility to produce aggregates that meet the specifications in all respects.

2.0 PRODUCTS

2.1 Materials

2.1.1 Aggregate quality: sound, hard, durable material free from soft, thin, elongated or laminated particles, organic material, clay lumps or minerals, or other substances that would act in deleterious manner for use intended.

2.1.2 Fine aggregates satisfying requirements of applicable section to be one, or blend of following:

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-
- .1 Natural sand.
 - .2 Manufactured sand.
 - .3 Screenings produced in crushing of quarried rock, boulders, gravel or slag.
- 2.1.3 Coarse aggregates satisfying requirements of applicable section to be one of or blend of following:
- .1 Crushed rock.
 - .2 Gravel and crushed gravel composed of naturally formed particles of stone.
- 2.2 Crushed Granular Materials
- 2.2.1 Crushed Granular Material shall conform to the following gradations:

Granular Base Course Aggregate		
Sieve	Class 20 (mm)	
20000	100	
10000	63	86
5000	40	67
1250	20	43
630	14	34
315	9	26
160	5	18
80	2	10
% Fractured by weight (2 faces) All + 5000	60+	
Plasticity Index (P.I.)	NP-4	
L.A. Abrasion Loss Percent Max.	50	

3.0 EXECUTION

3.1 Preparation

3.1.1 Aggregate Source Preparation

- 3.1.1.1 Prior to excavating materials for aggregate production, clear and grub area to be worked, and strip unsuitable surface materials. Dispose of

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cleared, grubbed and unsuitable materials approved by authority having jurisdiction.

3.1.1.2 Clear, grub and strip area ahead of quarrying or excavating operation sufficient to prevent contamination of aggregate by deleterious materials.

3.2 Processing

3.2.1 Process aggregate uniformly using methods that prevent contamination, segregation and degradation.

3.2.2 Blend aggregates, if required, to obtain gradation requirements, percentage of crushed particles, or particle shapes, as specified.

3.3 Handling

3.3.1 Handle and transport aggregates to avoid segregation, contamination and degradation.

3.4 Stockpiling

3.4.1 Stockpile aggregates in sufficient quantities to meet project schedules.

3.4.2 Stockpiling sites to be level, well drained, and of adequate bearing capacity and stability to support stockpiled materials and handling equipment.

3.4.3 Do not incorporate bottom 150 mm of stockpile into work.

3.4.4 Do not use intermixed or contaminated materials. Remove and dispose of rejected materials as directed by the Engineer.

3.4.5 Uniformly spot-dump aggregates delivered to stockpile in trucks and build up stockpile.

3.4.6 Do not cone piles or spill material over edges of piles.

3.4.7 Do not use conveying stackers.

3.4.8 During winter operations, prevent ice and snow from becoming mixed into stockpile or in material being removed from stockpile.

END OF AGGREGATES; GENERAL

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1.0 GENERAL

1.1 Related Work

1.2 Reference Standards

1.2.1 Do Concrete Materials and Methods of Concrete Construction in accordance with CAN/CSA-A23.1 and Methods of Test for Concrete to CAN/CSA- A23.2 except where specified elsewhere.

1.4 Material Certification

1.4.1 On request, submit manufacturer's test data and certification that materials meet requirements of this Section.

1.5 Measurement for Payment

1.5.1 No measurement will be made under this section. Include costs in items of work for which concrete work is required.

2.0 PRODUCTS

2.1 Materials

2.1.1 Concrete shall consist of Portland cement, aggregates, water and admixtures or additives which shall conform to the requirements as specified.

2.1.2. Cement - Normal Portland cement, Type GU, shall be supplied unless otherwise specified. Cement shall conform to the requirements of CSA Standard A5, Portland Cements.

2.1.3. Water - Water to be used for mixing concrete or mortar shall conform to the requirements of CSA Standard A23.1 and shall be free from injurious amounts of alkali, organic materials or deleterious substances. The Contractor shall not use water from shallow, stagnant or marshy sources.

2.1.4. Silica Fume - Condensed silica fume shall conform to CAN/CSA-A23.5, Type U, with a SiO₂ content of at least 85%, of a maximum of 6% ignition loss, and no more than 1% SiO₃ content.

2.1.5. Fly Ash - Concrete containing fly ash as supplementary cementing material

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may be used. The fly ash shall not exceed 35% by weight of cement, and it shall conform to the requirements of ASTM C311, ASTM C618 and CAN/CSA-A23.5. Only approved compatible super plasticizing admixtures and air entraining agents shall be used with the fly ash. The Engineer may require characteristic data for fly ash to prove conformance to the standards.

2.1.6. Cement: to CAN/CSA-A5, Type HS. Sanitary manhole bases shall be Type HS.

2.1.7. Aggregates: to CAN/CSA-A23.1.

2.1.8. Form lumber and plywood: clean, free of loose knots, splits and with repairs made smoothly and securely.

2.1.9 Form ties: removable or snap-off metal ties, fixed or adjustable length, free of devices that will leave hole larger than 25 mm diameter and 10 mm deep in concrete surface.

2.1.10 PVC waterstop: 125 mm wide x 9.5 mm thick Arctic grade PVC.

2.1.11 Admixtures:

2.1.11.1 Engineer to approve accelerating or set retarding admixtures during cold and hot weather placing.

2.1.11.2 Air-entraining admixture to CAN/CSA-A266.1.

2.1.12 Non-shrink Grout:

2.1.12.1 Dry pack grout containing non-metallic aggregate, plasticizing agents and Portland cement.

2.1.12.2 Required 28 Day compressive strength 50MPa minimum.

2.2 Storage of Materials

2.2.1. Cement, silica fume and steel fibers shall be stored in a suitable weather-tight building which shall protect these materials from dampness. Cement and silica fume shall be free from lumps at all times during their use in the work. Cement and silica fume which have been stored for a length of time resulting in the hardening or the formation of lumps shall not be used in the work. The steel fibers shall be free from balls and clumps at all times during their use in the work.

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2.2.2 All aggregates shall be handled so as to prevent segregation and to obtain uniformity of materials. The separated aggregates, and aggregates secured from different sources, shall be piled in separate stockpiles. The site of the stockpiles shall be cleaned of all foreign materials and shall be reasonably level and firm. If the aggregates are placed directly on the ground, material shall not be removed from the stockpile within 150 mm of the ground level. This material shall remain undisturbed to avoid contaminating the aggregate being used with the ground material.

2.3 Concrete Mixes

2.3.1 Mix design shall be submitted for review by the Towns Engineer a minimum of 3 weeks prior to beginning concrete batching and placing.

2.3.2 Except where indicated or specified otherwise, provide concrete mix as follows:

2.3.2.1 Class A - 25 MPa Concrete

Compressive strength at 28 days:	25 MPa minimum
Class of exposure:	A.
Fine aggregate:	to CAN/CSA-A23.1.
Coarse aggregate:	to CAN/CSA-A23.1, Table 3, Group 1, 25 mm nominal max size
Entrained air:	5 -7 %.

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Slump at point of discharge:	25 to 75 mm.
Chemical admixtures to be used only when approved by Engineer.	
Water-cement ratio:	0.45 Maximum.

Do not use compounds containing chlorides.

2.3.2.1 Class B - 30 MPa Concrete

Do not use compounds containing chlorides.	32MPa minimum.
Class of exposure:	A.
Fine aggregate:	to CAN/CSA-A23.1.
Coarse aggregate:	to CAN/CSA-A23.1, Table 3, Group 1, 25mm nominal maximum size.
Entrained air:	4 -7 %.
Slump at point of discharge:	35 to 75 mm.
Chemical admixtures to be used only when approved by Engineer.	
Water-cement ratio:	0.42 Maximum.

Do not use compounds containing chlorides.

- 2.3.3 Where 7 day strength is less than 70 % of specified design strength provide additional curing and make changes to mix proportions as directed by Engineer. No backfilling, heavy loading or removal of formwork will be permitted until 70% of the design strength is achieved.

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2.3.4 Water will not be added to concrete on site unless approved by Engineer. Approval by Engineer will not relieve contractor of responsibility for obtaining specified concrete strengths.

2.3.3 Initial Mixes, and Adjustments:

In cases of initial mixing operation or changes in source of water or aggregates, the mix adopted shall be designed for an excess compressive strength of ten percent above the specified 28 day nominal compressive strength. After the mix has been adequately proven as to strength and performance, adjustment may be undertaken, but only with the approval of the Engineer. If, during the progress of the work, the mix design is found to be unsatisfactory for any reason including poor workability, the Engineer may require the Contractor to make the necessary adjustments. Notwithstanding the Engineer's review of the design mix, it remains the Contractor's responsibility that the concrete meets all the requirements of this Specification.

2.4 Measurement of Materials:

Coarse and fine aggregate materials shall be separated and measured separately by weighing, except as otherwise specified or where other methods are specifically authorized by the Engineer. The apparatus provided for weighing the aggregates and cement shall be suitably designed and constructed for this purpose. Each size of aggregate, and the cement, shall be weighed separately. The accuracy of all weighing devices shall be such that successive quantities can be measured to within one percent of the desired amount. The mixing water shall be measured by volume or by weight. The water measuring device shall be capable of control accurate to plus or minus 1/2 percent of the design quantity. All measuring devices shall be subject to approval. Unless otherwise approved, air entraining agent and other admixtures shall be added to the mix in a water-diluted solution; the dilution of the solution shall be approved by the Engineer. For mix adjustments at the site, the Contractor shall maintain facilities to control the amount of superplasticizer and air entrainment so that the required tolerances can be met.

2.5 Mixing Concrete:

Mobile continuous mixers or other such concrete supply equipment will not be approved for use, unless otherwise approved by the Engineer in writing. All concrete shall be mixed thoroughly until it is uniform in

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appearance, with all ingredients uniformly distributed. In no case shall the mixing time per batch be less than one minute for mixers of one cubic metre capacity or less. This figure shall be increased by 15 seconds for each additional half cubic metre capacity or part thereof. The mixing period shall be measured from the time all materials are in the mixer drum.

The Contractor shall maintain the mixer in good condition. Inner surfaces of the mixer shall be kept free of hardened concrete and mortar. Mixer blades which are bent or worn down so as to affect the mixing efficiency shall be renewed. Any mixer leaking mortar or causing waste of materials through faulty charging shall be taken out of service until repaired. The Contractor shall, at all times, operate the mixer at the speed recommended by the Manufacturer and shall, if requested, supply the Manufacturer's certification of the mixing capacity of the machine in use.

The mixer shall be fitted with an accurate and dependable means for measuring the water added, which is not affected by variation in pressure in the water supply line. All joints, valves and other parts shall be maintained so that there is no leakage of water into the mixer drum. Failure of the Contractor to have an accurately working and dependable water gauge on a mixer shall be cause for the Engineer to prohibit the mixer to be used.

Water shall be released first and continue to flow while the solid materials are entering the mixer. The water discharge pipe shall be so arranged and be of such size that the flow into the mixer is completed within the first quarter of the mixing time, and the water is delivered well within the mixer where it will be quickly mixed with the entire batch.

Air entraining agents and admixtures shall be placed in the mixer after the initial water is in the mixer drum but before the remaining materials are added. Superplasticizer shall be added after initial mixing and as per the manufacturer's recommendation.

The Contractor shall in no case load the mixer above its rated capacity.

The Contractor shall maintain the mixer in good condition. Inner surfaces of the mixer shall be kept free of hardened concrete and mortar. Mixer blades which are bent or worn down so as to affect the mixing efficiency shall be renewed. Any mixer leaking mortar or causing waste of materials through faulty charging shall be taken out of service until repaired. The Contractor shall, at all times, operate the mixer at the speed recommended by the Manufacturer and shall, if requested, supply the Manufacturer's certification of the mixing capacity of the machine in use.

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The mixer shall be fitted with an accurate and dependable means for measuring the water added, which is not affected by variation in pressure in the water supply line. All joints, valves and other parts shall be maintained so that there is no leakage of water into the mixer drum. Failure of the Contractor to have an accurately working and dependable water gauge on a mixer shall be cause for the Engineer to prohibit the mixer to be used.

Water shall be released first and continue to flow while the solid materials are entering the mixer. The water discharge pipe shall be so arranged and be of such size that the flow into the mixer is completed within the first quarter of the mixing time, and the water is delivered well within the mixer where it will be quickly mixed with the entire batch.

Air entraining agents and admixtures shall be placed in the mixer after the initial water is in the mixer drum but before the remaining materials are added. Superplasticizer shall be added after initial mixing and as per the manufacturer's recommendation.

2.5.2 Truck Mixing:

Truck mixers, unless otherwise authorized by the Engineer, shall be of the revolving drum type, watertight, and so constructed that the concrete can be mixed to ensure uniform distribution of materials throughout the mass. All materials for the concrete shall be accurately measured in accordance with Section 4.5, and charged concurrently at the proportions which satisfy the approved mix design into the drum at the proportioning plant. Increases in water-cement ratio will not be permitted.

The maximum size of batch in truck mixers shall not exceed the maximum rated capacity of the mixer as stated by the manufacturer and stamped in metal on the mixer. Truck mixing shall commence immediately and be continued for not less the 50 revolutions after all ingredients are in the drum. The speed shall not be less than 4 rpm, nor more than a speed resulting in a peripheral velocity of the drum of 70 m per minute. Not more than 100 revolutions of mixing shall be at a speed in excess of 6 rpm.

When adjustment to the mix by adding water, air entrainment, or superplasticizer at the site is authorized by the Engineer, the mixer shall be run for a minimum of 20 additional revolutions to ensure homogeneity of the concrete before discharge. Discharge chutes shall be kept clean and free from hardened concrete and shall be wetted down prior to use.

2.5 Time of Hauling:

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The maximum time allowed for all classes of Concrete to be delivered to the site of the work and discharge shall not exceed 90 minutes after batching. In hot weather, or under conditions contributing to quick setting of the concrete, these times may be reduced as determined by the Engineer. Deviations from these requirements will be addressed in the Special Project Requirements.

2.6 Delivery:

The Concrete supplier shall have sufficient plant capacity and satisfactory transporting equipment to ensure continuous delivery at the rate required. The rate of delivery of concrete during concreting operations shall be such that the development of cold joints will be precluded. The methods of delivering and handling the concrete shall facilitate placing with a minimum of re-handling, and without damage to the structure or the concrete.

2.7 Pour Schedules

The Contractor shall outline to the Engineer the proposed pour schedule for any particular pour. If in the opinion of the Engineer the amount of pour is deemed larger than can be poured with the facilities outlined the Contractor shall take one of three actions:

- limit the amount to be poured at any time (using adequate construction joints), or
- augment his facilities in order to complete the proposed pour, or
- in the case of continuous pouring provide additional crews and have adequate lighting to provide for proper placing, finishing and inspecting.

2.8 False work and Formwork:

2.8.1 General

Detailed falsework and formwork drawings shall be supplied to the Engineer for review and examination as to concept only. The drawings shall be submitted three weeks before construction of the work begins. The drawings shall bear the Seal of a Professional Engineer registered in the Northwest Territories, who shall assume full responsibility to ensure that his design is being followed in construction of the falsework and formwork. Northwest Territories safety, and compliance with the Occupational Health and Safety Act and Regulations thereunder, shall be integral parts of his design. All falsework and formwork shall be fabricated in accordance with the drawings.

2.8.2 Design:

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For the design of falsework and formwork, the density of fresh concrete shall be assumed to be 2400 kg/m³. All forms shall be of wood, metal, or other approved materials, and shall be designed and built mortar-tight and of sufficient rigidity to prevent distortion due to the pressure of vibrated concrete and other loads incidental to the construction operation. The forms shall be substantial and unyielding, and shall be designed so that finished concrete will conform to the design dimensions and contours. The shape, strength, rigidity, water tightness and surface smoothness of re-used forms shall be maintained at all times. Any warped or bulged formwork must be repaired or replaced before being used. Forms which are unsatisfactory in any respect shall not be used.

All falsework shall be designed and constructed to provide the necessary rigidity and to support the loads without appreciable settlement or deformation. Falsework which cannot be founded on a satisfactory footing shall be supported on piling which shall be spaced, driven and removed in a manner acceptable to the Engineer.

When forms appear to be unsatisfactory in the opinion of the Engineer, either before or during the placing of concrete, the Engineer will order the work stopped until the defects have been corrected.

For narrow walls and columns, where the bottom of the form is inaccessible, removable panels shall be provided in the bottom form panel to enable cleaning out of extraneous material immediately before placing the concrete.

2.8.3 Forms for Exposed Surfaces:

Forms for exposed surfaces which require a Class 1 "Ordinary Surface Finish" shall be made of good quality plywood, or an approved equivalent, of uniform thickness, with or without a form liner. Forms for exposed surfaces requiring a Class 2 "Rubbed Finish" or Class 3 "Bonded Concrete Surface Finish" shall be all new material, made of "Coated Formply", "C244", "Evans 107", or approved equal. All form of material for exposed surfaces shall be full-sized sheets in good condition, and approved by the Engineer. The re-use of any forms must have the approval of the Engineer.

All forms for exposed surfaces shall be mortar-tight, filleted at all sharp corners, and given a bevel or draft in the case of all projections. At the top edges of exposed surfaces, the chamfers are to be formed by chamfer strips.

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The minimum acceptable forming for all exposed concrete where the pour height is 1.5 m or less shall have 18 mm plywood, "Coated Formply", "C244", "Evans 107", or equal, supported at 300 mm maximum on centers. Where the pour height is greater than 1.5 m the minimum acceptable forming for all exposed concrete shall have 18 mm plywood, "Coated Formply", "C244", "Evans 107", or equal, supported at 200 mm maximum on centres. The support spacings specified here assume the use of new material. Closer spacings may be required in case of re-used material. Strong-backs or wafers placed perpendicularly to the supports shall be employed to ensure straightness of the form.

Metal bolts or anchorages within the forms shall be so constructed as to permit their removal to a depth of at least 20 mm from the concrete surface. Break-back type form ties shall have all spacing washers removed and the tie shall be broken back a distance of at least 20 mm from the concrete surface. All fittings for metal ties shall be of such design that, upon their removal, the cavities which are left will be of the smallest possible size. Torch cutting of steel hangers and ties will not be permitted. Formwork hangers for exterior surfaces of decks and curbs shall be an acceptable break-back type with surface cone, or removable threaded type. Cavities shall be filled with cement mortar and the surface left sound, smooth, even and uniform in colour.

2.8.4 Forms for Unexposed Surfaces:

The minimum acceptable forming for unexposed concrete shall have 15 mm plywood supported at 400 mm maximum on centers.

3.0 EXECUTION

3.1 General

3.1.1 Complete concrete work in accordance with CAN/CSA-A23.1 unless otherwise directed by Engineer.

3.1.2 Ensure that reinforcement and inserts are not disturbed during concrete placement.

3.1.3 In locations where new concrete is dowelled to existing work, drill holes in existing concrete. Place steel dowels and pack solidly with non-shrink grout to positively position and anchor dowels. Roughen surface of existing concrete.

3.2 Consolidation

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- 3.2.1 The vibration shall be internal unless special authorization of other materials is given by the Engineer, or the Engineer requests the use of other methods.
 - 3.2.2 Vibrators shall be of a type and design approved by the Engineer. They shall be capable of transmitting vibrations to the concrete at frequencies of not less than 4500 impulses per minute.
 - 3.2.3 The intensity of vibration shall be such as to visibly affect a mass of concrete of 25 mm slump over a radius of at least 0.5m.
 - 3.2.4 The Contractor shall provide a sufficient number of vibrators to properly compact each batch immediately after it is placed in the forms.
 - 3.2.5. Vibrator operators shall be suitably instructed in the use of vibrators, and the importance of adequate and thorough vibration of the concrete.
 - 3.2.6 Vibrators shall be manipulated so as to thoroughly work the concrete around the reinforcement and imbedded fixtures and into the corners and angles of the forms.
 - 3.2.7 Vibration shall be applied at the point of deposit and in the area of freshly deposited concrete. The vibrators shall be inserted vertically and withdrawn out of the concrete slowly. The vibration shall be of sufficient duration and intensity to thoroughly compact the concrete, but shall not be continued so as to cause segregation. Vibration shall not be continued at any point to the extent that localized areas of grout are formed.
 - 3.2.8 Application of vibrators shall be at points uniformly spaced and not farther apart than the radius over which the vibration is visibly effective.
 - 3.2.9 Vibration shall not be applied directly or through the reinforcement of sections or layers of concrete which have hardened to the degree that the concrete ceases to be plastic under vibration. It shall not be used to make concrete flow in the forms over distances so great as to cause segregation, and vibrations shall not be used to transport concrete in the forms.
 - 3.2.10 Vibration shall be supplemented by such spading as is necessary to ensure smooth surfaces and dense concrete along form surfaces and in corners and locations impossible to reach with the vibrators.
- 3.3 Inserts:
- 3.3.1 Set sleeves, ties, anchor bolts, pipe hangers and other inserts, openings and sleeves, specified in other Sections. Set anchor bolts plumb and to dimensions in plan and elevation. Sleeves and openings greater than 100 mmsquare not indicated must be approved by Engineer.

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3.3.2 Place drilled anchor bolts and sleeves to setting details and secure in non-shrink grout.

3.4 Inspection and Testing:

The Engineer shall be afforded full facilities for the random quality assurance inspection and testing that may be carried out relative to the concrete itself and/or the constituent materials. This includes at the worksite and any plant used for the manufacture of concrete wherever this may be situated. The facilities shall be adequate in the opinion of the Engineer to permit proper sampling of concrete, making of test cylinders and testing slump and air content. The proper storage of all site cast concrete cylinders in accordance with the relevant specifications is the responsibility of the Contractor and shall be provided prior to any concrete pour.

The results of the quality assurance testing carried out by the Engineer will serve to monitor and review the quality control program of the Contractor.

The Contractor shall provide workers approved by the Engineer with extensive related experience to test at site, the air content, slump, and temperature of each batch; results of all such tests shall be provided to the Engineer.

3.4.1 Strength Tests:

A "Strength Test" shall consist of the compression tests of four standard test specimens, sampled, made, cured, and tested in accordance with CSA Standard Specifications as referenced with modifications as indicated. One cylinder shall be tested at seven days. The 28 day test result shall be the average of the strengths of the remaining three specimens, except that if one specimen in a test in the opinion of the Engineer shows manifest evidence of improper sampling, molding, or testing, it shall be discarded and the remaining two strengths averaged. Additional cylinders may be cast, at the discretion of the Engineer or Contractor.

For Class A and Class B Concrete, the Engineer shall take a strength test to represent each approximate 10 m³ portion of the concrete pour. Such tests shall be taken from representative batches as determined by the Engineer.

3.4.2 Sampling:

Sampling of concrete shall be carried out in accordance with CSA Standard A23.2-1C. When a concrete pump is used to place concrete, sampling shall be at the end of the discharge hose.

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3.4.3 Strength Tests:

Making and curing concrete test cylinders shall be carried out in accordance with CSA Standard A23.2-3C, except that the time for cylinders to reach the testing laboratory shall be between 20 and 48 hours. The test cylinders shall be cast by the Contractor in standard CSA approved moulds. The Contractor shall provide properly designed temperature-controlled storage boxes for test cylinders, as specified in Section 5.3.1.1 of CSA Standard A23.2-3C, for a period of at least 24 hours, and further protection from adverse weather and mishandling until removed from the site. The Contractor shall provide a max-min thermometer for each storage box. Storage in a portable building which will be used b

Contractor's personnel or the Engineer during the first 24 hour storage period will not be permitted. Storage facilities shall be provided, installed, and approved before any concrete is placed.

The Engineer shall deliver the test cylinders to an independent testing laboratory approved by the Engineer. Handling and transporting of the cylinders shall be in accordance with CSA Standard 23.3-3C. No extra laboratory curing time will be allowed for cylinders that are delivered late to the laboratory.

If the test cylinders were allowed to freeze or were otherwise mishandled resulting in unreliable strength test results, the Engineer may either reject these portions of the Work, or require core-testing, at the Contractor's expense to determine the in-situ strength of the concrete.

The Engineer shall be responsible for all costs for concrete testing, including but not limited to making test cylinders, transporting cylinders to an approved testing laboratory, storage, curing, breaking, and providing written reports of the concrete test results to the Town

3.4.4 Slump

Slump tests shall be made at the discretion of the Engineer in accordance with CSA Standard A23.2-5C.

3.4.5 Air Content:

Air content tests shall be made in accordance with CSA Standard A23.2-4C.

3.4.6 Testing Cylinders

Test cylinders will be tested in compression by an independent engineering laboratory approved by the Engineer in accordance with CSA Standard A23.2-9C

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

3.4.6 Failure to Meet Slump or Air Content:

Specifications: In the event that slump and/or air content are outside the specified tolerance range, as determined by the Contractor's or the Engineer's testing, the Engineer may, accept adjustments of the deficient condition as an alternate to rejection provided adjustments are made within the maximum time allowed and that does not meet the specifications will be rejected after the maximum time is exceeded.

For each Class of Concrete, the Contractor will be allowed to adjust only the quantities of superplasticizer and air entraining agent. Addition of water at site to the batch will only be permitted subject to an alternate batching procedure approved by the Engineer. In no case shall approved batch adjustment relieve the Contractor of his responsibility for the eventual durability, strength, and acceptability of the concrete concerned. The Engineer reserves the right to reject any batch in the event of confirmed unacceptability, and to require immediate removal of any concrete from this batch which may have already been placed in the structure.

3.5 Concreting in Cold Weather:

The Contractor shall accept full responsibility for the protection of concrete during adverse weather conditions.

When the air temperature is at or below 5°C, or when there is a probability of it falling below 5°C within 24 hours of placing (as forecast by the nearest meteorological office), all materials and equipment needed for adequate protection and curing shall be on hand and ready for use before concrete placement is started. The extent of such preparation shall be in accordance with the requirements of Clause 7.4.2.5.3 of CSA A23.1-04 in addition to:

- 3.5.1 All aggregate and mixing water shall be heated. The aggregate may be heated by either dry heat or steam; in the latter case the quality of mixing water may need to be reduced. The temperature of the concrete shall be between 10°C and 25°C at the time of placing in the forms. In the case of mass pours, the Engineer may alter the temperature requirements to suit.
- 3.5.2 The Contractor shall enclose the structure in such a way that the concrete and air within the enclosure can be kept above 15°C for a period of 7 days after placing the concrete. The enclosure shall be constructed so that a minimum 300 mm clearance exists between the enclosure and the concrete. To prevent overheating, the air temperature within the enclosure shall be

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

monitored frequently, especially during the first 24 hours.

Steam or hot air blowers may be used, but means of maintaining relative humidity of not less than 95% shall be provided. Where hot air blowers and the like are permitted, they must be kept well clear of the formwork housing. Adequate ventilation is required to provide air for combustion, and to prevent the accumulation of carbon dioxide which can be harmful to the concrete. The use of salamanders, coke stoves, oil or gas burners and similar spot heaters which have an open flame and intense local heat is prohibited without the Engineer's specific approval.

The system of heating, and positioning of steam outlets, heaters, and fans, is to be designed to give the most uniform distribution of heat possible, and is subject to the approval of the Engineer.

- 3.5.3 Before placing concrete, adequate pre-heat shall be provided to raise the temperature of formwork, reinforcing steel, previously-placed concrete, and/or soil at least 10°C. The Contractor shall be responsible to make all arrangements for heating, and to ensure continuous protection from unsatisfactory temperature and moisture conditions during the curing period. The Engineer's approval of the Contractor's arrangements shall be obtained; it will be a requirement that pre-heat is adequate, in the Engineer's opinion, to ensure that no portion of the fresh concrete is damaged by freezing, or curing retarded by cold temperatures.
- 3.5.4 Fully insulated formwork may be proposed as an alternative to provision of further heat during the curing period. Such formwork shall be designed and insulated with approved materials so that the initial heat of the mix, and the heat generated during the hydration of the cement, is retained to provide the specified curing conditions. The adequacy of the protection is the Contractor's responsibility.
- 3.5.5 Protection and heating, where used, shall be withdrawn in such a manner so as not to induce thermal shock stresses in the concrete. The temperature of the concrete shall be gradually reduced at a rate not exceeding 10°C per day to that of the surrounding air. To achieve this, in a heated housing, the heat shall be slowly reduced and then shutoff, and the whole housing allowed to cool to air temperature before the housing itself is removed. However, the protection shall not be removed until the temperature of the concrete has fallen to within 10°C of the temperature of the outside air.

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

3.6 Curing Concrete:

Freshly deposited concrete shall be protected from freezing, abnormally high temperatures or temperature differentials, premature drying, and moisture loss for the period of time necessary to develop the desired properties of the concrete.

All exposed concrete surfaces, which are to receive a Class 3 finish or the application of silane sealer, shall be moist cured. The Contractor shall cover the concrete surface(s) with a single layer of clean, soaking wet burlap or light coloured filter fabric as soon as the surface will not be marred by so doing. The burlap or light coloured filter fabric shall be kept continuously wet for 72 hours

All unexposed concrete surfaces not requiring the application of silane sealer shall receive two applications of an approved curing compound. The rate of each application shall not be less than the rate specified by the manufacturer of the compound. Curing compound shall not be used on any construction joints or when cold weather concreting is in effect.

Where the formwork is left in place for 72 hours or more, no additional curing will be required for either exposed or unexposed concrete surfaces.

3.7 Concrete Surface Finish:

On unexposed concrete surfaces all cavities, honeycomb, and other deficiencies shall be thoroughly chipped out, cleaned, and after having been kept saturated with water for a period of not less than 30 minutes, shall be filled with cement mortar. The mortar patches shall be cured as specified in "Curing Concrete".

3.7.1 Class 1. ORDINARY SURFACE FINISH:

Unformed Surfaces— Immediately following placing and compacting, the concrete shall be screeded to conform to the required surface elevations, and then trowelled to ensure that the surface is free from open texturing, plucked aggregate, and local projections or depressions.

Formed Surfaces — Immediately following the removal of forms, all fins and irregular projections shall be removed from all surfaces. On all surfaces the cavities produced by form ties, and all other holes, honeycomb areas, broken corners or edges and other defects, shall be thoroughly chipped out, cleaned, and after having been kept saturated with water for a period of not less than 30 minutes, shall be filled with

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

cement mortar. Mortar shall be not more than one hour old. The mortar patches shall be cured as specified under "Curing Concrete". All concrete joints in the completed work shall be left carefully tooled and free of all mortar and concrete. The joint filler shall be left exposed for its full length with clean and true edges.

3.7.2 Class 2. RUBBED FINISH:

Immediately following the removal of forms, all fins and irregular projections shall be removed from all surfaces. All lines that are not true must be corrected by chipping, grinding or patching as necessary. Parging to correct irregularities will not be permitted. On all surfaces, the cavities produced by form ties, air bubbles and all other holes, honeycomb areas, broken corners or edges and other defects, shall be thoroughly exposed by wire brushing with a stiff bristled powered wire brush. The cleaned surface, after having been kept saturated with water for a period of not less than 30 minutes, shall be filled with cement mortar. Mortar shall be not more than one hour old. The mortar patches shall be cured as specified under "Curing Concrete". All concrete joints in the completed work shall be left carefully tooled and free of all mortar and concrete. The joint filler shall be left exposed for its full length with clean and true edges. The small surface voids formed by air bubbles must be filled by rubbing a thin grout composed of clean fine sand and cement into the moistened surface. When the patching and filling have adequately hardened, a carborundum stone shall be used to finish the surface to a smooth, uniform and closed texture. Any voids opened during the stone rubbing process shall be re-filled.

It is essential that the prepared concrete surface, including all patching and filling be uniform in colour and texture. All portions of bridge elements, including those cast in more than one pour, shall be of the same colour and texture. Any staining caused by cement, water, weather, or other conditions shall be prevented, removed, or covered by methods and materials approved by the Engineer.

If uniformity of colour or texture is not achieved, the Contractor shall use the following procedure, or other approved procedure, before the concrete finish will be accepted

3.7.3 Class 3. BONDED CONCRETE SURFACE FINISH:

Surface preparation shall be done as is specified for Class "2" Rubbed Finish, except that uniformity in colour is not required.

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

After the surface preparation has been completed to the satisfaction of the Engineer, the Contractor shall apply sealer as specified below. He shall then supply and apply an approved pigmented concrete sealer, such as Capseal A50, which meets the requirements for a type 3 sealer of the "Alberta Transportation & Utilities Concrete Sealer Test Procedure — B388."

The pigmented concrete sealer shall be applied in accordance with the manufacturer's specifications. The colour of the proposed coating, which shall be similar to the natural colour of cured concrete, must be approved by the Engineer before application of the coating. A minimum of two applications of the pigmented sealer are required. The Contractor shall ensure that no colour variation is visible, and shall match the colour of any previously painted adjoining surfaces. Approval of the pigmented sealer used will not be taken to relieve the Contractor of full responsibility for its acceptable performance and appearance.

3.7.4 Class 4. FLOATED SURFACE FINISH

Unless otherwise noted on the drawings, concrete which is to receive a waterproofing membrane and a final wearing surface, shall be floated and trowelled as necessary to provide a smoothly textured surface.

3.7.5 Class 5. FLOATED SURFACE FINISH, SURFACE TEXTURED

After the concrete has been bull floated, it shall be given a suitable texture with a "flat wire" texture broom having a single row of tines. The desired texture is transverse grooving which may vary from 1.5 mm width at 10 mm centers to 5 mm width at 20 mm centres, and the groove depth shall be 3 mm to 5 mm. This operation shall be done at such time in such manner that the desired texture will be achieved while minimizing the displacement of the larger aggregate particles or steel fibres. The textured surface shall be uniform and consistent.

3.7.6 Class 6. BROOMED FINISH:

The concrete surface shall be floated and trowelled as necessary to produce a smoothly textured surface. The surface shall not vary more than 3 mm under a 3 m long straightedge. After the concrete has set sufficiently, the surface shall be given a transversely broomed finish using a coarse broom to produce regular corrugations to a maximum depth of 3 mm. An edging tool shall be used at all edges and expansion joints. Where indicated on the drawing, sidewalk surfaces shall be laid out in blocks using an approved grooving tool.

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

3.7.8 Finished Condition:

- 3.7.8.1 Remove all fins & irregular projections from all surfaces to be exposed immediately upon removing of forms.
- 3.7.8.2 Remove honeycomb areas to solid concrete.
- 3.7.8.3 Point and trim with mortar all cavities produced by form ties, honeycomb spots, broken corners and edges and other defects on all surfaces. Apply a bonding agent to surfaces before applying mortar.
- 3.7.8.4 Repair any leaks. Concrete is to be water tight.

3.8 Concrete Sealer:

An approved Type 1c sealer shall be applied to all concrete surfaces which are susceptible to deterioration by water and de-icing salts. This shall include all concrete surfaces as specified and shall include all surfaces which are to receive a Class 2, Class 3, Class 5 and Class 6 Finish. This does not apply to surfaces covered with either waterproofing membrane and drain troughs and concrete slope protection. Sealer will not be required on the underside of bridge decks and on concrete diaphragms in the interior bay areas, however the faces of the end diaphragms nearest the abutment backwalls, and the deck and curb overhangs shall be sealed.

Type 1c sealers shall be Dynasytan BH-O or Hydrozo with application rate as specified by the supplier. The sealer shall be applied in accordance with the manufacturer's recommendations. Before applying the sealer the concrete shall be cured for at least 14 days. Mortar patches shall be cured for at least two days. The concrete surface shall be dry, and air blasted to remove all dust and approved by the Engineer prior to applying sealer. In order to ensure uniform and sufficient coverage rates the Contractor shall apply measured volumes of sealing compound to appropriately dimensioned areas of concrete surface, using a minimum of 2 coats.

No measurement will be made under this section. Include costs in items of work for which concrete sealer is required and shall include full compensation for the cost of all materials, labour, tools and equipment required to acceptably complete this work.

3.9 Defective Work:

3.9.1 Concrete is defective when:

- 3.9.1.1 Failing to meet all requirements of this specification.
- 3.9.1.2 Concrete contains excessive honeycombing or embedded debris, as

TOWN OF FORT SMITH SIDEWALKS AND CONCRETE WORKS 2026

defined by the Towns Engineer.

- 3.9.1.3 28 day average strength in any defined area is less than 95% of specified minimum strength.

3.10 Repair:

3.10.1 Repair defective areas while concrete is still plastic, otherwise wait until curing is completed. Repair defective areas as follows:

3.10.1.1 Chip down edges perpendicular to surface.

3.10.1.2 Wet area and brush on 1:1 sand-cement grout.

3.10.1.3 Patch with 2:1 sand-cement mortar with 10% hydrated lime added.

3.10.2 Where directed, remove defective work and replace with new concrete.

3.10.3 Where directed, grind off high surface irregularities.

4.0 Measurement for Payment: General Concrete will be measured for payment in cubic metres based on the cubic metres as measured in place. Payment will be made at the unit price bid for "General Concrete". Include costs in items of work for which concrete work is required and shall include full compensation for the cost of all materials, labour, tools and equipment required to acceptably complete this work.

END OF GENERAL CONCRETE

1.0 GENERAL

1.1 RELATED WORK SPECIFIED IN OTHER SECTIONS

- 1.1.2 Site Demolition and Removal Section 02223
- 1.1.3 Site Clearing, Excavating, Backfilling and Restoration Section 02315
- 1.1.4 Quality Control Section 01401

1.2 REFERENCE STANDARDS

- 1.2.1 CSA A23.1/A23.2-04 Concrete Materials and Methods of Concrete Construction.
- 1.2.2 CSA A3000-03 Cementitious Materials Compendium
- 1.2.3 CSA W186-M1990 (R2002) Welding of Reinforcing Bars in Reinforced Concrete Construction

1.3 QUALITY ASSURANCE

- 1.3.1 Retain a Professional Engineer who is legally qualified to practice in the jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated; engineering services are defined as those performed for ascertaining mix design, design of formwork installations that are similar to those indicated for this Project in material, design, and extent.
- 1.3.2 Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with CSA A23.1, CSA A23.2 and CSA A3000 requirements for production facilities and equipment.

1.4 INSPECTION

- 1.4.1 The Engineer shall be afforded full facilities for the random quality assurance inspection and testing that may be carried out relative to the concrete itself and/or the constituent materials. This includes at the worksite and any plant used for the manufacture of concrete wherever this may be situated. The facilities shall be adequate in the opinion of the Engineer to permit proper sampling of concrete, making of test cylinders and testing slump and air content. The proper storage of all site cast concrete cylinders in accordance with the relevant specifications is the responsibility of the Engineer.
- 1.4.2 The results of the quality assurance testing carried out by the Engineer will serve to monitor and review the quality control program of the Contractor.

- 1.4.3 The Engineer will provide experienced personnel to test at site; the air content, slump, and temperature of each batch; results of all such tests shall be provided to the Engineer. Additional tests will be required if the results are borderline or widely variable. In case of an unacceptable result, one check test will be permitted.
- 1.4.4 Obtain Engineer's approval of formwork and reinforcing before placement of concrete commences.

2.0 PRODUCTS

2.1 MATERIALS

- 2.1.1 Portland cement: sulphate resisting type MH to CSA A3000.
- 2.1.2 Aggregate: To CSA-A23.1/A23.2, containing no shale, and as follows:
 - 2.1.2.1 Normal Density Fine Aggregate: Nominal maximum aggregate size in accordance with CSA A23.2-1A, uniformly graded to maintain workability and control water bleed out, as indicated on drawings.
 - 2.1.2.2 Normal Density Coarse Aggregate: Aggregate selected from Group I or Group II Grading Classifications, to suit design mix, in accordance with CSA A23.2-13A, nominal maximum aggregate sizes and applications as indicated on drawings.
 - 2.1.2.3 Ironstone content of aggregates in exposed interior or exterior concrete subject to intermittent or continuous wetting shall not exceed the following, when tested to ASTM C295-90:
 - 2.1.2.4 Coarse Aggregate: maximum 1% by mass.
 - 2.1.2.5 Fine Aggregate Retained on 2.5 mm Sieve: maximum 1.5% by mass.
- 2.1.2 Water: To CSA-A23.1/A23.2. Air Entraining Admixture: CAN/CSA-A23.1/A23.2 and ASTM C260 and C949 Type as indicated.
- 2.1.3 Admixtures: TO CAN/CSA A23.1/A23.2 and ASTM C260 and C949, type as indicated. Concrete Admixtures: Certified by manufacturer to contain not more than 0.1% water-soluble chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials; do not use admixtures containing calcium chloride.
- 2.1.4 Curing Compound: Liquid membrane conforming to ASTM C-309, Type 1_D Class B
- 2.1.5 Preformed Joint Filler: asphalt impregnated type to ASTM D1751.

- 2.1.6 Poured Joint Filler: Asphalt elastic compound to ASTM D1190.
- 2.1.7 Welded Wire Fabric: 152 mm x 152 mm - MW 3.6 mm x 3.6 mm welded wire mesh to CSA G30.18.
- 2.1.8 Reinforcing Steel: all bars to CSA G30.18.
- 2.1.9 Forms: pre-manufactured and profiled steel forms, wooden or steel forms for curved sections. Wood forms constructed on site require the engineer's approval before pouring.
- 2.1.10 Form oil: non-staining mineral type.
- 2.1.11 Miscellaneous metal for Bollards: DN150, 168.3 mm (6.625") o.d. x 7.11 mm (.280") wall thickness x STD (standard) weight 28.3 kg/m (18.97 psf) Schedule 40 steel round pipe where guard posts (Bollards) are shown. Fill with concrete and form rounded top.

2.2 MIX DESIGN

- 2.2.1 Design concrete mix to produce 32 MPa at 28 days with maximum aggregate size of 25 mm, 30 mm to 80 mm slump and 5% to 7% air entrainment.
- 2.2.2 Site mix concrete is permitted for placements not exceeding 1 m³ and for core filling of non-load bearing masonry and bond beams.
- 2.2.3 Maximum slump may be increased beyond specified range by the use of chemical admixtures subject to prior written acceptance by Consultant.
- 2.2.4 Air content range and slump shall be verified at the point of discharge from the delivery equipment, measured prior to addition of plasticizing agents.
- 2.2.5 Add an air entraining admixture to all concrete exposed to the weather or in contact with the ground, producing entrained air in accordance with CSA A23.1.
- 2.2.6 Obtain Engineer's approval before using chemical admixtures other than those specified in this section.
- 2.2.7 Do not use chloride-based setting accelerators.

3. EXECUTION

3.1 SUBGRADE

- 3.1.1 Construct subgrade to elevation and grade specified.
- 3.1.2 Compact sub grade to 98% Standard Proctor Maximum Dry Density (ASTM D698).

3.2 GRANULAR

3.2.1 Place 100 mm. thick compacted crushed gravel layer underneath the sidewalk refer to Section on Fill Material.

3.3 REINFORCEMENT

3.3.1 Place reinforcing in the specified areas as detailed in drawings.

3.3.2 Clean reinforcing free of loose rust and mill scale.

3.4 CONCRETE

3.4.1 Place concrete in accordance with the requirements of CAN3-A23.1 and vibrate by means of vibrating pencil vibrator.

3.4.2 Work concrete with wooden float and finally steel float or trowel. Avoid excessive trowelling.

3.4.3 Finish with approved nylon brush pulled lengthwise along curb and gutter and pulled across width of the sidewalks. Provide identification to the Town of Fort Smith Standards.

3.4.4 Remove forms after initial set of concrete and finish by trowelling and brushing.

3.4.5 Expansion Joint at building face or other abutment: Place 15 mm wide preformed joint filler 5 mm below finished surface for full width and depth of concrete.

3.4.6 Contraction Joints: for sidewalks, curbs and gutters construct 35 mm deep by 5 mm wide joints every 3 m on centre by means of marking tool or other approved method.

3.4.7 Surface Joints: on sidewalk surface, construct 15 mm deep by 5 mm wide joints every 3 m on centre between contraction joints by means of marking tool or other approved method.

3.4.8 Edge Finishing: finish outside edge of sidewalks and each edge of joints with 50 mm wide edging tool having 6 mm radius.

3.4.9 Apply curing compound to finished surface immediately after floating in accordance with manufacturer's printed instructions.

3.4.10 End of pours of construction joints. Place 10 M tie-bars at 300 mm spacing and extending 300 mm into both sides of joints.

3.4.11 If mean daily temperature falls below 5 °C, provide cold weather protection outlined in CAN3-A23.1, as approved by the Engineer.

3.4.12 Do not add Water to concrete during delivery or during placement, unless written acceptance has been provided by Engineer; water may only be

permitted at the Project site subject to the limitations of CSA A23.1/A23.2.

- 3.4.13 Deposit concrete continuously or in layers to prevent new concrete being placed on concrete that has hardened enough to cause seams or planes of weakness; provide construction joints as specified where a section cannot be placed continuously; deposit concrete to avoid segregation.

3.5 BACKFILLING

- 3.5.1 Backfill to edge of concrete 20 mm below top and provide a slope of 3:1 maximum to existing ground with approved fill material compacted to 98% Standard Proctor Maximum Dry Density (ASTM D698).

3.6 TOLERANCES

- 3.6.1 Meet following criteria for exposed concrete surfaces:

- i) Trueness of surface: 6 mm max deviation in 3 m length.
- ii) Elevation: approximately 15 mm maximum deviation from design elevation shown on drawings.
- iii) Alignment: approximately 25 mm maximum deviation from that shown on drawings.

3.7 CURING

- 3.7.1 Protect freshly placed concrete from premature drying; strip the forms, patch surfaces as necessary, and cure surfaces in one continuous operation.
- 3.7.2 Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 1 kg/m²h (0.2 lb/ft²h) before and during finishing operations; apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- 3.7.3 Begin curing immediately after finishing concrete.

3.8 REPAIR

- 3.8.1 When approved by the Engineer, Repair all broken and chipped concrete; apply a concrete bonding agent to the surface to be repaired and patch with a cement mortar or grout.
- 3.8.2 Cut shrinkage and expansion cracks occurring in walls and slabs to a depth of 25 mm (1") and fill using a bonding agent and expanding grout; apply in accordance with the manufacturer's recommendations.

3.9 BOLLARDS (GUARD POSTS)

3.9.1 Provide posts 1220 mm (4'-0") long; embed minimum 1220 mm (48") in concrete below grade with anchors as required. Finish: galvanized, prime and paint exterior.

3.10 WHEEL CHAIR RAMPS

3.10.1 Install wheel chair ramps at intersections where shown on the drawings,

3.11 DRIVEWAYS

3.11.1 Install driveways with appropriate reinforcing in curb and sidewalk as shown on the detail drawings

END OF CONCRETE PAVING, SIDEWALKS, CURBS AND GUTTERS

TOWN OF FORT SMITH

SIDEWALKS & CONCRETE 2026

ISSUED FOR TENDER
APRIL 2026



LIST OF PROJECT DRAWINGS

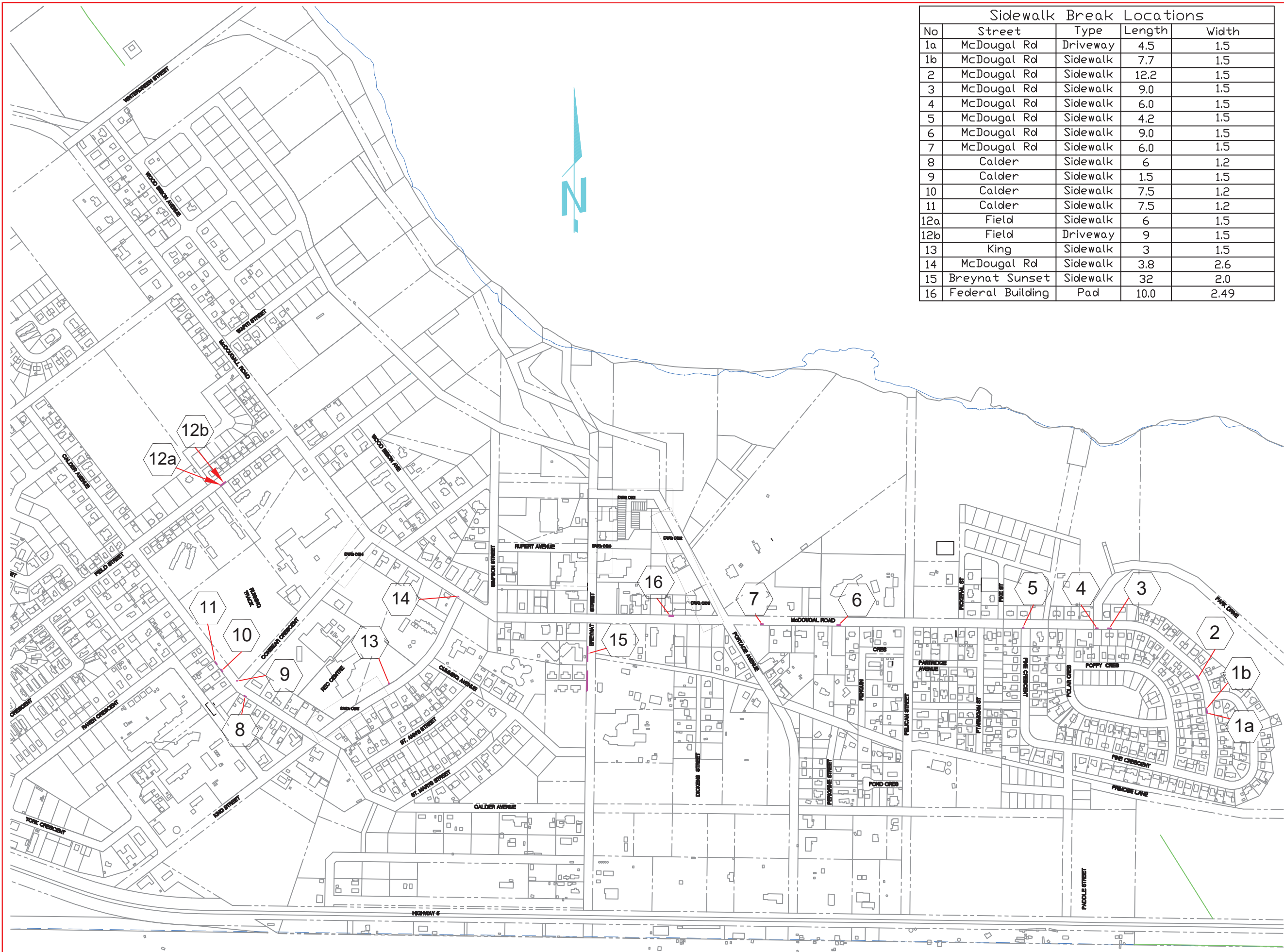
INDEX PLAN & BREAK LOCATIONS	C001
BREYNAT NEW SIDEWALK PLAN PROFILE	C100
PORTAGE STA 0+160 TO 0+320 NEW SIDEWALK PLAN PROFILE	C101
PORTAGE STA 0+320 TO 0+500 NEW SIDEWALK PLAN PROFILE	C102
PORTAGE STA 0+500 TO 0+590.36 NEW SIDEWALK PLAN PROFILE	C103
CONIBEAR NEW SIDEWALK PLAN PROFILE	C104
KING STREET NEW SIDEWALK PLAN PROFILE	C105
CUMMINGS NEW SIDEWALK PLAN PROFILE	C106
McDOUGAL JBT TO DROP OFF NEW SIDEWALK PLAN PROFILE	C107
McDOUGAL LOUS TO SRFN LOT NEW SIDEWALK PLAN PROFILE	C108
McDOUGAL WINTERGREEN NEW SIDEWALK PLAN PROFILE 1	C109
McDOUGAL WINTERGREEN NEW SIDEWALK PLAN PROFILE 2	C110
RETAINING WALL	C200
GENERAL DETAILS, SECTIONS AND NOTES	C300

PREPARED BY:



59A KING STREET
FORT SMITH, NT X0E 0P0

MASKWA PROJECT No. 25-068



Sidewalk Break Locations				
No	Street	Type	Length	Width
1a	McDougal Rd	Driveway	4.5	1.5
1b	McDougal Rd	Sidewalk	7.7	1.5
2	McDougal Rd	Sidewalk	12.2	1.5
3	McDougal Rd	Sidewalk	9.0	1.5
4	McDougal Rd	Sidewalk	6.0	1.5
5	McDougal Rd	Sidewalk	4.2	1.5
6	McDougal Rd	Sidewalk	9.0	1.5
7	McDougal Rd	Sidewalk	6.0	1.5
8	Calder	Sidewalk	6	1.2
9	Calder	Sidewalk	1.5	1.5
10	Calder	Sidewalk	7.5	1.2
11	Calder	Sidewalk	7.5	1.2
12a	Field	Sidewalk	6	1.5
12b	Field	Driveway	9	1.5
13	King	Sidewalk	3	1.5
14	McDougal Rd	Sidewalk	3.8	2.6
15	Breynat Sunset	Sidewalk	32	2.0
16	Federal Building	Pad	10.0	2.49

Client
Town of Fort Smith
147 McDougal Road
Fort Smith, NT

REV	REVISION	DATE

revisions

PROJECT TITLE
Town of Fort Smith
Sidewalks 2026

DATE	ISSUED FOR

Jan 2026 Issued for tender

DRAWING TITLE
INDEX PLAN

The Contractor to verify all dimensions, datum, and levels prior to beginning work and is to report immediately all discrepancies to the Engineer. This drawing is the exclusive property of MASKWA ENGINEERING.

DO NOT SCALE FROM DRAWINGS

DESIGN GH	DRAWN MH	DWG. NO. C-001
PROJECT NO. 25-068		SCALE nts

LEGEND

NEW SIDEWALK	
EXISTING SIDEWALK	
EXISTING GRAVEL WALK	
NEW CULVERT	
EXISTING CULVERT	
PROPERTY LINE	
FENCE LINE	
DITCH	
ASPHALT SHOULDER	
POWER POLE	
MAJOR CONTOUR 1.0m	
MINOR CONTOUR 0.2m	

Client
 Town of Fort Smith
 147 McDougal Road
 Fort Smith, NT

REV	REVISION	DATE

revisions

PROJECT TITLE
 Town of Fort Smith
 Sidewalks 2026

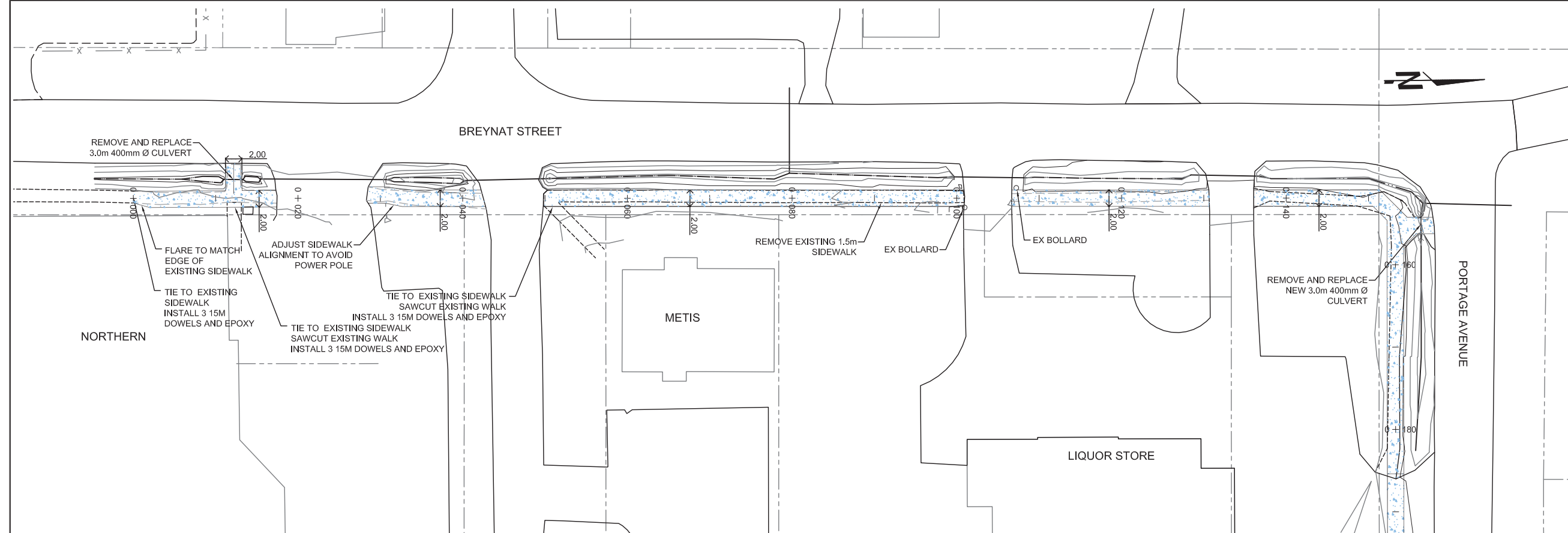
DATE	ISSUED FOR
Jan 2026	Issued for tender

DRAWING TITLE
**BREYNAT STREET
 STA 0+000 TO 0+160
 NEW SIDEWALK
 PLAN PROFILE**

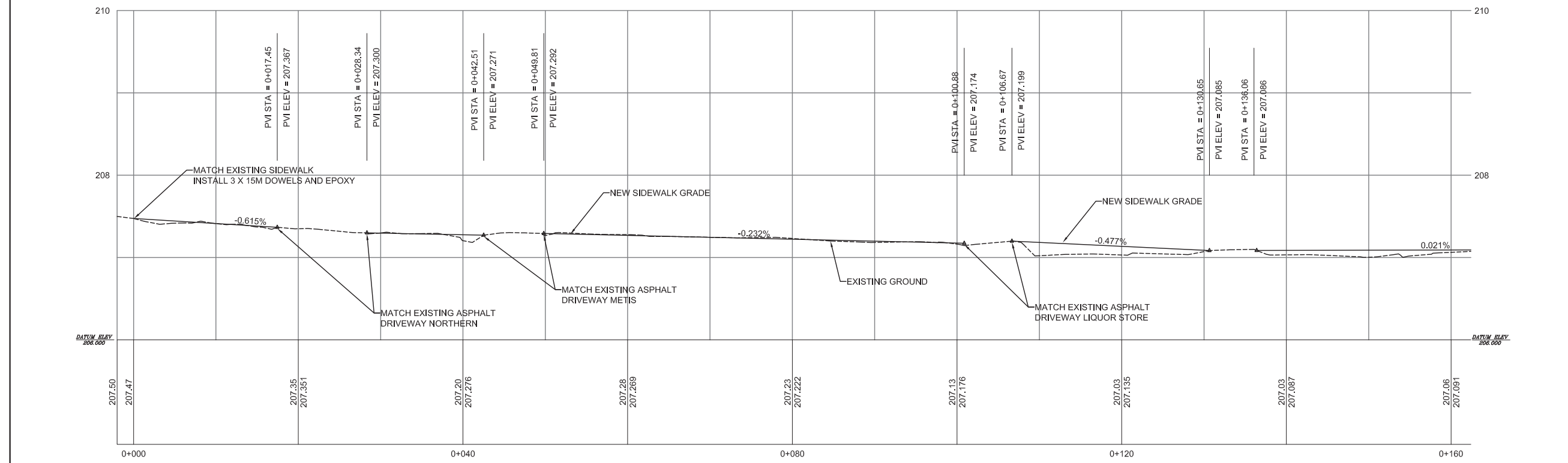
The Contractor to verify all dimensions, datum, and levels prior to beginning work and is to report immediately all discrepancies to the Engineer. This drawing is the exclusive property of MASKWA ENGINEERING.

DO NOT SCALE FROM DRAWINGS

DESIGN GH	DRAWN MH	DWG. NO. C-100
PROJECT NO. 25-068		SCALE AS SHOWN



**BREYNAT STREET STA 0+000 TO 0+160
 NEW SIDEWALK PLAN VIEW
 SCALE 1:500**



**BREYNAT STREET STA 0+000 TO 0+160
 NEW SIDEWALK PROFILE VIEW
 SCALE H 1:500 V 1:50**

LEGEND

NEW SIDEWALK	
EXISTING SIDEWALK	
EXISTING GRAVEL WALK	
NEW CULVERT	
EXISTING CULVERT	
PROPERTY LINE	
FENCE LINE	
DITCH	
ASPHALT SHOULDER	
POWER POLE	
MAJOR CONTOUR 1.0m	
MINOR CONTOUR 0.2m	

Client
 Town of Fort Smith
 147 McDougal Road
 Fort Smith, NT

REV	REVISION	DATE

revisions

PROJECT TITLE
 Town of Fort Smith
 Sidewalks 2026

DATE	ISSUED FOR

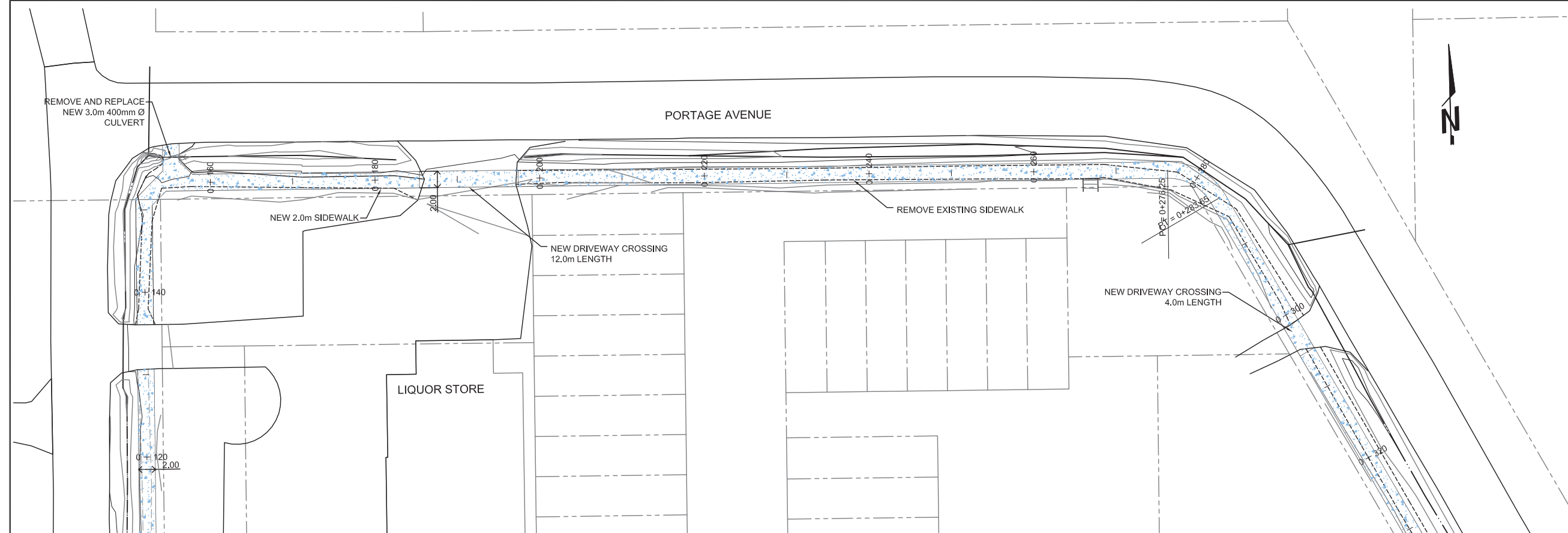
Jan 2026 Issued for tender

DRAWING TITLE
 PORTAGE AVENUE
 STA 0+160 TO 0+320
 NEW SIDEWALK
 PLAN PROFILE

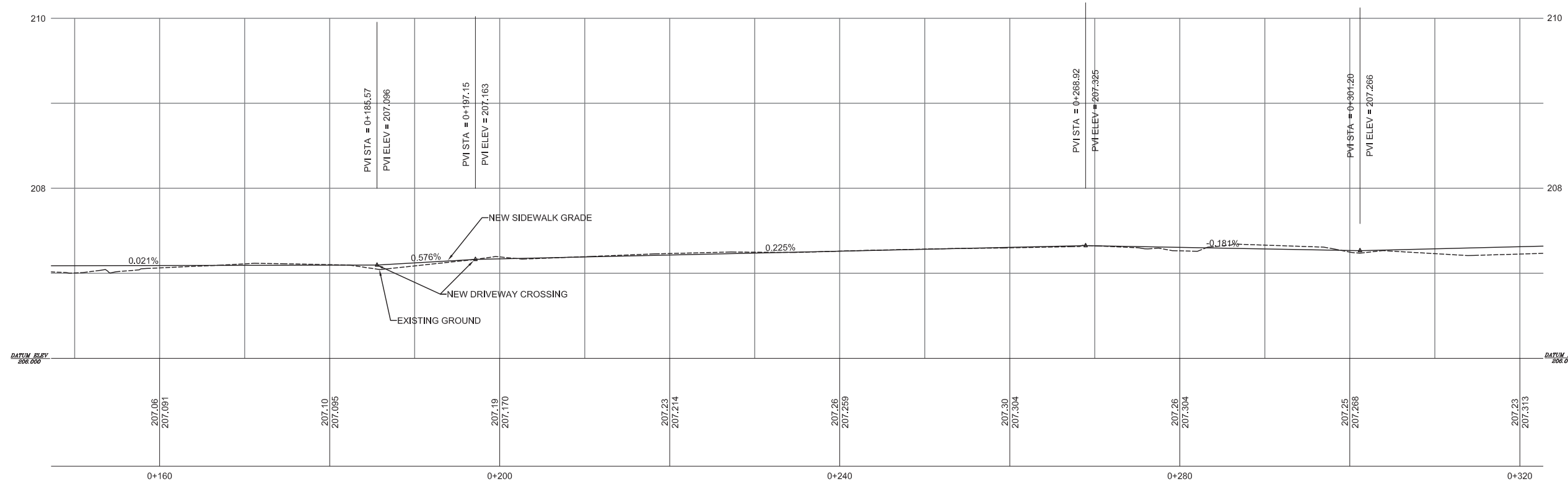
The Contractor to verify all dimensions, datum, and levels prior to beginning work and is to report immediately all discrepancies to the Engineer. This drawing is the exclusive property of MASKWA ENGINEERING.

DO NOT SCALE FROM DRAWINGS

DESIGN GH	DRAWN MH	DWG. NO. C-101
PROJECT NO. 25-068		SCALE AS SHOWN



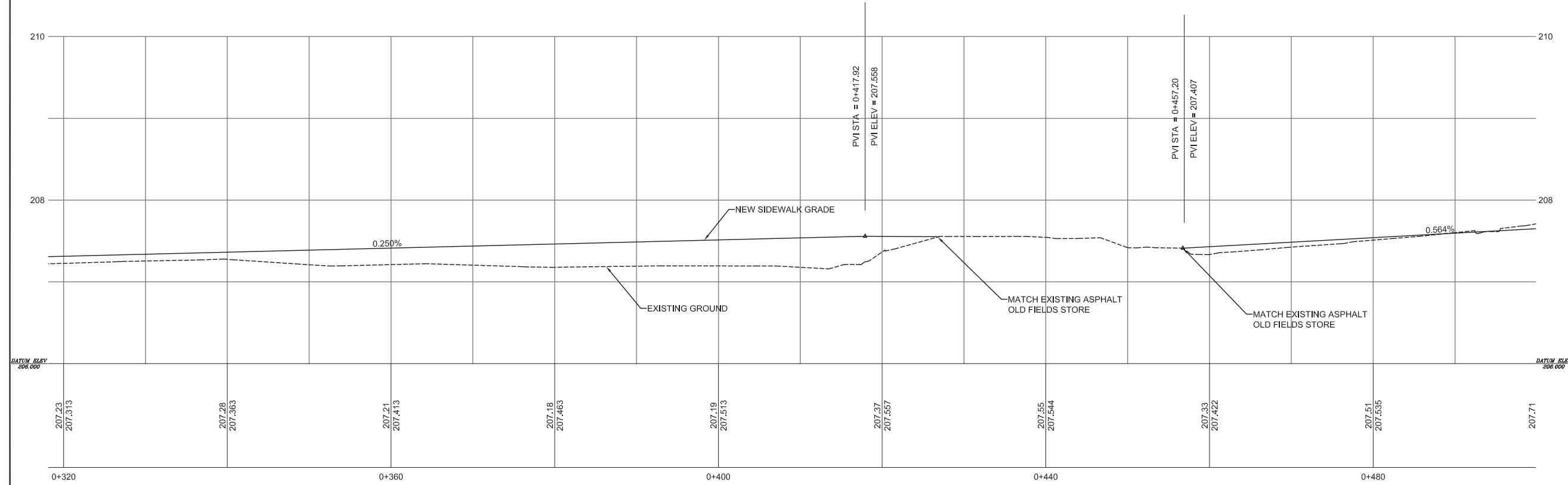
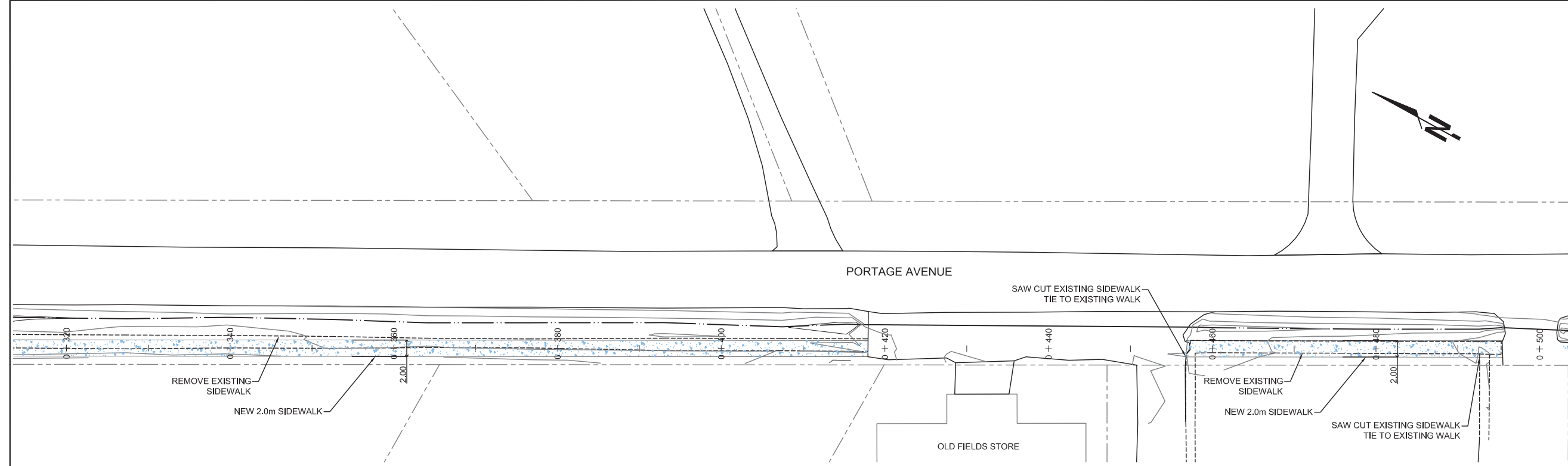
PORTAGE AVENUE STA 0+160 TO 0+320
 NEW SIDEWALK PLAN VIEW
 SCALE 1:500



PORTAGE AVENUE STA 0+160 TO 0+320
 NEW SIDEWALK PROFILE VIEW
 SCALE H 1:500 V 1:50

LEGEND

NEW SIDEWALK	
EXISTING SIDEWALK	
EXISTING GRAVEL WALK	
NEW CULVERT	
EXISTING CULVERT	
PROPERTY LINE	
FENCE LINE	
DITCH	
ASPHALT SHOULDER	
POWER POLE	
MAJOR CONTOUR 1.0m	
MINOR CONTOUR 0.2m	



Client
Town of Fort Smith
 147 McDougal Road
 Fort Smith, NT

REV	REVISION	DATE

revisions

PROJECT TITLE
**Town of Fort Smith
 Sidewalks 2026**

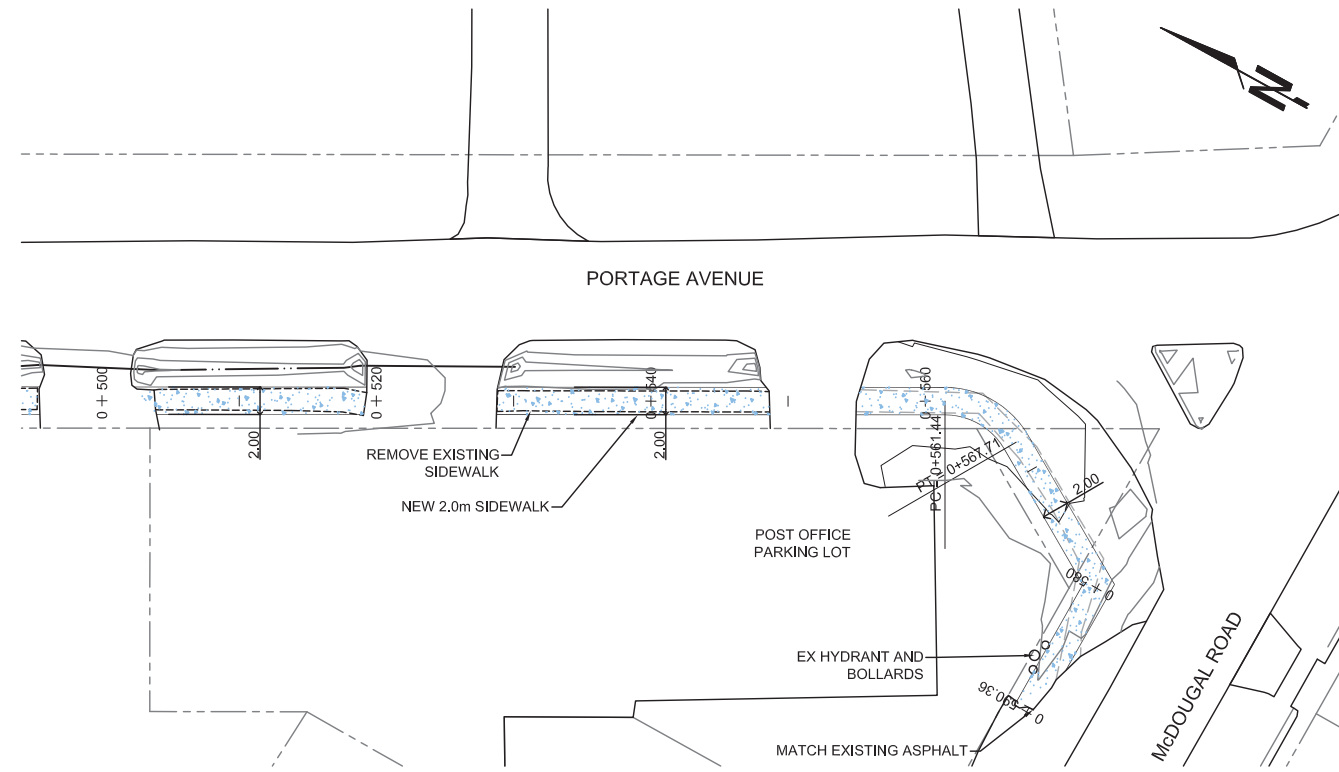
DATE	ISSUED FOR
Jan 2026	Issued for tender

DRAWING TITLE
**PORTAGE AVENUE
 NEW SIDEWALK
 PLAN PROFILE**

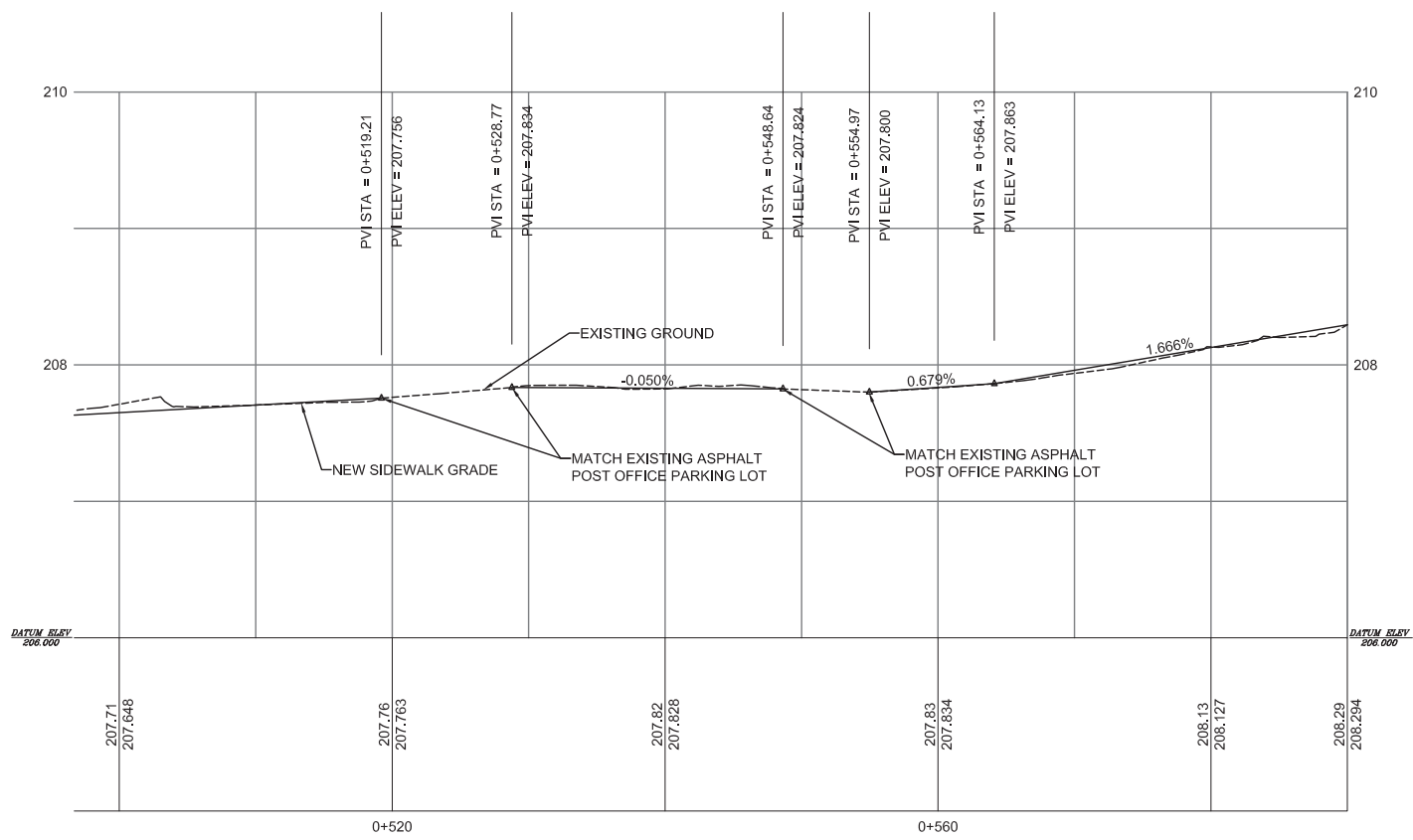
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DESIGN GH	DRAWN MH	DWG. NO. C-102
PROJECT NO. 25-068		SCALE AS SHOWN



PORTAGE AVENUE STA 0+500 TO 0+590.36
NEW SIDEWALK PLAN VIEW
 SCALE 1:500



PORTAGE AVENUE STA 0+500 TO 0+590.36
NEW SIDEWALK PROFILE VIEW
 SCALE H 1:500 V 1:50

LEGEND

NEW SIDEWALK	
EXISTING SIDEWALK	
EXISTING GRAVEL WALK	
NEW CULVERT	
EXISTING CULVERT	
PROPERTY LINE	
FENCE LINE	
DITCH	
ASPHALT SHOULDER	
POWER POLE	
MAJOR CONTOUR 1.0m	
MINOR CONTOUR 0.2m	

Client
 Town of Fort Smith
 147 McDougal Road
 Fort Smith, NT

REV	REVISION	DATE

revisions

PROJECT TITLE
 Town of Fort Smith
 Sidewalks 2026

DATE	ISSUED FOR
Jan 2026	Issued for tender

DRAWING TITLE
 PORTAGE AVENUE
 STA 0+500 TO 0+590.36
 NEW SIDEWALK
 PLAN PROFILE

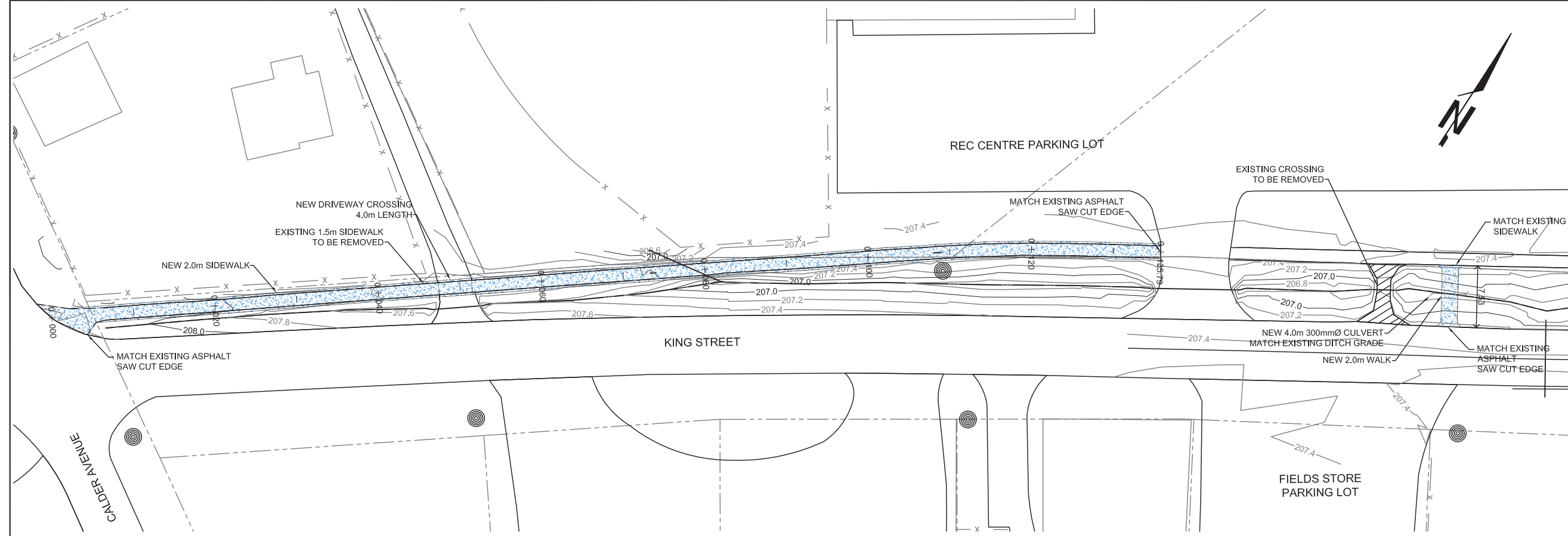
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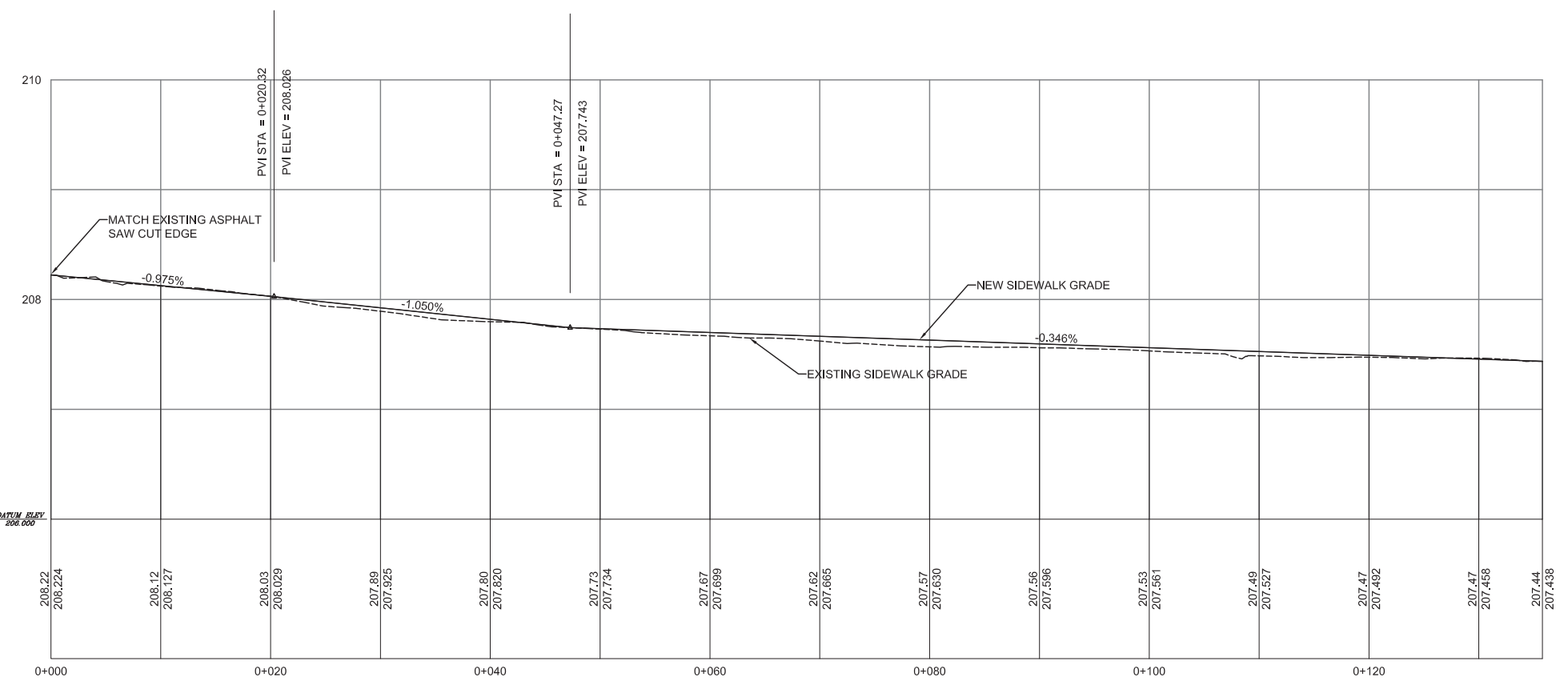
DESIGN GH	DRAWN MH	DWG. NO. C-103
PROJECT NO. 25-068		SCALE AS SHOWN

LEGEND

NEW SIDEWALK	
EXISTING SIDEWALK	
EXISTING GRAVEL WALK	
NEW CULVERT	
EXISTING CULVERT	
PROPERTY LINE	
FENCE LINE	
DITCH	
ASPHALT SHOULDER	
POWER POLE	
MAJOR CONTOUR 1.0m	
MINOR CONTOUR 0.2m	



KING STREET NEW SIDEWALK AND CROSSING PLAN VIEW
 SCALE 1:500



KING STREET NEW SIDEWALK AND CROSSING PROFILE VIEW
 SCALE H 1:500 V 1:50

Client
 Town of Fort Smith
 147 McDougal Road
 Fort Smith, NT

REV	REVISION	DATE

revisions

PROJECT TITLE
 Town of Fort Smith
 Sidewalks 2026

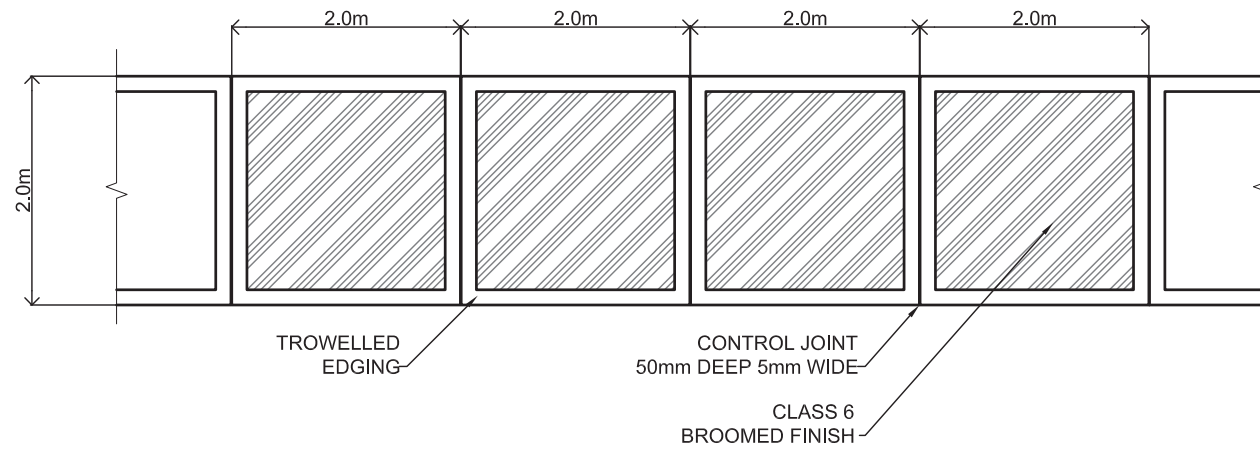
DATE	ISSUED FOR
Jan 2026	Issued for tender

DRAWING TITLE
**KING STREET NEW
 SIDEWALK AND
 CROSSING
 PLAN PROFILE**

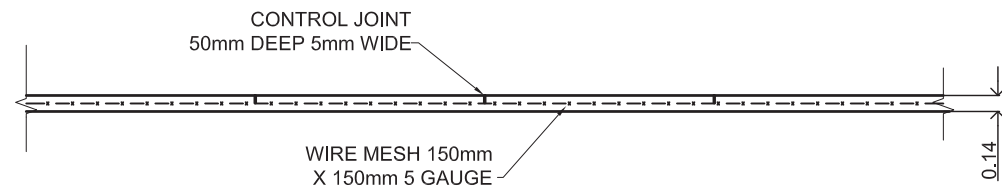
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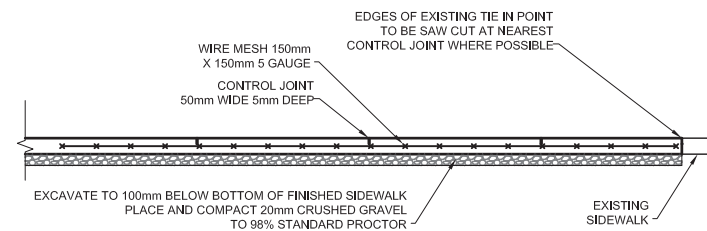
DESIGN GH	DRAWN MH	DWG. NO. C-105
PROJECT NO. 25-068		SCALE nts



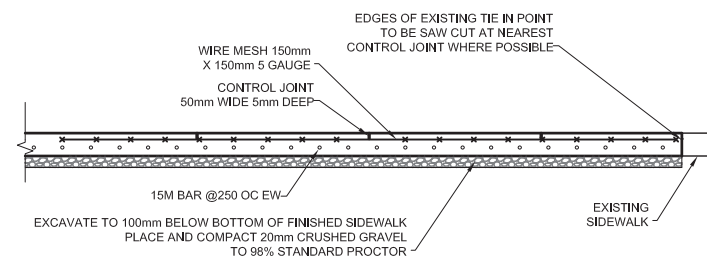
TYPICAL NEW SIDEWALK PLAN VIEW
SCALE 1:250



TYPICAL NEW SIDEWALK PROFILE VIEW
SCALE 1:60



TYPICAL SPOT REPAIR PROFILE VIEW
SCALE 1:250



TYPICAL SPOT REPAIR DRIVEWAY CROSSING
PROFILE VIEW
SCALE 1:60

GENERAL CONCRETE

- This design is intended for use under the supervision of a qualified professional engineer.
- Competency and consistency of the soil conditions at the base of the foundation shall be examined and approved by a qualified professional engineer prior to construction.
- All dimensions to existing to be verified on site.
- Report any unforeseen ground or site conditions to the general contractor and consultant before proceeding
- Provide a steel trowel finish to the top of foundation. The foundation must be square, level and plumb.
- Perform all concrete work so as to meet or exceed the minimum standards set out in the CAN/CSA-A23.1.
- Formwork for concrete, shoring and temporary support shall be designed by a Professional Engineer registered in the Northwest Territories.
- Chamfer all exposed edges of concrete with a 19mm chamfer unless otherwise noted.
- Control Joints shall be provided in all slabs-on-grade at a maximum spacing of 3050mm (10') in both directions, unless noted otherwise on the drawings.
- Concrete finishes shall be in accordance with CAN/CSA A23.1 as follows unless noted otherwise:
Interior Slabs - Trowelled Finish
Exterior Slabs - Broom Finish
Walls (Typical)
Fill in all defects larger than 25mm (1") diameter and grind ridges flush with surrounding surfaces
- All concrete curing shall be in accordance with CAN/CSA A23.1
- Thoroughly consolidate all concrete using vibrators or other suitable tools during the placing operation. Thoroughly work the concrete into corners and forms and around the reinforcement.
- Use winter concreting methods in accordance with CSA A23.1 when mean daily temperature falls below 5 degrees Celcius.
- All forms shall remain in place for a minimum of 7 days. During this period maintain a temperature range of 10 to 25 degrees Celsius. Protect concrete as CAN/CSA-A23.1.

REINFORCED CONCRETE SPECIFICATIONS

- The concrete must meet the following specification
Type 32 MPa -CI 32 GU AP
Min 28 day strength 32 MPa
Max Slump 80mm
Max Aggregate Size 20mm
Air Entrainment 5% - 8% +/- 1%
Max Water Cement Ratio 0.45
- Aggregates used in concrete mix should be non-alkali-silica reactive type
- Concrete cover over reinforcing steel to be as follows
Cast against earth: 75mm
Walls: 50mm
Slabs 25mm
- Carry out concrete curing as per CSA-A23-1

REINFORCEMENT SPECIFICATIONS

- Reinforcing steel to be deformed billet steel bars of grade 400 steel conforming to CSA G30.12-M1977
- Detailing, placing, splicing and support to conform to CAN3-A23.1-M77
 - Reinforcement shall be securely placed by means of concrete or steel chairs
 - Tie reinforcing bars together using 18 gauge wire
- Welded wire mesh to CSA G30.5-M1983
- Tension and Compression Embedment. Where embedment is dimensioned on the drawings such dimensions shall apply. Where no embedment is called for on the drawings, it shall be as noted below for tension embedment. Except for columns which shall be a compressive embedment.

Table 4.1 Compression Embedment and Tension Embedment

BAR SIZE	Concrete Compressive Strength			Tension Embedment (mm)				
	20 MPa	25 MPa	30+ MPa	20 MPa	25 MPa	30 MPa	35 MPa	40 MPa
10M	245	225	205	355	325	300	300	300
15M	355	305	280	515	460	420	380	355
20M	430	380	355	635	560	515	485	450
25M	535	485	430	1015	915	830	765	715

- Tension Compression Lap Splices
 - Where splices are dimensioned on the drawings, such dimensions shall apply. Where no splice is called for it shall be as noted below for tension splices.
 - All splice lengths are class "B" category

Table 5.3 Compression Embedment and Tension Splice

BAR SIZE	Compression Splice (mm)		Tension Splice (mm)			
	20 Mpa	25 Mpa	30 Mpa	35 Mpa	40 Mpa	40 Mpa
10M	330	470	430	400	400	400
15M	485	690	600	560	500	485
20M	585	815	735	665	635	580
25M	740	1320	1190	1075	1000	935

- Splice and Lap Splices
 - Increase embedment and splice lengths by 1.3 for top reinforcement having 300mm (12") or more concrete cast below the bar
 - Increase embedment and lap splice lengths by 1.5 for epoxy reinforcement
 - Increase embedment and lap splice lengths by 1.7 for epoxy reinforcement to reinforcement
 - Increase tension embedment and tension splice length by 1.4 for top bars in one way slabs, bottom bars in slab bands and for beams and columns that do not have minimum stirrups and ties within the embedment or splice length.
 - No splices other than those noted on the drawings are permitted without the permission of the Structural Engineer.



LEGEND

NEW SIDEWALK	
EXISTING SIDEWALK	
EXISTING GRAVEL WALK	
NEW CULVERT	
EXISTING CULVERT	
PROPERTY LINE	
FENCE LINE	
DITCH	
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MAJOR CONTOUR 1.0m	
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Client
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REV	REVISION	DATE

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PROJECT TITLE
Town of Fort Smith Sidewalks 2026

DATE	ISSUED FOR

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DRAWING TITLE
TYPICAL DETAILS AND GENERAL NOTES

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DESIGN	DRAWN	DWG. NO.
GH	MH	C-300
PROJECT NO.		
25-068		
SCALE		
nts		