CONTRACT SPECIFICATIONS FOR

TOWN OF NIPAWIN.

LANDFILL CLOSURE PROJECT

JULY 2024

Prepared by PINTER & Associates Ltd.

DIVISION 00 – BIDDING AND CONTRACT REQUIREMENTS

DIVISION 01 – GENERAL INSTRUCTIONS

DIVISION 02 – SITE CONDITIONS

DIVISION 31 – EARTHWORKS

Engineering Drawings

Drawing Number	Drawing Title
Landfill Closure	
DWG-1	Site Location
DWG-2	Site Layout
DWG-3	Landfill Cover Section Views
Laydown Area	
DWG-1	Site Location
DWG-2	Site Layout
DWG-3	Site Elevation Map

Electronic submissions containing Bids clearly marked for the **"Town of Nipawin, Landfill Closure Project"** and addressed **PINTER & Associates, Att. Bennet Awume, 710A 48th Street East, Saskatoon, SK,** sent to **bennet.awume@pinter.ca before 3:00 pm CST on the 15th day of July 2024**. Bids submitted after the Bid closing time will not be accepted and will be returned to the Bidder unopened. The time, as indicated by the declining time clock on the Online Bidding System, shall be the official time for closing.

The work involves constructing the final cover for a landfill cell at the Nipawin Landfill and preparing a laydown area there.

Contract Documents will be available on the Sask Tenders website on or after June 24th, 2024, free of charge. Bidders are required to check for any updated information and addenda issued before the closing date and time at the Bids and Tenders website: https://sasktenders.ca/

Any changes to the Bid Documentation will be issued as written addenda, posted to the Sask Tenders website, and will form part of the Bid. No amendment of any kind to the tender is effective unless it is posted in a formal written addendum. Upon submitting this Bid, Bidders will be deemed to have received notice of all addenda that have been posted and deemed to have considered the information for inclusion in the tender submitted.

A non-mandatory site visit has been arranged at the Nipawin Landfill at 11:00 a.m. on July 4th, 2024. Technical inquiries by bidders are to be directed to Bennet Awume, P.Eng., bennet.awume@pinter.ca.

Bids must be accompanied by the specified Bid Bond and Consent of Surety Company payable to the Town of Nipawin. Failure to provide a Bid Bond and Consent of the Surety Company will be a factor taken into account when awarding the contract.

The lowest or any bid will not necessarily be accepted.

Owner's Name and Address:

Town of Nipawin.
210 2nd Avenue East,
Nipawin, SK S0E 1E0

Attention: Jamie Fast
General Manager of Operations and
Engineering Services
Telephone: (306) 862-9866, Ext. 223
Email: j.fast@nipawin.com

Engineer's Name and Address:

PINTER and Associates
710A 48th Street East
Saskatoon, SK S7K 5B4

Attention: Bennet Awume, P.Eng.
Telephone: (306) 244-1710
Email: bennet.awume@pinter.ca

PART 1 – GENERAL

1.1 DEFINITIONS

.1 Definitions

.1 "Bid Closing Time" means the time and date stipulated for receipt of bids in Article 1.3.1.1 of this Sections as may be amended by addendum.

.2 "Bid Documents" mean the bid documents obtained in accordance with Article 1.3.1.1 of these Instructions to Bidders and comprising all of the documents and drawings listed in the Table of Contents thereof and any addenda that may be issued thereto.

.3 "Bid Form" means Section 00 41 00 of the Bid Documents and the supplements thereto.

.4 "Bidder" means any holder of Bid Documents.

.5 "Total Bid" means the amount entered by the Bidder into the Bid Form on the line "TOTAL BID: (excluding GST & PST). The Total Bid will be only one of the criteria for the evaluation of bids. Bids will be evaluated in accordance with the evaluation criteria identified in Section 1.11.

.6 "Bid Price" means the monetary sum identified in Bid Form as an offer to perform the work.

.2 Additional Definitions

.1 The definitions set out in CCDC 4 are incorporated into and form part of this Section 00 21 13 - Instructions to Bidders.

1.2 LIMITATION OF LIABILITY

.1 The Bidder agrees that the Owner's sole Obligation, in return for the Bidder's preparation and submission of its bid, is to give consideration to the bid in accordance with the Contract Documents. The Bidder hereby waives any claim for damages or costs of any nature against the Owner and the Engineer (including, without limitation, the cost of preparing and submitting the Tender and any anticipated profits and contributions to overhead) arising out of the Owner's use of its discretion under the Contract Documents and the Engineer's advice to the Owner.

1.3 INVITATION

.1 Invitational Tender:

.1 Ensure offers are signed under seal, executed, and dated, and are received by email at bennet.awume@pinter.ca before 3:00 pm CST on the 15th day of July 2024.

.2 Offers submitted after above time will be returned to Bidder unopened.

.3 Offers will be opened privately immediately after time for receipt of Bids.

.4 Amendments to submitted offer will be permitted if received in writing through email prior to Bid closing and if endorsed by same party or parties who signed and sealed the original offer.

1.4 INTENT

.1 Intent of this Invitational Tender is to obtain an offer to perform Work to complete the construction of a Landfill Cell Closure, for a Unit Price contract, in accordance with Contract Documents. Refer to Section 01 00 00 General Requirements.

.2 Perform Work within time in Section 01 11 00 - Summary of Work.

.3 Initiate Work within timeline stated within Section 01 11 00 - Summary of Work.

1.5 CONTRACT/BID DOCUMENTS

.1 Availability:

- .1 Electronic versions of Bid Documents will be provided to Invited firms at the commencement of the bid period.
- .2 Bid Documents are made available only for purpose of obtaining offers for this project. Their use does not confer license or grant for other purposes.
- .3 Bid documents irregularly obtained from sources other than those provided for in Article 1.5.1.1 (“unofficial bid documents”) are used entirely at the risk of the Person who holds them. Neither Engineer nor Owner undertakes to provide information or addenda to Persons holding unofficial bid documents. Any use which a Person makes of unofficial bid documents or any reliance on or decisions to be made based on them, are the responsibility of such Persons. Engineer and Owner accept no responsibility for damages, if any, suffered by any Person as a result of decisions made or actions based on unofficial bid documents. Bids received from Persons holding unofficial bid documents may be declared informal at the sole and unfettered discretion of the Owner and if so declared will be rejected.

.2 Examination:

- .1 Upon receipt of Bid Documents verify that documents are complete. Notify Engineer should the document be incomplete.
- .2 Immediately notify PINTER upon finding discrepancies or omissions in Bid Documents.

.3 The Owner reserves the right to either cancel the invitation to tender, not award any contract, negotiate a tender and awarded contract, or add or remove scope from the accepted tender and awarded contract

.4 Queries/Addenda:

- .1 Direct questions to PINTER, attention Bennet Awume in writing through e-mail at bennet.awume@pinter.ca no later than
- .2 All question responses will be provided in writing through email.
- .3 Addenda will be in written form and may be issued the bidding period. Addenda will become part of Contract Documents. Include costs in Bid Price.
- .4 Clarifications requested by Bidders must be in writing not less than three days before date set for receipt of Bids.
- .5 If required an addendum may follow the reply to bidders.

.5 Product/System Options:

.1 Where Bid Documents stipulate a particular product, substitutions will be considered by the owner only after formal award of the project. Do not include contractor-initiated options within the bid submission.

1.6 SITE EXAMINATIONS

.1 Site Examination:

.1 A non-mandatory site visit has been arranged at the Nipawin Landfill at 11:00 a.m. on 4th day of July 2024. Attendants at the site visit may not represent multiple (more than one) bidders.

1.7 QUALIFICATIONS

.1 Bidders' Qualifications:

.1 Submit complete Document 00 45 13 - Bidders' Qualification form with the Bid Form.

.2 Indicate the OHS Act Certificate of Registration number. Refer to Supplementary Conditions.

.2 Subcontractors:

.1 Owner reserves right to reject proposed subcontractor for reasonable cause.

1.8 CONSTRUCTION SCHEDULE

.1 Required Construction Completion Date:

.1 Construction will be completed no later than the 31st October 2024.

1.9 LIQUIDATED DAMAGES

.1 Liquidated Damages:

.1 Failure to meet the above construction completion date will result in liquidated damages fees to accrue at a rate of $4,000/day each calendar day. Fees will accrue starting the day after required construction completion date and continue until Substantial Completion of the project.

1.10 BID SUBMISSION

.1 Bid Ineligibility:

.1 Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may be declared informal at Owner's discretion.

.2 Bids with Bid Forms and enclosures which are improperly prepared may be declared informal at Owner's discretion.

.3 Bids that fail to include security deposit, bonding or insurance requirements will be declared informal.

.2 Submissions:

.1 Bidders are solely responsible for delivery of their Bids in manner and time prescribed.

.2 Submit two copies of executed offer on Bid Forms provided, signed and with corporate seal together with required security in sealed opaque envelope, clearly identified with Bidder's name, project name and Owner's name on outside.

.3 An abstract of submitted Bids will be made available to Bidders following Bid opening.

.3 Bid Modifications:

.1 Written amendments to the submitted shall be permitted if received in hard copy or by email to bennet.awume@pinter.ca at the office where bids are being opened prior to Bid Closing Time, provided that bid amendments are endorsed by the same party or parties who signed and sealed the offer.

.2 The onus is on Bidder to ensure timely receipt of bid modifications. Owner makes no assurances regarding availability of fax communication lines or equipment. To be considered, fax transmissions of bid modifications must be received in full prior to Bid Closing Time.

.3 An amendment that expressly or by inference discloses Bidder's Total Bid or other material element of the bid, such that in the opinion of Owner the confidentiality of the bid is breached, shall be valid cause for Owner, at their sole discretion to reject the bid.

.4 Amendments submitted via email shall not be permitted.

.4 Bid Withdrawal:

.1 Bidder shall be permitted to withdraw bid without prejudice, provided a request, in writing or by fax, signed by the same person or persons who signed the Bid Form is received at the office designated in the Bid Documents before Bid Closing Time. Error on the part of Bidder in preparing the bid confers no right to the withdrawal of the bid after it has been opened.

1.11 BID ENCLOSURES/ REQUIREMENTS

.1 Security Deposit:

.1 Bids are to be accompanied by security deposit as follows: Bid Bond or certified cheque in an amount not less than 10 percent of Bid price.

.2 Endorse Bid Bond or certified cheque in name of Owner as obligee, signed and sealed by principal (Contractor) and surety.

.3 Use most current edition CCDC approved bond forms.

.4 Security deposit will be returned after delivery to Owner of required Performance and Labour and Materials Payment Bond(s) by accepted Bidder.

.5 If no contract is awarded, security deposits will be returned.

.6 If accepted Bidder fails for any reason to execute Contract Agreement or to provide the surety bonds stipulated in Section 00 73 16 – Insurance within the time agreed to in the Bid Form, and such extension of time as may be granted by Owner, the accepted by Bidders' surety shall pay to the Owner the amount of the difference in money between the Total Bid and the amount for which Owner may legally contract with another party to perform the work, if the latter amount be in excess of the former.

.2 Consent of Surety:

.1 Submit with Bid Form and Bid Bond, Consent of Surety, stating that surety providing Bid Bond is willing to supply Performance and Labour and Materials Payment Bond specified.
.2 Include cost of bonds in Bid Price.

.3 Performance Assurance:

.1 Accepted Bidder must provide Performance and Labour and Materials Payment Bond as described in Section 00 61 13.
.2 Include cost of bonds in Bid Price.

.4 Insurance:

.1 Provide signed "Undertaking of Insurance" on standard form provided by insurance company stating intention to provide insurance to Bidder in accordance with insurance requirements of Contract Documents.

.5 Bid Form Requirements:

.1 Bidder, in submitting an offer, accepts time period stated in Contract documents for performing Work. Completion date in Agreement is completion time added to commencement date.

.6 Fees for Changes in Work:

.1 Include in Bid Form, percentage markup for overhead and profit applicable for changes in Work, whether additions to or deductions from Work on which Bid price is based.
.2 Include in Bid Form, fees proposed for subcontract work for changes (both additions and deductions) in Work. Contractor may apply markup as noted, to subcontractor's gross (net plus markup) costs on additional work.

.7 Bid Signing:

.1 Bid Form to be signed under seal by Bidder.
.2 Sole Proprietorship: signature of sole proprietor in presence of witness who shall also sign. Insert words "Sole Proprietor" under signature. Affix seal if applicable.
.3 Partnership: signature of all partners in presence of witness who shall also sign. Insert word 'Partner' under each signature. Affix seal to each signature.
.4 Limited Company: signature of duly authorized signing officer(s) in normal signatures. Insert officer's capacity in which signing officer acts, under each signature. Affix corporate seal. If Bid is signed by officials other than President and Secretary of company, or President-Secretary-Treasurer of company, copy of by-law resolution of Board of Directors authorizing them to do so must also be submitted within Bid envelope.
.5 Incorporated Company: signature of duly authorized signing officer(s) in normal signatures. Insert officer's capacity in which signing officer acts, under each signature. Affix corporate seal. If Bid is signed by officials other than President and Secretary of company, or President-Secretary-Treasurer of company, copy of by-law resolution of Board of Directors authorizing them to do so must also be submitted within Bid envelope.

.6 Joint Venture: each party of joint venture must execute Bid under respective seals in manner appropriate to such party as described above, similar to requirements of Partnership.

.8 Supplements to Bid Form to be submitted with bid:

.1 Document 00 61 00 - Bid Bond.
.2 Document 00 43 36 - Subcontract List. List the names of all subcontractors. Identify portion(s) of the work to be performed by each subcontractor.
.3 Document 00 43 83 - Construction Schedule. Provide the requested schedule information to demonstrate ability to plan work and respond to critical deadlines.
.4 Document 00 45 13 - Bidders' Qualifications. Complete in all details and submit with the Bid Form.

.9 Supplements to Bid Form for post-bid Submission:

.1 Following bid submission, upon request from Engineer, Bidders under consideration for contract award are required to complete the following Supplements to Bid Form within two (2) Business Days of receipt of the request:
.a Document 00 43 43 - Force Account Rates. List all personnel and equipment hourly rates likely to be used on the project. These rates will form the basis for payment for force account work carried out in accordance with CCDC 4.

1.12 OFFER ACCEPTANCE/ REJECTION

.1 Duration of Offer:

.1 Bids to remain open to acceptance, and irrevocable for 30 days after Bid closing date.

.2 Acceptance of Offer:

.1 Owner reserves right to accept or reject any or all offers.
.2 After acceptance by Owner, PINTER will issue to successful Bidder, written Bid acceptance.
.3 Unsuccessful bidders will be notified promptly of the process outcome.
.4 After Bid has been accepted, unsuccessful Bids will be returned to respective Bidders with submitted Bid securities and other requested enclosures.

1.13 PROJECT FUNDING

.1 This project is funded in part by the Government of Saskatchewan and the Government of Canada:

1.14 BID EVALUATION

.1 Bids will be evaluated via a points system with the following points distribution:

.1 Price – 70 point
.a Points for price will be allotted according to a mathematical formula in which the lowest bidder receives

full points and all other bidders receive points in proportion to their price as compared to the lowest bid.

.2 Experience – 20 points

.a Points for experience will be awarded according to the bidder's or their subcontractor's demonstrated experience in the last 5 years. The project examples must be similar in size, scope and nature to the Project including a history of its on-schedule and on-budget performance of such projects. The exact allotment of these points is necessarily subjective and will be at the sole discretion of the evaluator(s).

.3 Schedule – 5 points

.a Points for Schedule will be allotted according to a mathematical formula in which the bidder with the shortest schedule will be awarded full points and all other bidders receive points in proportion to the length of their schedule as compared to the shortest schedule.

.4 Local Content – 5 points

.a Points for local content and experience will be awarded according to the bidder's proximity to the job and/or commitment to include local labourers on the job. The exact allotment of these points is necessarily subjective and will be at the sole discretion of the evaluator(s).

.2 Only qualified Bids will be considered by the Owner.

.3 Bids will be evaluated based on the Stipulated Price (Base Bid Price) (as well as the Alternative Prices and Unit Prices included in the Appendices to the Bid Form).

.4 The Owner may, in its sole discretion, request clarification from a Bidder during the evaluation process. In responding to a request for clarification, the Bidder shall not revise, amend, or otherwise modify their submission alter its Bid.

.5 In assessing Bids, the Owner expects to select the Bidder that will provide the overall best value to the Owner, as determined by the Owner in its sole discretion

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 REPORT .1 Not Used.

PART 2 – PRODUCTS

2.1 NOT USED .1 Not used.

PART 3 – EXECUTION

3.1 NOT USED .1 Not used.

END OF SECTION

TO: Town of Nipawin
210 2nd Avenue East
Nipawin, SK S0E 1E0

The undersigned Bidder, having carefully examined the Contract Documents and locality of the proposed work, and having full knowledge of the work required and the materials to be furnished and used, hereby agrees to provide all necessary materials, supervision, labour and equipment and perform and complete all work, and fulfill everything as set forth and in strict accordance with the Contract Documents and Addenda numbered [1]_____ for the prices stated in the Schedule of Quantities and Prices.

[1] Bidder to fill each Addendum No. received, e.g., 1,2,3, etc. as applicable.

The undersigned also agrees:

1 That Owner is in no way obligated to accept this bid;
2 that Owner may, at Owner's discretion, award to other than the low Bidder;
3 that, if the Bid Form is improperly completed or incomplete, Owner shall have the right to disqualify and/or reject this bid;
4 that this bid is made without knowledge of the bid prices to be submitted for this work by any other company, firm, or person;
5 that this bid is made without any connection or arrangement with any other company, firm, or person submitting a bid for this work;
6 that this bid is made without any undisclosed connection or arrangement with any other company, firm, or person submitting a bid for this work;
7 that this bid is irrevocable for sixty (60) days after the closing date for receipt of bids and that the Owner may, at any time within such period, accept this bid whether any other bid has previously been accepted or not and whether Notice of Award of a contract has been given or not;
8 to deposit with Owner a Performance Bond and Labour and Material Payment Bond on the forms provided in these documents and for the amount specified in the CCDC and the specified insurance endorsement certificates and execute the Contract Agreement in accordance with the time periods specified in the CCDC, such time periods being extended only on the written approval of Owner;
9 to commence and proceed actively with the work promptly following receipt of the Notice to Proceed, and to complete all work under the Contract within a period of *_____ calendar days from Notice of Award, subject to the provisions of the CCDC for extension of Contract Time;
10 to compensate Owner in accordance with the Contract Documents if the work is not completed with the Contract Time;
11 to do all extra work not reasonably interfere from the specifications or drawings, but called for in writing by Engineer and to accept as full compensation therefore payment in accordance with the provisions of the CCDC;
12 that estimates of quantities shown in the Bid Form serve only to provide a bases for comparing bids and that no representations have been made by either Owner or Engineer that the actual quantities will even approximately correspond therewith, and further, that Owner has the right to increase or decrease the quantities in any or all items and to eliminate items entirely from the work;
13 that payment for the work done will be made on the basis of the quantities measured by Engineer and at the prices shown the Bid Form which shall be compensation in full for the work done under the terms of the Contract, exclusive of GST payable by Owner;
14 that payment for the work done will be made at the bid price(s) which shall be compensation in full for the work done under the terms of the Contract, exclusive of GST payable by Owner; and

* Contractor to complete

SCHEDULE OF QUANTITIES AND PRICES

Item	Description	Unit	Quantity		Unit Price		Extension
1.0	**Miscellaneous Items**						
1.1	Mobilization	L.S.	1	$	_____	$	_____
1.2	Bonding and Insurance	L.S.	1	$	_____	$	_____
1.3	Supervision	L.S.	1	$	_____	$	_____
1.4	Live Out Allowance	L.S.	1	$	_____	$	_____
1.5	Contractor Site Office	L.S.	1	$	_____	$	_____
1.6	Survey Allowance	L.S.	1	$	_____	$	_____
1.7	Demobilization	L.S.	1	$	_____	$	_____
					Subtotal	$	_____
2.0	**Landfill Site Work**						
2.1	Site Grading/Preparation	m^2	60,000	$	_____	$	_____
2.2	Concrete and Asphalt Crushing Allowance	m^3	40,000	$	_____	$	_____
2.3	Excavation/Hauling/Grading, Placement, and Compaction of Fill	m^3	23,500	$	_____	$	_____
2.4	Excavation/Hauling/Grading, Placement, and Surface Preparation of Clean Fill under GCL	m^3	20,000	$	_____	$	_____
2.5	Supply and Delivery of GCL Liner	m^2	50,000	$	_____	$	_____
2.6	Installation of GCL Liner	L.S.	1	$	_____	$	_____
2.7	Excavation/Hauling/Grading, and Placement of Sand Subsoil	m^3	16,200	$	_____	$	_____
2.8	Hauling, Placement and Grading of Topsoil	m^3	10,700	$	_____	$	_____
2.9	Seeding and Fertilizing	m^2	50,000	$	_____	$	_____
					Subtotal	$	_____
3.0	**Laydown Area Site Work**						
3.1	Site Grading/Preparation	m^2	350,000	$	_____	$	_____
3.2	Laydown Area Cut and Subgrade Scarification and Compaction	m^3	15,000	$	_____	$	_____
3.3	Laydown Area Fill with Compaction of Fill in 150 mm Lifts	m^3	15,300	$	_____	$	_____
					Subtotal	$	_____

BID SUMMARY

TOTAL BID (excluding GST)	$
Goods and Services Tax	$

Total – Value of Materials	$
Total – Value of Saskatchewan Provincial Sales Tax at 6.00 %	$

SUPPLEMENTS TO BID FORM

The following Supplements to Bid Form are included with and form a part of the Bid. We understand that the information provided on these forms will be used by the Owner during Bid analysis.

00 43 36 - Subcontract List
00 43 83 - Construction Schedule
00 45 13 - Bidders Qualifications
00 61 00 - Bid Bond
00 61 13 - Labour and Material Payment Bond
00 61 13.13 - Performance Bond
00 62 16 - Certificate of Insurance
00 43 43 - Force Account Rates

This bid is executed under seal at _____ this _____ day of _____, 20__.

_____
Name of firm

_____
Address

For Individual or Partnership:
SIGNED, SEALED ND DELIVERED by:

_____ _____
Bidder (please print) Signature

in the presence of: _____
Title

_____
Name

_____
Address

_____
City/Province/PC Seal

_____
Occupation

For Individual or Partnership:
The Corporate Seal of:

_____
Bidder (please print)

was hereunto affixed in the presence of:

_____
Authorized Signing Office Title

Seal

_____
Authorized Signing Office Title

END OF SECTION

Supplement to Bid Form

It is our intention that the following work will, subject to Engineer's approval be subcontracted to the firms indicated below. All other work will be performed by our own forces, except as authorized in writing by Engineer.

Trade	Name and Address of Subcontractor

END OF SECTION

Supplement to Bid Forms
SCHEDULE OF FORCE ACCOUNT RATES

The following personnel and equipment rates will form the basis of payment for force account work carried out in accordance with the General Conditions. The rates shown are all inclusive. Contractor overhead and profit and, where applicable, subcontractor overhead and profit, are included in the rates. (Add additional pages, if necessary).

PERSONNEL

List by Occupation	Hourly Rate	Overtime Rate

EQUIPMENT
(Complete with Operator)

Description	Hourly Rate	Model and Size

END OF SECTION

Supplement to Bid Form

The following is a list of suppliers from whom we intend to purchase various items of material indicated, together with the product brand name or the name of the manufacturer of each. We will alter neither products nor suppliers from those listed below without the written authorization of the Engineer.

Item	Supplier

END OF SECTION

Use CCDC standard form 220, an example of which follows.

No……
$……

KNOW ALL MEN BY THESE PRESENTS THAT
……

……
……as Principal

hereinafter called the Principal, and
……

a corporation created and existing under the laws of
……

and duly authorized to transact the business of Suretyship in……

as Surety, hereinafter called the Surety, are held and firmly bond unto……

……
……as Obligee

hereinafter called the Obligee, in the amount
of……

……
……Dollars ($)

lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a written tender to the Obligee, dated
the…… day of
……,20…… for
……
……
……
……
……
……
……
……
……
……

NOW, THEREFORE, THE CONDITIONS OF THIS OBLICATION is such that if the aforesaid Principal shall have the tender accepted within sixty (60) days from the closing date of tender and the said Principal will, within the time required, enter into a formal contract and give the specified security to secure the performance of the terms and conditions of the Contract, then this obligation shall be null and void. Otherwise the Principal and the Surety will pay unto the Obligee the difference in money between the amount of the bid of the said Principal and the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the former.

The Principal and the Surety shall not be liable for a greater sum than the specified penalty of this bond,

Any suit under this bond must be instituted before the expiration of six months from the date of this Bond.

IN WITNESS WHEREOF, the Principal and the Surety and Signed and Sealed this Bond this …… day of ……,
20……

SIGNED AND SEALED
In the presence of

(
(
(
(……(Seal)
Principal

(
(
(
(……(Seal)
Surety

END OF SECTION

Use CCDC standard form 222, an example of which follows.

No……
$……
Note: This Bond is issued simultaneously with another Bond in favour of the Obligee conditioned for the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS THAT
……

……as Principal

hereinafter called the Principal, and
……

a corporation created and existing under the laws of
……

and duly authorized to transact the business of Suretyship in……

as Surety, hereinafter called the Surety, subject to the conditions hereinafter contained, held and firmly bound unto……

……as Trustee

hereinafter called the Obligee, for the use and benefit of the Claimants, their and each of their heirs, executors, administrators, successors and assigns in the amount
of……
……

……Dollars ($
)

lawful money of Canada, for the payment of which sum, well and truly to be made the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a written tender to the Obligee, dated
the…… day of
……,20…… For ……
……
……
……
……
……
……

which Contract Documents are by reference made a part hereof, and are hereinafter referred to as the Contract.

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

1. A Claimant for the purpose of this Bond is defined as one having a direct contract with the Principal for labour, material, or both, used or reasonable required for use in the performance of the Contract, labour and material being construed that part water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment directly applicable to the Contract provided that a person firm or corporation who rents equipment to the Principal to be used in the performance of the Contract under a contract which provides that all or any part of the rent is to be applied towards the purchase price thereof, shall only be a Claimant to the extent of the prevailing industrial rental value of such equipment for the period during which the equipment was used in the performance of the Contract. The prevailing industrial rental value of equipment shall be determined, insofar as it is practical to do so, in accordance with and in the manner provided for in the latest revised edition of the publication of the Canadian Construction Associated titled "Rental Rates on Construction Equipment" published prior to the period during which the equipment was used in the performance of the Contract.
2. The Principal and the Surety hereby jointly and severally agree with the Obligee as Trustee that every Claimant who has not been paid as provided for under the terms of his contract with the Principal, before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labour was done or performed or materials were furnished by such Claimant, may as beneficiary of the trust herein provided for, sue on this Bond, prosecute to final judgment for such sum or sums as may be justly due to such claimant under the terms of a contract with the Principal and have execution thereon. Provided that the Obligee is not obliged to do or take any act, action or proceeding against the Surety on behalf of the Claimants, or any of them, to enforce the provisions of this Bond. If any act, action or proceeding is taken either in the name of the Obligee or by joining the Obligee as a party to such proceeding, then such act, action or proceeding shall be taken on the understanding and bases that the Claimants or any of them, who take such act, action or proceeding, shall indemnify and save harmless the Obligee against all costs, charges and expenses or liabilities incurred thereon and any loss or damage resulting to the Obligee by reason thereof. Provided still further that, subject to the foregoing terms and conditions, and Claimants, or any of them, may use the name of the Obligee to sue of enforce the provisions of this Bond.
3. No suit or action shall be commenced hereunder by any Claimant:
   (a) unless such Claimant shall have given written notice within the time limits hereinafter set forth to each of the Principal, the Surety and the Obligee, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal, the Surety and the Obligee, at any place where any office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the Contract is located. Such notice shall be given:
      (1) in respect of any claim for the amount or any portion thereof, required to be held back from the Claimant by the Principal under either the terms of the Claimant's contract with the Principal, or under the Builders' (Mechanics') Liens Legislation applicable to the Claimant's contract with the Principal, whichever is the greater, within one hundred and twenty (120) days after such Claimant should have been paid in full under the Claimant's contract with the Principal;
      (2) in respect of any claim other than the holdback, or portion thereof, referred to above, within one hundred and twenty (120) days after the date upon which such Claimant did, or performed, the last of the work or labour or furnished the last of the materials for which such claim is made under the Claimant's contract with the Principal;
   (b) after the expiration of one (1) year following the date on which the Principal ceased work on the Contract, including work performed under the guarantees provided in the Contract;
   (c) other than in a Court of competent jurisdiction in the Province or District of Canada in which the subject matter of the Contract, or any part thereof, is situated and not elsewhere, and the parties hereto agree to submit the jurisdiction of the Court.
4. The Surety agrees not to take advantage of Article 1959 of the Civil Code of the Province of Quebec in the event that, by an act or an omission of the Claimant, the Surety can no longer be subrogated in the rights, hypothecs and privileges of said Claimant.
5. Any material change in the contract between the Principal and Obligee shall not prejudice the rights or interest of any Claimant under this Bond, who is not instrumental in bringing about or has not caused such change.
6. The amount of this Bond shall be reduced by, and to the extent of any payment or payments made in good faith, and in accordance with the provisions hereof, inclusive of the payment by the Surety of Builders' (Mechanics'') Liens

which may be filed of record against the subject matter of the Contract, whether or not claim for such lien be presented under and against this Bond.

7. The Surety shall not be liable for a greater sum than the specified penalty of this bond.

IN WITNESS WHEREOF, the Principal and the Surety have Signed and Sealed this Bond this …… day of ……, 20……

SIGNED and SEALED
in the presence of

(
(
(
(……(Seal)
Principal

(
(
(
(……(Seal)
Surety

END OF SECTION

Use CCDC standard form 221, an example of which follows.

No……
$……

KNOW ALL MEN BY THESE PRESENTS THAT
……

……as Principal

hereinafter called the Principal, and
……

a corporation created and existing under the laws of
……

and duly authorized to transact the business of Suretyship in……

as Surety, hereinafter called the Surety, are held and firmly bond unto……

……as Obligee

hereinafter called the Obligee, in the amount
of……

……Dollars ($)

lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a written tender to the Obligee, dated
the…… day of ……..……,
20…… for ……..
……
……
……
……
……
……
…

in accordance with the Contract Documents submitted therefore which are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLICATION is such that if the shall promptly and faithfully perform the Contract then this obligation shall be null and void; otherwise it shall remain in full force and affect.

Whenever the Principal shall be, and declared by the Oblgiee to be, in default under the Contract, the Obligee having performed the Obligee's obligations thereunder, the Surety shall promptly remedy the default or shall promptly:

(1) complete the Contract in accordance with its terms and conditions, or
(2) obtain a bid of bids for submission to Obligee for completing the Contract in accordance with its terms and conditions, and upon determination by the Obligee and the Surety of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee and make available as work progresses (even though there should be a default, or a succession of defaults, under the contract or contracts of completion, arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not

exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount payable by the Obligee to the Principal under the Contract, less the amount properly paid by the Obligee to the Principal.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date which the final payment under the Contract falls due.

The Surety shall not be liable for a greater sum than the specified penalty of the Bond.

No right of action shall accrue on this Bond, to or for the use of, any person or corporation other than the Obligee named herein, or the heirs, executors, administrators or successors of the Obligee.

IN WITNESS WHEREOF, the Principal and the Surety have Signed and Sealed this Bond this
…… day of ……., 20……

SIGNED and SEALED
in the presence of

(
(
(
(…….(Seal)
Principal

(
(
(
(…….(Seal)
Surety

END OF SECTION

Use standard two-sided form, which follows.

Issued to:

Project: Description:

Location:

This is to certify that insurances as described herein, have been arranged through this office for the insured named below on whose behalf this Certificate is executed and we hereby certify that such insurances are in full force and effect as of this date, but only with respect to the type(s) of insurance for which a policy number, policy period, and limits of liability or amount is shown.

SCHEDULE OF INSURANCE			
TYPE OF INSURANCE	COMPANY AND POLICY NUMBER	EFFECTIVE & EXPIRY DATES OF POLICY	LIMIT OF LIABILITY/AMOUNT
COMPREHENSIVE GENERAL LIABILITY	_____ _____	EFFECTIVE _____ EXPIRY _____ WRAP UP □	BODILY INJURY $_____ EACH PERSON $_____ EACH ACCIDENT $_____ AGGREGATE PRODUCTS PROPERTY DAMAGE $_____ EACH ACCIDENT $_____ AGGREGATE PRODUCTS BODILY INJURY & PROPERTY DAMAGE $_____ INCLUSIVE $_____ AGGREGATE PRODUCTS
EMPLOYERS LIABILITY	_____ _____	EFFECTIVE _____ EXPIRY _____	$_____ EACH PERSON $_____ EACH ACCIDENT
AUTOMOBILE LIABILTY (OWNED/LEASED VEHICLES)	_____ _____	EFFECTIVE _____ EXPIRY _____	BODILY INJURY $_____ EACH PERSON $_____ EACH ACCIDENT PROPERTY DAMAGE $_____ EACH ACCIDENT BODILY INJURY & PROPERTY DAMAGE $_____ INCLUSIVE
AUTOMOBILE LIABILTY NON-OWNED VEHICLES	_____ _____	EFFECTIVE _____ EXPIRY _____ WRAP UP □	BODILY INJURY $_____ EACH PERSON $_____ EACH ACCIDENT PROPERTY DAMAGE $_____ EACH ACCIDENT BODILY INJURY & PROPERTY DAMAGE $_____ INCLUSIVE
UMBRELLA LIABILITY	_____ _____	EFFECTIVE _____ EXPIRY _____	$_____ LIMITS EXCESS OF $_____
BUILDERS RISK/ INSTALLATION FLOATER	_____ _____	EFFECTIVE _____ EXPIRY _____ WRAP UP □	$_____ SITE $_____ OTHER LOCATION $_____ TRANSIT
CONTRACTORS EQUIPMENT	_____ _____	EFFECTIVE _____ EXPIRY _____	$_____
WORKER'S COMPENSATION	_____ _____	EFFECTIVE _____ EXPIRY _____	AS REQUIRED BY THE ORDINANCE(S) OF THE
OTHER			

<table>
<tr><td colspan="2">PARTICULARS OF INSURANCE</td></tr>
<tr><td>GENERAL LIABILITY
□ Premises Property and Operations
□ Products and Completed Operations
□ Blanket Contractual (all written agreements)
□ Tenants Fire Legal Liability
□ Owners and Contractors Protective
□ Occurrence Bodily Injury and Property Damage
□ Broad Form Property Damage
□ Contingent Employers Liability
□ Personal Injury
□ Employees as Additional Insured
□ Severability of Interest or Cross Liability
□ Exclusions pertaining to Blasting, Collapse, Underpinning, deleted as follows:
□ Owner as Additional Named Insured
□ Provides Coverage for Claims arising from Use of Machinery and Equipment attached to licensed construction machinery on Project Site
□ Waiver of Subrogation against Named Insured
□ 30 Days Notice of Cancellation or Material Change
□
□
□</td><td>BUILDERS RISK/INSTALLATION FLOATER
□ All Risk Form
□ Fire, Extended Coverages, Riot, Vandalism or Malicious Acts
□ Difference in Conditions
□ Flood Included
□ Earthquake Included
□ Excluded Faulty Workmanship, Faulty Construction or Faulty Design but not loss resulting therefrom
□ Covers Transit by Land
□ Covers Boiler Explosion during Installation, Temporary Operation and Testing
□ Covers Owner as Additional Named Insured
□ Grants Permission for Occupancy prior to completion
□ Waiver of Subrogation Against Named Insureds
□ 30 Days Notice of Cancellation or Material Change
□
□
□
□

CONTRACTORS EQUIPMENT
□ Subrogation Waived Against Owner
□ Subrogation Waived Against Owner, Construction or Project Manager, Architects and Engineers
□ 30 Days Notice of Cancellation or Material Change
□
□</td></tr>
<tr><td>CONTINGENT EMPLOYERS LIABILTY
□ 30 Days Notice of Cancellation or Material Change
□</td><td></td></tr>
<tr><td>AUTOMOBILE
□ 15 Days Notice of Cancellation or Material Change
□</td><td>NON-OWNED AUTOMOBILE
□ 15 Days Notice of Cancellation or Material Change
□</td></tr>
<tr><td>MARINE/AIRCRAFT
□ 30 Days Notice of Cancellation
□

MARINE/AIRCRAFT/CARGO
□ 30 Days Notice of Cancellation or Material Change
□</td><td>OTHERS
□
□
□
□
□</td></tr>
<tr><td colspan="2">☒ INDICATES THAT THE COVERAGE/ENDOREMENT INDICATED IS INCLUDED</td></tr>
<tr><td colspan="2">REMARKS (STATE DEDUCTIBLE IF ANY)</td></tr>
<tr><td colspan="2">TERMS AND CONDITIONS</td></tr>
<tr><td colspan="2">This Certificate is issued for convenience only. All of the terms and conditions of the Policies referred to are contained in the original document which are not modified or amended by this Certificate. In the event of cancellation or material change of the Policies referred to herein, the Insurer and/or the undersigned will provide written notice as indicated above.</td></tr>
</table>

DATED _____ _____

Authorized to sign on behalf of Insurers

END OF SECTION

PART 1 – GENERAL

1.1 DEFINITIONS

.1 Not used.

1.2 LIMITATION OF LIABILITY

.1 Without limiting any of Contractor's obligations or liabilities under the Contract Documents, Contractor shall, and shall cause its Subcontractors to, obtain and continuously carry, while Work is being performed and, unless otherwise specified in this Section, while any remedial or warranty work is being undertaken, at Contractor's own expense and cost, the following insurance coverage with minimum limits not less than those stated.

1.3 COMMERCIAL GENERAL LIABILITY INSURANCE

.1 Commercial General Liability Insurance, in a form acceptable to Owner, with limits of not less than $5,000,000.00 inclusive per occurrence for bodily injury, death and damage to property, including loss of use thereof

Commercial General Liability Policy shall include the following:

.1 Additional Insured: Owner and Engineer are added as additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract.

.2 Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.

.3 Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.

.4 Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.

.5 Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

.6 Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.

.7 Employees must be included as Additional Insured.

.8 Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)

.9 Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.

.10 Notice of Cancellation: The Insurer will provide the Owner thirty (30) days written notice of policy cancellation.

.11 Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.

.12 Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.

.13 All Risks Tenants Legal Liability - to protect the Contractor for liabilities arising out of its occupancy of leased premises.

.14 Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.

1.4 AUTOMOBILE INSURANCE (OWNED AND NON-OWNED)

.1 Automobile Liability Insurance in an amount usual for a contract of this nature, but for not less than $2,000,000 per accident or occurrence., covering death and damage to property, effective for all licensed vehicles owned, leased, rented or used by Contractor.

The policy shall include the following:

.1 Third Party Liability - $2,000,000 Minimum Limit per Accident or Occurrence

.2 Accident Benefits - all jurisdictional statutes

.3 Uninsured Motorist Protection

.4 Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation

1.5 CONTRACTORS' EQUIPMENT INSURANCE

.1 "All-Risk" Contractors' Equipment Insurance to the full insurable value of construction machinery and equipment used by Contractor in the performance of Work, including boiler insurance for temporary boilers and pressure vessels as applicable.

1.6 BUILDERS' RISK INSURANCE

.1 "All-Risks" Course of Construction Insurance in the joint names of Contractor, Owner, and Engineer, with the subcontractors as unnamed insureds, insuring not less than one hundred and ten percent (110%) of the sum of the amount of the Contract Price and the full value of materials provided by the Owner for incorporation into Work, with a deductible not exceeding $5000.00. Such coverage to contain sublimits for materials in transit and materials stored at unnamed locations. Builders Risk Insurance shall be obtained and carried until Total Performance of the Work.

1.7 UNMANNED AERIAL VEHICLE LIABILITY INSURANCE

.1 Unmanned aerial vehicle liability insurance with respect to owned or non-owned aircraft (if used directly or indirectly in the performance of the Work), shall have limits of not less than $5,000,000 per occurrence or accident for bodily injury, death and damage to property or such amounts as required by applicable laws or regulations.

.2 All policies of insurance shall be in a form acceptable to Owner and shall not allow subrogation claims by the insurer against Owner or Engineer.

.3 All policies of insurance that Contractor is required to obtain will be considered as primary insurances in relation to insurances held by Owner or Engineer without any right of contribution from any policies of insurance held by Owner or Engineer.

.4 All policies of insurance shall provide that at least 30 days prior written notice be given to Owner in the event of cancellation or amendment restricting coverage.

.5 Prior to commencing Work, Contractor shall provide Owner with Certificates of Insurance in a form acceptable to Owner, and with a letter from the insurer stating that the insurance provided complies with the requirements of the Contract.

.6 Deductibles, if any, which are applicable to the insurance specified herein, shall be borne by Contractor.

.7 The specified limits of insurance and coverages in no way define or limit the obligation of Contractor to indemnify Owner in the event of loss.

.8 Owner makes no representation or warranty with respect to the extent or adequacy of the insurance protection afforded by the insurance policies that are specified in this section. Contractor shall be fully responsible to determine additional insurance coverages that may be necessary and advisable for protection of Contractor or to fulfil Contractor’s obligations under this Contract

END OF SECTION

PART 1 – GENERAL

1.1 DEFINITIONS

.1 Not used.

1.2 LIMITATION OF LIABILITY

.1 Without limiting any of Contractor's obligations or liabilities under the Contract Documents, Contractor shall, and shall cause its Subcontractors to, obtain and continuously carry, while Work is being performed and, unless otherwise specified in this Section, while any remedial or warranty work is being undertaken, at Contractor's own expense and cost, the following insurance coverage with minimum limits not less than those stated.

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.13 All Risks Tenants Legal Liability - to protect the Contractor for liabilities arising out of its occupancy of leased premises.

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1.4 AUTOMOBILE INSURANCE (OWNED AND NON-OWNED)

.1 Automobile Liability Insurance in an amount usual for a contract of this nature, but for not less than $2,000,000 per accident or occurrence., covering death and damage to property, effective for all licensed vehicles owned, leased, rented or used by Contractor.

The policy shall include the following:

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.1 Unmanned aerial vehicle liability insurance with respect to owned or non-owned aircraft (if used directly or indirectly in the performance of the Work), shall have limits of not less than $5,000,000 per occurrence or accident for bodily injury, death and damage to property or such amounts as required by applicable laws or regulations.

.2 All policies of insurance shall be in a form acceptable to Owner and shall not allow subrogation claims by the insurer against Owner or Engineer.

.3 All policies of insurance that Contractor is required to obtain will be considered as primary insurances in relation to insurances held by Owner or Engineer without any right of contribution from any policies of insurance held by Owner or Engineer.

.4 All policies of insurance shall provide that at least 30 days prior written notice be given to Owner in the event of cancellation or amendment restricting coverage.

.5 Prior to commencing Work, Contractor shall provide Owner with Certificates of Insurance in a form acceptable to Owner, and with a letter from the insurer stating that the insurance provided complies with the requirements of the Contract.

.6 Deductibles, if any, which are applicable to the insurance specified herein, shall be borne by Contractor.

.7 The specified limits of insurance and coverages in no way define or limit the obligation of Contractor to indemnify Owner in the event of loss.

.8 Owner makes no representation or warranty with respect to the extent or adequacy of the insurance protection afforded by the insurance policies that are specified in this section. Contractor shall be fully responsible to determine additional insurance coverages that may be necessary and advisable for protection of Contractor or to fulfil Contractor’s obligations under this Contract

END OF SECTION

ADDENDUM NO.
to the
CONTRACT DOCUMENTS
for
TOWN OF NIPAWIN
LANDFILL CLOSURE PROJECT

To All Bidders:

Any changes, additions and/or deletions made to the Contract Document for the Town of Nipawin Landfill Closure Project will be placed in this section.

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY OF WORK

.1 Requirements Included

- .1 Title and description of work: Town of Nipawin Landfill Closure Project.
- .2 Work included, but not limited to:
  - .a Crushing of concrete and asphalt to use at fill
  - .b Provide GCL cover for landfill site in accordance with design specifications and regulatory requirements.
  - .c Construction of final landfill cell cover
  - .d Preparation of laydown area
- .3 Contract method: Unit Price Contract

.2 Drawings and Specifications Furnished

- .1 Owner will provide an electronic (PDF) copy plus 2 copies of 11 x 17 drawings and specifications to the Contractor.
- .2 Additional copies of drawings and specifications are available upon request at an additional cost of $300 per set.
- .3 Maintain at Site one complete set of drawings and specifications. Make available to Engineer at any time.

1.2 PROJECT COORDINATION

.1 Coordinate progress of the Work, progress schedules, submittals, use of site, temporary utilities, construction facilities and controls.

.2 Contractor to coordinate and pay for the relocation of utilities as required to complete the Work.

.3 Contractor to coordinate and pay for temporary utilities as required to complete the Work.

1.3 HOURS OF WORK

.1 Perform Work in conformity with all municipal bylaws with respect to noise control, hours of work, night work and holiday work.

.2 Obtain written permission of Engineer before undertaking holiday work or night work.

1.4 RELICS AND ANTIQUITIES

.1 Relics and antiquities and items of historical, cultural or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found on site or in buildings to be demolished, remain property of Owner. Protect such articles and request directives from Engineer.

.2 Notify Engineer immediately if evidence of archaeological finds is encountered and await Engineer's written instructions before proceeding with work in area.

1.5 CUTTING AND PATCHING

.1 Approvals

- .1 Submit written request in advance of cutting or alteration which affects:

.a Structural integrity of any element of Project.
.b Integrity of weather-exposed or moisture-resistant elements.
.c Efficiency, maintenance, or safety of any operational element.
.d Visual qualities of sight-exposed elements.
.e Work of Owner or separate contractor.

.2 Inspection
.a Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
.b After uncovering, inspect conditions affecting performance of work.
.c Beginning of cutting or patching means acceptance of existing conditions.

.3 Execution
.a Perform cutting, fitting, and patching including excavation and fill, to complete the Work.
.b Remove and replace defective and non-conforming work.
.c Perform Work to avoid damage to other work.
.d Prepare proper surfaces to receive patching and finishing.
.e Perform cutting and patching for weather-exposed and moisture-resistant elements and sight-exposed surfaces equivalent to original or better.
.f Cut rigid materials using power saw or core drill. Pneumatic or impact tools not allowed.
.g Restore work with new products in accordance with Contract Documents.
.h Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
.i Refinish surfaces to match adjacent finishes; for continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

1.6 FIELD ENGINEERING

.1 Survey Requirements

.1 Engineer will establish three (3) permanent bench marks on site, referenced to established bench marks by survey control points. Contractor is responsible for protection of bench marks
.2 Contractor is responsible for completion of all construction layout survey, construction survey and protecting construction survey stakes.
.3 Contractor to confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
.4 Record locations, with horizontal and vertical data in Project Record Documents.
.5 Establish lines and levels, locate and lay out, by instrumentation.
.6 Engineer will complete periodic surveys at the site for the verification of quantities for payment.

.2 Records

.1 Maintain a complete, accurate log of control and survey work as it progresses.

.3 Subsurface Conditions:

.1 Promptly notify Engineer in writing if subsurface conditions at Place of the Work differ materially from those indicated in Contract Documents, or reasonable assumption of probable conditions based thereon.

.2 After prompt investigation, should Engineer determine that conditions do differ materially, instructions will be issued for changes in the Work as provided in the contract procedures for Changes in the Work.

1.7 PROJECT MEETINGS

.1 Project progress will be called monthly throughout progress of work. The Contractor’s Project Manager will administer.

1.8 SUBMITTALS

.1 Administrative

.1 Submit to Engineer for review the submittals listed. Submit with reasonable promptness and in an orderly sequence so as to not cause delay in Work.

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

.3 Review submittals prior to submission to Engineer. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of the Work and Contract Documents. Submittals not stamped, signed, dated and identified as to the specific project will be returned without being examined and will be considered rejected.

.4 Verify that field measurements and affected adjacent Work are coordinated.

.5 Adjustments made on submittals by Engineer are not intended to change the scope of work. If adjustments affect the value of Work, state such in writing to Engineer prior to proceeding with the work.

.2 Shop Drawings and Product Data

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

.2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connection, explanatory notes and other information necessary for completion of Work.

.3 Make changes in shop drawings as Engineer may require.

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

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

.6 Keep one reviewed copy of each submission on Site.

.7 Detail all shop drawings using the metric system. Prepare a drafting standard equivalent to that of Contract drawings.

.8 Engineer will supply a Shop Drawing Review Stamp. Stamp all transparencies and copies of shop drawings submitted for review.

.9 Fill in the following information on the Shop Drawing Review Stamp on each shop drawing prior to submitting the drawing to the Engineer:

- .a PINTER & Associates Project. No. -- "2875"
- .b Drawing Number.
- .c Date of submission.

.10 Maintain a complete Shop Drawing Record showing the review status of all shop drawings on the work. Provide Engineer with a copy of this record on a monthly basis or as requested by Engineer.

.11 Submit shop drawings to Engineer for review with a Transmittal Form as provided by Engineer or in a form acceptable to Engineer. Type or print the appropriate information on the form to fully describe the drawings being sent for review. Retain a photocopy of the form for filing and record purposes before drawings are sent to Engineer.

.12 Transmittal form or shop drawing stamp to be signed by Contractor’s authorized representative certifying approval of submission, verification of field measurements and compliance with Contract Documents

.13 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as Engineer may reasonably request where shop drawings will not be prepared due to standardized manufacture of product.

.14 Submit electronic files of shop drawings for each requirement requested in specification Sections and as Engineer may reasonably request.

.15 During review, Engineer will mark drawings to indicate review status:

- .a "REVIEWED" - Make and distribute additional copies as required for execution of the Work.
- .b "REVISE & RESUBMIT" - Make the necessary revisions and resubmit revised drawings for review. Show the drawing number of the first such revised drawing and show the latest revision number applicable to the drawing by adding a suffix to the drawing number as - "REV. 1", "REV. 2", etc.
- .c "NOT REVIEWED" - This notation indicates that Engineer has not reviewed the drawing. It may also be used in combination with the notation to revise and resubmit the drawing where Engineer lacks sufficient information to complete the review and requires resubmission of the drawing for review after revision.
- .d Drawings will be marked "REVIEWED" together with the notation "REVISE & RESUBMIT" when Engineer requires resubmission of a revised drawing showing corrections made as a result of Engineer's notations on the shop drawings. This procedure will not relieve Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of Contract.

.16 Use only those shop drawings on the work that bear the "REVIEWED" notation.

.17 Do not revise shop drawings marked "REVIEWED" unless resubmitted to Engineer for further review.

.18 Determine which shop drawings have, in addition to those drawings specifically mentioned in Contract, design elements requiring the seal of a Professional Engineer registered in the Province or Territory where Work is located, in accordance with the applicable provincial or federal engineering acts or other governing legislation. Seal such drawings before submitting them for review. Submit for review engineering calculations signed by the registered Professional Engineer responsible for the shop drawing design elements.

.19 Review by Engineer is for the sole purpose of ascertaining conformance with the general design concept. This review does not mean that Engineer approves the detail design inherent in the shop drawings, responsibility for which remains with Contractor, and such review does not relieve Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of Contract Documents. Contractor is responsible for dimensions to be confirmed and correlated at the job-site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of the work of all sub-trades.

.3 Samples

.1 Submit for review, samples in duplicate as requested in respective specification Sections.

.2 Deliver samples prepaid to Engineer's business address.

.4 Operations and Maintenance Manuals

.1 Two weeks prior to Substantial Performance of the Work, submit to Engineer, three copies of operating and maintenance manuals.

.2 Manuals to contain operational information on equipment, cleaning and lubrication schedules, filters, overhaul and adjustment schedules and similar maintenance information.

.3 Bind contents in a three-ring, hard covered, plastic jacketed binder. Organize contents into applicable categories of work, parallel to specifications Sections.

.5 Record Drawings

.1 After award of Contract, Engineer will provide a set of drawings for purpose of maintaining record drawings. During progress of the work, accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by Engineer.

.2 Record locations of concealed components of mechanical and electrical services.

.3 Identify drawings as "Project Record Copy". Maintain in good condition, keep continuously updated and make available for inspection on site by Engineer.

.4 On completion of Work and prior to final inspection, submit record documents to Engineer.

1.9 SCHEDULE

.1 Schedules Required

.1 Construction Progress Schedule.
.2 Submittal Schedule for Shop Drawings, Product Data and Samples.
.3 Cash Allowance Schedule for purchasing products.

.2 Format

.1 Prepare schedule in form of horizontal bar chart.
.2 Provide separate bar for each trade or operation.
.3 Provide horizontal time scale identifying first work day of each week.
.4 Format for listings: Chronological order of start of each item of work.

.3 Submission

.1 Submit initial schedules within 10 days after award of Contract.
.2 Engineer will review schedule and return reviewed copy within 10 days after receipt.
.3 Resubmit finalized schedule within 7 days after return of reviewed copy.

1.10 QUALITY CONTROL

.1 Inspection

.1 Owner and Engineer shall have access to Work.
.2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Engineer instructions, or law of Place of Work.
.3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.2 Independent Inspection Agencies

.1 Independent Inspection/Testing Agencies will be engaged by Engineer for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Owner.
.2 Provide equipment required for executing inspection and testing by appointed agencies.

.3 Reports

.1 Provide copies to Subcontractor of work being inspected/tested.

1.11 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

.1 Installation/Removal

.1 Provide construction facilities and temporary controls in order to execute Work expeditiously.
.2 Remove from site all such work after use.

.2 Weather Enclosures

.1 Provide weathertight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.
.2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work area for temporary heat.

.3 Dust Tight Screens

.1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
.2 Maintain and relocate protection until such Work is complete.

.4 Dewatering

.1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water/contributed from all sources including, but not limited to groundwater, precipitation and seepage losses from adjacent lagoon cells. Dewater the site as required to allow for construction.

.5 Site Storage/Loading

.1 Confine the Work and operations of employees to limits indicated by Contract Documents. Do not unreasonably encumber premises with Products.
.2 Do not load or permit to be loaded any part of the Work with a weight or force that will endanger the Work.

.6 Sanitary Facilities

.1 Provide sufficient sanitary facilities for workers in accordance with local health authorities.
.2 Maintain in clean condition.
.3 Existing facilities as designated may be used during construction period.

.7 Temporary Heating

.1 Provide temporary heating required during construction period, including attendance, maintenance and fuel.
.2 Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders not permitted.
.3 Maintain temperatures of minimum 10□C in areas where construction is in progress, unless indicated otherwise in specifications.
.4 Ventilate heated areas and keep building free of exhaust or combustion gases.
.5 Permanent heating system of building, or portions thereof, may be used when available. Be responsible for damage thereto.

.8 Temporary Power

.1 Provide and pay for temporary power required during construction for temporary lighting and operating of power tools, to maximum supply of 230 volts 30 amps.
.2 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.

.9 Equipment/Tool/Materials Storage

.1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

.10 Project Cleanliness

.1 Maintain the Work in tidy condition, free from accumulation of waste products and debris.

.2 Remove waste material and debris from site and deposit in waste container at end of each working day.

.3 Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.

1.12 BASIC PRODUCT REQUIREMENTS

.1 Product and Material Quality

.1 Products, materials, equipment, and articles (referred to as Products throughout specifications) incorporated in Work shall be new, not damaged or defective, and conforming with specifications for purpose intended. If requested, furnish evidence as to type, source and quality of Products provided.

.2 Defective Products, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective Products at own expense and be responsible for delays and expenses caused by rejection.

.2 Storage, Handling and Protection

.1 Handle and store Products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.

.2 Store packaged or bundled Products in original and undamaged condition with manufacturer's seals and labels intact.

.3 Store products subject to damage from weather in weatherproof enclosures.

.3 Manufacturer's Instructions

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

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

.3 Improper installation or erection of Products, due to failure in complying with these requirements, authorizes Engineer to require removal and reinstallation at no increase in Contract Amount.

.4 Workmanship

.1 Execute Work by workers experienced and skilled in respective duties for which they are employed. Immediately notify Engineer if

required Work is such as to make it impractical to produce required results.

.2 Do not employ any unfit person or anyone unskilled in their required duties. Engineer reserves the right to require the dismissal from site of workers deemed incompetent, careless, insubordinate or otherwise objectionable.

.5 Concealment

.1 In finished areas, conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.

.2 Before installation, inform Engineer if there is a contradictory situation. Install as directed by Engineer.

1.12 PROJECT CLOSEOUT

.1 Final Cleaning

.1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste materials and debris from site at regularly scheduled times or dispose of as directed by Engineer. Do not burn waste materials on site, unless approved by Engineer.

.3 Leave work broom clean before inspection process commences.

.4 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.

.5 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments and walls.

.6 Vacuum clean and dust building interiors, behind grilles, louvres and screens.

.7 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.

.8 Broom clean and wash exterior walks, steps and surfaces.

.9 Remove dirt and other disfigurations from exterior surfaces.

.2 Systems Demonstration

.1 Prior to final inspection, demonstrate operation of each system to Engineer.

.2 Instruct personnel in operation, adjustment, and maintenance of equipment and systems, using provided operation and maintenance data as basis for instruction.

.3 Documents

.1 Collect reviewed submittals and assemble documents executed by Subcontractors, suppliers, and manufacturers.

.2 Submit material prior to final Application for Payment.

.3 Submit operation and maintenance data, record drawings.

.4 Provide warranties and bonds fully executed and notarized.

.5 Execute transition of Performance and Labour and Materials Payment Bond(s) to warranty period requirements.

.6 Submit a final statement of accounting giving total adjusted Contract Amount, previous payments, and monies remaining due.

.7 Engineer will issue a final change order reflecting approved adjustments to Contract Amount not previously made.

.4 Inspection/Takeover Procedures

.1 Prior to application for Certificate of Total Performance, carefully inspect the Work and ensure it is complete, that all construction deficiencies are complete, defects are corrected, and building is clean and in condition for occupancy. Notify Engineer, in writing, of completion of the Work and request an inspection.

.2 During Engineer inspection, a list of deficiencies and defects will be tabulated. Correct same.

.3 Make application for Certificate of Total Performance. Refer to CCDC 4 for specifics of application.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not used.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 CCDC 4 Unit Price Contract.

.2 Technical Drawings (Refer to Section 00 01 15 for list).

1.2 WORK COVERED BY CONTRACT DOCUMENTS

.1 Work of this Contract comprises general closure of landfill cells and preparing a laydown area, located at SE-17-50-14-W2M near Nipawin; and further identified as Project location.

1.3 CONTRACT METHOD

.1 Construct Work under unit price contract.

.2 Submit Contract Bid on CCDC4-2011 Forms.

.3 CCDC Authenticity Seals will be affixed to final contracts in advance of execution; these will be provided by the Engineer during document execution.

.4 Contract with Owner will be signed and sealed in duplicate by Contractor and submitted to the Town of Nipawin for endorsement. One fully executed copy returned to Contractor.

1.4 WORK BY OTHERS

.1 The existing Landfill will remain in operation throughout the construction process. Coordination with Operators and Users at the tie-in locations may be required.

.2 Cooperate and coordinate with all Operators and Users to complete the Work of this Contract in a timely and efficient manner. The Contractor must schedule, and sequence all work to accommodate the work and schedule by other Contractors. No additional payment will be made for cooperating and coordinating with other Contractors as it is considered incidental to the Contract.

1.5 FUNDING PROGRAM REQUIREMENTS

.1 THIS PROJECT IS PARTIALLY FUNDED BY THE GOVERNMENTS OF CANADA AND SASKATCHEWAN THROUGH THE CANADA-SASKATCHEWAN INVESTING IN CANADA INFRASTRUCTURE PROGRAM (ICIP).

.2 Funding program conditions of Participation:

.1 By participating in this contract, the Contractor hereby agrees that:

.a "The Third Party agrees to indemnify and save harmless Canada, Saskatchewan, the Recipient, their officers, servants, employees or agents from and against all claims, demands, loss, expenditures, damages, actions,

suits, or other proceedings by whomsoever brought or prosecuted in any manner based upon, or occasioned by any injury to persons, damage to or loss or destruction of property, economic loss or infringement of rights caused by or arising directly or indirectly from:

.1 this Contract;

.2 the performance of a Contract or the breach of any term or condition of it by the Third Party, its officers, servants, employees or agents; or

.3 any omission or other willful or negligent act of the Third Party, their respective officers, servants, employees or agents."

.b "The Third Party agrees that nothing in this Contract is to be construed as authorizing the Third Party to contract for or to incur any obligation on behalf of Canada, Saskatchewan or the Recipient or to act as agent for them."

1.6 SURVEY RESPONSIBILITY

.1 Engineer shall provide all required survey and layout services necessary to complete work.

.2 Include detailed survey notes to substantiate all contract progress payment requests.

.3 In the occurrence of any mathematical or spatial discrepancies or anomalies, work cooperatively and constructively with the Engineer to resolve in a positive and proactive manner.

.4 Contractor shall use machinery with GPS grade-control systems to ensure efficiency and precision during the project.

1.7 WORK INCLUDED WITHIN THIS CONTRACT

This Contract Includes the following tasks:

.1 The closure of existing landfill cells and on-site road construction.

.1 Contour, prepare the surface, haul materials, and install GCL Liner and cover system on-site over existing cells as shown in design drawings.

.2 Prepare laydown area

1.8 QUALITY CONTROL RESPONSIBILITY

.1 Engineer is responsible for all quality control testing and measures necessary to ensure the work meets technical requirements and specifications.

.2 Contractor is responsible for ensuring work is completed in a competent manner and is a finished kind that is fit for purpose.

1.9 PROJECT MEETINGS

.1 Host Preconstruction Meeting following an award of project and prior to the

AND COMMUNICATION

commencement of work, at no additional cost.

.2 Host bi-monthly (twice a month) Progress Meetings with Engineer and Owner at no additional cost.

.3 Host Emergency or Topic Specific Meetings with the Engineer and Owner as deemed necessary by Engineer. Promptly notify Engineer if Contractor desires such meeting.

.4 Engineer to prepare and provide meeting records.

.5 Established lines of communication for this project are between Contractor and Engineer, and Owner and Engineer. Contractor is not to engage Owner directly, and/or without Engineer's knowledge. Tripartite communications will be facilitated whenever desired; the aim of this section is not to prevent communication between Contractor and Owner.

.6 Advise Engineer promptly if Contractor feels that any direction or instruction is contrary to the specifications, drawings, or intent of the project agreement, for further study and direction.

.7 Submit written Monthly Progress Reports to the Engineer and Owner describing incremental and cumulative expenditures on the project, schedule status, milestones reached, tasks completed, new issues encountered, and old business status update.

1.10 CHANGE ORDERS

.1 Change Orders will occur as defined in CCDC 4.

1.11 OPTIONS AND SUBSTITUTIONS

.1 The Engineer will consider requests for substitution from the contractor provided that the requests are submitted in time for review and are complete will full details of the type of materials and equipment to be substituted, and the reason for the request.

.2 Contractor may not proceed with any substitution or option until authorized in writing by the Engineer.

.3 Any substitution presented must provide tangible net value to the Owner, and may not add additional cost to the project, or contradict any specification or project requirement, unless authorized in advance by the Engineer.

1.12 DRAWING STATUS

.1 The Issued-for-Construction version of the drawings will be stamped by the Engineer.

.2 The Issued-for-Bid version of drawings included in this package will be discussed with the Contractor before final Issued-for-Construction drawings will be submitted.

1.13 SITE SUPERINTENDENT

.1 Maintain on the project at all times a competent superintendent to oversee all work, and act as the Contractor's representative on site.

.2 The superintendent shall not be changed by the Contractor except for good and sufficient reason and only then after consultation with the Engineer.

.3 The Engineer or Owner may request a change in Site Superintendent at any time, and for any reason, at no additional cost to the work.

1.14 EXISTING SERVICES

.1 Notify, Engineer and utility companies of intended interruption of services and obtain required permits.

.2 Where Work involves breaking into or connecting to existing services, give Engineer 48 hours notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to pedestrian, vehicular traffic and tenant operations.

.3 Provide alternative routes for personnel, pedestrian and vehicular traffic.

.4 Establish location and extent of service lines in area of work before starting Work. Notify Engineer of findings.

.5 Submit schedule to and obtain approval from Engineer for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

.6 Provide temporary services when directed by Engineer to maintain critical building and tenant systems.

.7 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.

.8 Where unknown services are encountered, immediately advise Engineer and confirm findings in writing.

.9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.

.10 Record locations of maintained, re-routed and abandoned service lines.

1.15 DOCUMENTS REQUIRED

.1 Maintain at job site, one copy of each document as follows:

- .1 Contract Drawings.
- .2 Specifications.
- .3 Addenda.
- .4 Reviewed Shop Drawings.

.5 List of Outstanding Shop Drawings.
.6 Change Orders.
.7 Other Modifications to Contract.
.8 Field Test Reports.
.9 Copy of Approved Work Schedule.
.10 Health and Safety Plan and Other Safety Related Documents.
.11 Other documents as specified.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not used.

END OF SECTION

PART 1 – GENERAL

1.1 MEASUREMENT FOR PAYMENT

.1 For each unit price item, Engineer will calculate payment based on tendered unit price and Engineer's determination of units of work item completed.

.2 For lump sum price item, Engineer will calculate payment based on tendered price and Engineer's estimate of percentage of work item completed.

.3 Method of measurement to be used is detailed in the section of the specification covering each work item.

.4 Where a method of measurement for payment for a work item is not specified, payment for that item will be deemed to be included in another pay item or other pay items.

1.2 PROGRESS CLAIMS

.1 Contractor’s Responsibilities:

- .1 Submit progress claim to Engineer within 5 working days after each month end. Claim to cover preceding month.
- .2 Progress claim to show estimate of percentage of work completed.
- .3 Progress claim to include all labour and materials incorporated in Work and all materials stored at Site.
- .4 Progress claim to include all agreed extras and deductions.
- .5 Supply documentation to support claim for materials on site in the form of itemized lists or unpriced purchase orders showing quantities.
- .6 Supply other evidence required by Engineer in support of progress claim.

.2 Engineer’s Responsibilities:

- .1 Review Contractor’s claim, prepare Progress Payment Certificate and issue to Owner within 10 working days following receipt of Contractor's claim.
- .2 Engineer's estimate of percentage of work completed will govern calculation of payment on all Progress Payment Certificates.
- .3 Inform Contractor of amendments to claim by copy of Progress Payment Certificate.

1.3 CHANGE ORDERS

.1 Complete and promptly return all change price requests issued by Engineer, quoting unit and/or lump sum prices as requested. Include appropriate supporting documentation to verify prices.

.2 Do not proceed with work affected by price request until authorized to do so by Change Order.

.3 Make no change in Work unless Change Order issued. Change Order is only valid when signed by Engineer, Owner and Contractor.

1.4 MEASUREMENT AND PAYMENT ITEMS

.1 Miscellaneous Items

- .1 Mobilization:

.a Payment for mobilization will be made at the unit price for initial mobilization to site.
.b This price will include all cost in connection with material, labour, equipment, and all work incidental thereto.

.2 Bonding and Insurance:
.a Payment for Bonding and Insurance will be made at the lump sum price shown in the Bid Form. This price is to include all insurance and bonding required to complete the General Requirements as per Division "0" and "1" of this agreement.
.b Recommendation for payment will be made after satisfactory proof that the bonding and insurance is in place.

.3 Supervision:
.a Provide the necessary supervision and qualified tradesmen to ensure the flow of materials and on-site construction compatible with the overall project schedule and progress.
.b Recommendation for payment will be made after satisfactory proof of proper project supervision.

.4 Live Out Allowance:
.a This cash allowance is intended to cover all live out expenses by the contractor.
.b Payment for meeting the requirements of this Section shall be based on the lump sum price bid as indicated in the Bid Form and shall be paid on a monthly basis.

.5 Contractor Site Office:
.a The Contractor will provide his own trailer to be located at an area acceptable to the Owner. The trailer will serve as an office space and lunchroom for the site workers.
.b Payment for meeting the requirements of this Section shall be based on the lump sum price bid as indicated in the Bid Form and shall be paid on a monthly basis.

.6 Survey Allowance:
.a Scope: To allow for survey work done by the contractor or sourced by the contractor to confirm elevations, stake out and expedite the project using GPS-enabled equipment. Tie-in and Control Points will be provided to ensure a matching survey.
.b Measurement: Shall not be measured but inspected for payment.
.c Payment: Recommendations for payment will be made after satisfactory proof of the completed survey.

.7 Demobilization:
.a Payment for demobilization will be made at the unit price for final demobilization from site following completion of the Work.
.b This price will include all cost in connection with material, labour, equipment, and all work incidental thereto.

.2 Landfill Site Work

.1 Site Grading/Preparation

.a Site Grading/Preparation will include moving landfill stockpiles, fencing, shaping the site, or any other required works to begin placement and compaction of fill materials.

.b Measurement shall be on a square meter basis as found in the Bid Form.

.c Payment shall be made upon completion of the item, when the Work for placing and compacting fill material may proceed, upon approval of the Engineer.

.2 Concrete and Asphalt Crushing Allowance

.a Provision of all equipment, material and labour required for crushing on concrete and asphalt on-site to be used as Fill material for the landfill closure and/or for the laydown area.

.b Measurement shall be on a cubic meter basis as found in the Bid Form.

.c Payment shall be made upon completion of the item, when the Work for placing and compacting fill material may proceed, upon approval of the Engineer.

.3 Excavation/Hauling/Grading, Placement, and Compaction of Fill:

.a Provision of all equipment, material and labour required for excavation/hauling/grading, placement and compaction of the Fill. The work includes excavation/hauling/grading and placement of suitable fill material, compaction (at 90% Proctor) to specified final grade, and all related work for which payment is not included elsewhere.

Fill material is available to be hauled to the site from land adjacent to the Landfill site, approximately 200 m from the Site. Crushed concrete and asphalt material at the site may also be used as fill.

The final grade shall be in accordance with the construction drawings, with the engineer's approval. The volume provided represents the compacted volume, not the volume of loose material.

.b Measurement shall be on a cubic meter basis of compacted fill-in final position, determined by surveys and volume calculations.

.c Payment shall be made at the unit price found in the Bid Form on a cubic meter basis upon approval of the Engineer.
No separate payment will be made for unnecessary over-excavation or excavation work performed beyond established lines or grades unless otherwise authorized by the Owner’s Representative.

.4 Excavation/Grading, Placement, and Surface Preparation of Clean Fill:

.a Provision of all equipment, material and labour required for excavation/grading, placement, compaction and surface preparation of the Clean Fill material. The work includes excavation/grading and placement of suitable fill material.
Fill material is available to be hauled to the site

from land adjacent to the Landfill site approximately 200 m from the Site.

Surface preparation shall be conducted so that the finished surface has no sharp objects or anything that could tear the liner.

Final grade shall be in accordance with construction drawings to the approval of the Engineer.

.b Measurement shall be on a cubic meter basis of compacted fill, determined by surveys and volume calculations. Measurement is taken in the final position.

.c Payment shall be made at the unit price found in the Bid Form on a cubic meter basis upon approval of the Engineer.

No separate payment will be made for unnecessary over-excavation or excavation work performed beyond established lines or grades unless otherwise authorized by the Owner's Representative.

.5 Supply and Delivery of GCL Liner:

.a Supply and delivery of GCL Liner in accordance with Section 312710 – Geosynthetic Clay Liner.

.b Measurement shall be made in square meters.

.c Payment will be made at the unit price found on the Bid Form on a square meter basis upon delivery to site and approval of Engineer.

.6 Installation of GCL Liner:

.a Installation of GCL Liner in accordance with Section 312710 – Geosynthetic Clay Liner.

Liner will require 0.3 m (12 in) overlap and will need to be trenched in to ensure liner integrity.

.b Measurement shall be made as a lump sum.

.c Payment will be made at the unit price found on the Bid Form on a square meter basis following installation and approval by Engineer.

No separate payment will be made for extra overlapping of materials unless otherwise agreed to.

.7 Placement and Compaction of Sand Subsoil:

.a Provision of all equipment, material and labour required for excavation/grading, placement and compaction of the subsoil material. The work includes excavation/grading and placement of the local soil; and all related work for which payment is not included elsewhere.

Subsoil material is available to be hauled to the site from land adjacent to the Landfill site approximately 200 m from the Site.

Final grade shall be in accordance with construction drawings to the approval of the Engineer.

.b Measurement shall be on a cubic meter basis of compacted fill, determined by surveys and volume calculations. Measurement is taken in the final position.

.c Payment will be made on a per cubic meter basis at the rate found in the Bid Form upon approval of the Engineer.

No separate payment will be made for unnecessary over-excavation or excavation work

performed beyond established lines or grades unless otherwise authorized by the Owner's Representative.

No separate payment will be made for damages or for unstable soil conditions caused by surface drainage after the commencement of construction and during the maintenance period.

.8 Hauling, Placement and Grading of Topsoil:

.a Provision of all equipment, material and labour required for hauling, placing and grading topsoil as specified in the contract drawings.

Topsoil material is available to be hauled to the site from land adjacent to the Landfill site approximately 200 m from the Site.

.b Measurement shall be on a cubic meter basis of compacted fill, determined by surveys and volume calculations. Measurement is taken in the final position.

.c Payment shall be made at the unit price found in the Bid Form on a cubic meter basis upon approval of the Engineer.

No separate payment will be made for unnecessary over-excavation or excavation work performed beyond established lines or grades unless otherwise authorized by the Owner's Representative.

.9 Seeding and Fertilizing

.a Provision of all equipment, material, and labour required for placement of fertilizer and grass seed that will thrive in the area and fertilizer. The work includes supply and placement of seed and fertilizer and all related work for which payment is not included elsewhere.

.b Measurement shall be on a square meter basis.

.c Payment will be made on a square meter basis at the rate found in the Bid Form upon approval of the Engineer.

No separate payment will be made for additional work performed unless otherwise authorized by the Owner's representative.

.3 Laydown Area Site Work

.1 Site Grading/Preparation

.a Site Grading/Preparation will include moving landfill stockpiles, fencing, shaping the site, or any other required works to begin placement and compaction of fill materials.

.b Measurement shall be on a square meter basis as found in the Bid Form.

.c Payment shall be made upon completion of the item, when the Work for placing and compacting fill material may proceed, upon approval of the Engineer.

.2 Laydown Area Cut and Subgrade Scarification and Compaction:

.a Provision of all equipment, material and labour required for excavation/grading of cut material. The work includes excavation/hauling/grading of cut material to specified final grade, and all related work for which payment is not included elsewhere. The top 600 mm of the subgrade after

the cut will be scarified and compacted. Compaction will be done in lifts of a maximum of 150 mm loose material using mechanical compaction equipment/device to a minimum of 98% of the standard Proctor density at optimum moisture content.
Final grade shall be in accordance with construction drawings to the approval of the Engineer.

.b Measurement will be on a cubic meter basis of cut excavation determined by surveys and volume calculations.

.c Payment shall be made at the unit price found in the Bid Form on a cubic meter basis upon approval of the Engineer.
No separate payment will be made for unnecessary over-excavation or excavation work performed beyond established lines or grades unless otherwise authorized by the Owner's Representative.

.3 Laydown Area Fill with Compaction of Fill in 150 mm Lifts:

.a Provision of all equipment, material and labour required for the placement of the cut material and or crushed concrete/asphalt, grading and compaction of Fill. The work includes placement, grading of the fill material, and compaction. Compaction will be done in lifts of a maximum of 150 mm loose material using mechanical compaction equipment/device to a minimum of 98% of the standard Proctor density at optimum moisture content.
Final grade shall be in accordance with construction drawings to the approval of the Engineer.

.b Measurement shall be on a cubic meter basis of compacted fill, determined by surveys and volume calculations.
Measurement is taken in the final position.

.c Payment shall be made at the unit price found in the Bid Form on a cubic meter basis upon approval of the Engineer.
No separate payment will be made for unnecessary over-excavation or excavation work performed beyond established lines or grades unless otherwise authorized by the Owner's Representative.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 CO-ORDINATION

.1 Co-ordinate all construction activities to provide efficient and orderly construction of each and every part of the Work.

.2 Where construction of one part of the Work is dependent on construction of other parts, schedule and co-ordinate construction activities in the sequence needed to obtain the best results.

.3 Where availability of space is limited, co-ordinate construction of different parts of the Work to provide maximum accessibility for maintenance, service, and repair.

.4 Make adequate provisions to accommodate Work scheduled for later construction by Other Contractors or by the Owner's own forces.

1.2 COMMUNICATION EQUIPMENT

.1 Provide suitable computer equipment and software at the Contractor's office specified in this section for exchange of electronic data by e-mail of the following types of documents:

.1	Letters and Memos	Microsoft Word
.2	Document Readers	Adobe Acrobat Reader
.3	Schedules	Microsoft Project
.4	Drawings	AutoCAD
.5	Communication	Microsoft Outlook

1.3 COMMUNICATION METHODS

.1 Communications will be sufficiently given by any one of the following methods:

.1 Delivered personally to the Contractor, the Contractor's representative, or left at the Contractor's address as specified in this section.

.2 Mailed at any post office to the Contractor's address as specified in this section.

.3 Couriered to the Contractor's address as specified in this section.

.4 Transmitted by facsimile to the Contractor's facsimile number as specified in this section.

.5 Transmitted by Internet to the Contractor’s e-mail address as specified in this Section.

1.4 CONTRACT ADMINISTRATION

.1 Co-ordinate scheduling and timing of administrative procedures with other construction activities to avoid delays and provide orderly progress of the Work. Administrative procedures include the following:

.1 Preparation and monitoring of schedules.

.2 Co-ordination of construction and removal of temporary facilities.

.3 Co-ordination, review, and processing of submittals.

.4 Participation in project meetings.

.5 Following Contract acceptance procedures.

.6 Preparation of change order proposals.

1.5 CONTRACTOR'S ADDRESS FOR CORRESPONDENCE

.1 Submit the name, address, telephone number, facsimile number, and e-mail address to be used for correspondence with the Contractor within 10 days of the date of commencement of the Contract. Update whenever information changes during the Contract.

1.6 OWNER'S ADDRESS FOR CORRESPONDENCE

.1 The Owner will provide to the Contractor the name, address, telephone number, facsimile number, and e-mail address to be used for correspondence with the Owner within 10 days of the date of commencement of the Contract. This information will be updated as required during the Contract.

1.7 CONTRACTOR'S REPRESENTATIVES AND SITE MANAGEMENT

.1 Submit an organization chart showing the names, positions, telephone numbers, and responsibilities and levels of authority for the Contractor's representatives and site management organization, within 10 days of the date of commencement of the Contract, and update whenever information changes during the Contract.

1.8 OWNER'S REPRESENTATIVES AND ASSISTANTS

.1 The Owner will provide to the Contractor an organization chart showing the names, positions, telephone numbers, and responsibilities and levels of authority for the Owner's Representative and assistants, within 10 days of the date of commencement of the Contract and will update whenever information changes during the Contract.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 4-2011, Unit Price Contract.

1.2 APPLICATIONS FOR PROGRESS PAYMENT

.1 Refer to CCDC 4.

.2 Make applications for payment on account provided in Agreement monthly as Work progresses.

.3 Date applications for payment on last day of agreed provided in Agreement monthly payment period and ensure amount claimed is of value proportionate to amount of Contract, of Work performed and Products delivered to Place of Work at that date.

.4 Submit to Engineer, at least 14 days before first application for payment. Schedule of values for parts of Work, aggregating total amount of Contract Price, to facilitate evaluation of applications for payment.

1.3 SCHEDULE OF VALUES

.1 Refer to CCDC 4.

.2 Provide schedule of values supported by evidence as Engineer may reasonably direct and, when accepted by Engineer, be used as basis for applications for payment.

.3 Include statement based on schedule of values with each application for payment.

.4 Support claims for products delivered to Place of Work but not yet incorporated into Work by such evidence as Engineer may reasonably require to establish value and delivery of products.

1.4 PROGRESS PAYMENT

.1 Refer to CCDC 4.

.2 Engineer will issue to Owner, no later than 10 days after receipt of an application for payment, certificate for payment in amount applied for or in such other amount as Engineer determines to be due. If Engineer amends application, Engineer will give notification in writing giving reasons for amendment.

1.5 SUBSTANTIAL PERFORMANCE OF WORK

.1 Refer to CCDC 4.

.2 Prepare and submit to Engineer comprehensive list of items to be completed or corrected and apply for a review by Engineer to establish Substantial Performance of Work. Failure to include items on list does not alter responsibility to complete Contract.

.3 No later than 10 days after receipt of list and application, Engineer will review Work to verify validity of application and, no later than 7 days after completing review, will notify Contractor if Work or designated portion of Work is substantially performed.

.4 Engineer will state date of Substantial Performance of Work or designated portion of Work in certificate.

.5 Immediately following issuance of certificate of Substantial Performance of Work, establish reasonable date for finishing Work in consultation with Engineer.

1.6 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF WORK

.1 Refer to CCDC 4.

.2 After issuance of certificate of Substantial Performance of Work:

.1 Submit application for payment of holdback amount.

.2 Submit sworn statement that accounts for labour, subcontracts, products, construction machinery and equipment, and other indebtedness which may have been incurred in Substantial Performance of Work and for which Owner might in be held responsible have been paid in full, except for amounts properly retained as holdback or as identified amount in dispute.

.3 After receipt of application for payment and sworn statement, Engineer will issue certificate for payment of holdback amount.

.4 Amount authorized by certificate for payment of holdback amount is due and payable on day following expiration of holdback period stipulated in lien legislation applicable to Place of Work. Where lien legislation does not exist or apply, holdback amount is due and payable in accordance with other legislation, industry practice, or provisions which may be agreed to between parties. Owner may retain out of holdback amount sums required by law to satisfy liens against Work or, if permitted by lien legislation applicable to Place of Work, other third-party monetary claims against Contractor which are enforceable against Owner.

1.7 FINAL PAYMENT

.1 Refer to CCDC 4.

.2 Submit application for final payment when Work is completed.

.3 Engineer will, no later than 10 days after receipt of application for final payment, review Work to verify validity of application. Engineer will give notification that application is valid or give reasons why it is not valid, no later than 7 days after reviewing Work.

.4 Engineer will issue final certificate for payment when application for final payment is found valid.

PART 2 – PRODUCTS

2.1 NOT USED .1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED .2 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 ADMINISTRATIVE RESPONSIBILITIES

.1 The Owner will be responsible for administrative requirements for the following Contract meetings:

- .1 Preconstruction
- .2 Construction Progress
- .3 Environment

.2 The Contractor shall be responsible for administrative requirements for the following Contract meetings:

- .1 Workplace Orientation
- .2 Safety

.3 The Owner or the Contractor may request additional meetings related to installation of equipment, commissioning progress, warranty, dispute resolution, environmental issues. Unless otherwise specifically requested by the Contractor, the Owner will be responsible for administrative duties related to these meetings. The agenda for these meetings may be combined with that of the construction progress meetings.

1.2 ADMINISTRATIVE REQUIREMENTS

.1 The administrative requirements for Contract meetings include the following:

- .1 Scheduling and administering the Contract meetings throughout the progress of the Work.
- .2 Preparing the agenda for the meetings.
- .3 Distributing to the relevant attendees written notice of each meeting and the proposed agenda at least 3 days in advance of the meeting date.
- .4 Presiding at the meetings.
- .5 Recording the minutes including attendance, significant proceedings and decisions, and action required by the parties.
- .6 Reproducing and distributing copies of the minutes within 7 days after each meeting to the meeting participants and affected parties not in attendance.

.2 Representatives of the Contractor, Subcontractors, and Suppliers shall attend meetings as necessary and be authorized to act on behalf of the party each represents.

1.3 PRE-CONSTRUCTION MEETING

.1 Frequency: Within 15 days after award of the Contract and prior to commencement of activities at the Site.

.2 Purpose: To review personnel assignments, responsibilities, schedules, submissions, and administrative and procedural requirements.

.3 Attendees:

- .1 Contractor's representatives: senior management, site superintendent, major Subcontractors, and others as necessary.
- .2 Owner's representatives: as determined by the Owner.

.4 Agenda may include the following:

.1 Appointment of representatives of participants in the Work.
.2 Schedule of the Work and progress scheduling.
.3 Schedule of submittals.
.4 Requirements for temporary facilities, site signage, offices, storage sheds, utilities, and fences.
.5 Schedule of equipment delivery.
.6 Site safety and security.
.7 Contemplated changes, change orders, approvals required, costing and mark-up percentages permitted, time extensions, overtime, and administrative requirements.
.8 Products and materials provided by the Owner.
.9 Record documents.
.10 Maintenance manuals.
.11 Takeover procedures, acceptance, and warranties.
.12 Monthly progress claims, administrative procedures, and holdbacks.
.13 Inspection and testing.
.14 Insurance and transcripts of policies.
.15 Environmental management principles.
.16 Mobilization to the Site.

1.4 CONSTRUCTION PROGRESS MEETINGS

.1 Frequency: Weekly during the course of the Work.

.2 Purpose: To monitor construction progress, to identify problems and actions required for their solution, and to expedite the Work.

.3 Attendees:

.1 Contractor's representatives: site superintendent and, when so requested by the Owner, Subcontractors, Suppliers, and other parties involved in the Work.
.2 Owner's representatives: as determined by the Owner.

.4 Agenda may include the following:

.1 Review and approval of minutes of the previous meeting.
.2 Review of the Work progress since the previous meeting.
.3 Field observations, problems, and conflicts.
.4 Problems that impede the construction schedule.
.5 Off-site fabrication delivery schedules.
.6 Corrective measures and procedures to regain the Contract schedule.
.7 Revisions to the construction schedule.
.8 Progress and schedule for the succeeding work period.
.9 Submittal schedules.
.10 Adherence to quality standards.
.11 Contemplated changes effect on the construction schedule and Contract Time.
.12 Contentious items of the Work.
.13 Contract closeout issues.
.14 Safety and security issues.
.15 Environmental issues.

.16 Other business.

1.5 WORKPLACE ORIENTATION MEETINGS

.1 As frequently as required for all new workers prior to commencement of Work on the Site.

.2 Purpose is to familiarize new workers with site conditions, rules, regulations, safety, and security requirements.

.3 Attendees included all new Contractor and Owner personnel scheduled to work on the Site.

.4 Agenda may include the following:

.1 Project description including areas of work and other concurrent construction contracts.
.2 Hazardous areas including open excavations, construction equipment traffic, blasting, and chemical or explosive storage, etc.
.3 Safety equipment to be worn by workers, including areas with special requirements.
.4 Traffic routes on the Site.
.5 Evacuation procedures.
.6 First aid procedures.
.7 Excavation or work permit procedures.
.8 WHMIS (Workplace Hazardous Materials Information System) requirements for handling and storage of chemicals.
.9 Fire safety rules and regulations.
.10 Rules and regulations regarding wildlife, environmental concerns, drugs, alcohol, etc.

1.6 SAFETY MEETINGS

.1 Frequency: Weekly, or more, during the course of the Work for each area of work.

.2 Purpose: To review safety concerns and implement preventive safety measures.

.3 Attendees: Contractor's and Owner's personnel for each area of work.

.4 Agenda may include the following:

.1 Review and discussion of safety concerns, accidents, and "near misses."
.2 Remedial or preventive actions to be taken.

1.7 ENVIRONMENTAL MEETINGS

.1 During the course of Work, schedule environment meetings weekly or as required by the Owner to deal with issues that may arise. Dependent on the issues, the Owner may combine the agenda for environmental meetings with that of the construction progress meetings.

.2 Purpose: To review environment issues and implement mitigative measures.

.3 Attendees:

.1 Contractor's representatives: Contractor's site superintendent and when so requested by Owner, subcontractors, suppliers and other parties involved in the Work. Contractor's representatives shall be

qualified and authorized to act on behalf of the party each represents.

.2 Owner's representatives: as determined by Owner.

.4 Agenda to include the following:

.1 Review and discussion of environment concerns, accidents and "near misses".
.2 Identify environmental emergency notification procedures.
.3 Identify remedial or preventative action to be taken.
.4 All employees must attend environmental orientation.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 MEASUREMENT OF PAYMENT

.1 All work described in this section is considered incidental to work described elsewhere and is deemed included in the prices provided by the Contractor in the Unit Price Table. Therefore no separate payment to be made for work included in this section.

1.2 ADMINISTRATIVE

.1 Submit to Engineer submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with Work affected by submittal until review is complete.

.3 Present shop drawings, product data, samples and mock-ups in SI Metric units.

.4 Where items or information is not produced in SI Metric units converted values are acceptable.

.5 Review submittals prior to submission to Engineer. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

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

.7 Verify field measurements and affected adjacent Work are co-ordinated.

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

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

.10 Keep one reviewed copy of each submission on site.

1.3 SHOP DRAWINGS AND PRODUCT DATA

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

.2 Submit drawings stamped and signed by professional engineer registered or licensed in Saskatchewan of Canada.

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

.4 Allow 14 days for Engineer's review of each submission.

.5 Adjustments made on shop drawings by Engineer are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Engineer prior to proceeding with Work.

.6 Make changes in shop drawings as Engineer may require, consistent with Contract Documents. When resubmitting, notify Engineer in writing of revisions other than those requested.

.7 Accompany submissions with transmittal letter, containing:

- .1 Date.
- .2 Project title and number.
- .3 Contractor's name and address.
  - .a Identification and quantity of each shop drawing, product data and sample.
- .4 Other pertinent data.

.8 Submissions include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .a Subcontractor.
  - .b Supplier.
  - .c Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Details of appropriate portions of Work as applicable:
  - .a Fabrication.
  - .b Layout, showing dimensions, including identified field dimensions, and clearances.
  - .c Setting or erection details.
  - .d Capacities.
  - .e Performance characteristics.
  - .f Standards.
  - .g Operating weight.
  - .h Wiring diagrams.
  - .i Single line and schematic diagrams.
  - .j Relationship to adjacent work.

.9 After Engineer's review, distribute copies.

.10 Submit one electronic copy of shop drawings for each requirement requested in specification Sections and as Engineer may reasonably request.

.11 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Engineer where shop drawings will not be prepared due to standardized manufacture of product.

.12 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Engineer.

.1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.

.2 Testing must have been within 3 years of date of contract award for project.

.13 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Engineer.

.1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.

.2 Certificates must be dated after award of project contract complete with project name.

.14 Submit electronic copies of manufacturer’s instructions for requirements requested in specification Sections and as requested by Engineer.

.1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

.15 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Engineer.

.16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

.17 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Engineer.

.18 Delete information not applicable to project.

.19 Supplement standard information to provide details applicable to project.

.20 If upon review by Engineer, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same

procedure indicated above, must be performed before fabrication and installation of Work may proceed.

.21 The review of shop drawings by Engineer is for sole purpose of ascertaining conformance with general concept.

.1 This review shall not mean that Engineer approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.

.2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.4 SAMPLES

.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to Engineer's business address.

.3 Notify Engineer in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where colour, pattern or texture is criterion, submit full range of samples.

.5 Adjustments made on samples by Engineer are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Engineer prior to proceeding with Work.

.6 Make changes in samples which Engineer may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.5 PHOTOGRAPHIC DOCUMENTATION

.1 Submit electronic and hard copy of colour digital photography in jpg format, standard resolution monthly with progress statement and as directed by Engineer.

.2 Project identification: name and number of project and date of exposure indicated.

.3 Number of viewpoints: 4 locations.

.1 Viewpoints and their location as determined by Engineer.

.4 Frequency of photographic documentation: weekly and as directed by Engineer.

1.6 CERTIFICATES AND TRANSCRIPTS

.1 Immediately after award of Contract, submit Workers' Compensation Board status.

.2 Submit transcription of insurance immediately after award of Contract.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 INTENT

.1 Submit for review, shop drawings, product data and samples called for by the Contract Documents and for such other items as the Engineer may reasonably request.

.2 Until submittal is reviewed, do not proceed with work involving the relevant product.

1.2 SHOP DRAWINGS

.1 Shop drawings means technical data specially prepared for work of this Contract; including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form.

.2 Present shop drawings in a clear and thorough manner to appropriately illustrate the work.

.3 Identify field dimensions on drawings.

.4 Identify shop drawings by appropriate references to sheet, detail, schedule or room numbers.

.5 Maximum drawing size: 860 x 1 120 mm.

.6 Leave a clear space of 100 mm x 75 mm on each sheet of shop drawings for placement of Engineer's review stamp.

.7 Submit one set of sepias for each required shop drawing.

1.3 PRODUCT DATA

.1 Product data means standard printed information describing materials, products, equipment and systems; not specially prepared for work of this Contract, other than the designation of selections.

.2 Clearly mark product data to identify products.

.3 Manufacturer's standard schematic drawings, catalogue sheets, diagrams, schedules, performance charts, illustrations and descriptive data will be accepted in lieu of shop drawings provided that:

- .1 information not applicable to work of this Contract is deleted, and
- .2 standard information is supplemented with information specifically applicable to the work of this Contract.

.4 Submit clear reproducible information as follows:

- .1 One copy when product data is submitted as:
  - .a Data sheets larger than 216 mm x 355 mm. Submit mylars.
  - .b Unbound data sheets 216 mm x 355 mm or smaller. Submit printed or photocopied sheets.
- .2 Four copies when product data is submitted as follows:
  - .a Information that can not be duplicated using a photocopier with an automatic document feeder, such as bound or multi-fold information.
  - .b Information containing photographs or other information that does not reproduce well on a commercial photocopier.

1.4 SAMPLES

.1 Samples means cuts or containers of materials or partial sections of manufactured or fabricated components which are physically identical to products proposed for use and which establish minimum standards by which the work will be judged.

.2 Label samples as to origin and intended use in the Work.

1.5 SUBMITTAL PREPARATION

.1 Review, date and sign, shop drawings, product data and samples, prior to submission.

.2 Determine and verify:

- .1 Field measurements.
- .2 Field construction criteria.
- .3 Catalogue numbers and similar data.
- .4 Conformance with Contract Documents.

.3 Coordinate each submittal with requirements of work and Contract documents. Individual drawings will not be reviewed until all related shop drawing and product data are available.

.4 Notify Engineer, in writing, on the submittal and at the time of submission, of deviations from requirements of Contract Documents.

1.6 SUBMISSION REQUIREMENTS

.1 Make submittals sufficiently in advance of date that reviewed submittals will be required and, in such sequence, as to cause no delay in the Work.

.2 Accompany submittals with transmittal letter, containing:

- .1 Date.
- .2 Project title and number.
- .3 Contractor's name and address.
- .4 Number of each shop drawing, product data and sample submitted.
- .5 Other pertinent data.

.3 Submittals shall include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name of:
  - .a Contractor.
  - .b Subcontractor.
  - .c Supplier.
  - .d Manufacturer.
  - .e Name of detailer when details not prepared by Contractor, subcontractor, or supplier.
- .4 Contractor's stamp, initialed or signed, certifying review of submittal, verification of field measurements, and compliance with Contract Documents.

.4 Make corrections or changes to rejected submittals and resubmit, as specified for initial submission.

1.7 RESPONSIBILITY FOR ERRORS, OMISSIONS AND DEVIATIONS

.1 Engineer's review of submittals does not relieve Contractor from responsibility for errors and omissions, nor deviations from requirements of the Contract Documents.

1.8 REPRODUCTION OF SUBMITTALS

.1 After final review, Engineer will reproduce at his expense, the number of copies he requires, and return reviewed reproducible documents. Contractor shall reproduce at his expense the number of copies required for performance of the Work.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 MEASUREMENT OF PAYMENT

.1 All work described in this section is considered incidental to work described elsewhere and is deemed included in the prices provided by the Contractor in the Unit Price Table. Therefore, no separate payment to be made for work included in this section.

1.2 PROTECTION OF PUBLIC TRAFFIC

.1 Comply with requirements of Acts, Regulations and By Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.

.2 When working on travelled way:

- .1 Place equipment in position to minimize interference and hazard to travelling public.
- .2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
- .3 Do not leave equipment on travelled way overnight.

.3 Close lanes of road only after receipt of written approval from the Engineer.

- .1 Before re-routing traffic erect suitable signs and devices to Manual of Uniform Traffic Control Devices for Streets and Highways.

.4 Keep travelled way graded, free from pot holes and of sufficient width for required number of lanes of traffic. Provide 7 m wide minimum temporary roadway for traffic in two-way sections through Work and on detours.

- .1 Provide 5 m wide minimum temporary roadway for traffic in one-way sections through Work and on detours.

.5 Provide gravelled detours or temporary roads as approved by the Engineer to facilitate passage of traffic around restricted construction area.

1.3 INFORMATION AND WARNING DEVICES

.1 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.

.2 Supply and erect signs, barricades and miscellaneous warning devices to Manual of Uniform Traffic Control Devices for Streets and Highways.

.3 Place signs and other devices in locations recommended in Manual of Uniform Traffic Control Devices for Streets and Highways.

.4 Meet with the Engineer prior to commencement of Work to prepare list of signs and other devices required for project. If situation on site changes, revise list to approval of the Engineer.

.5 Continually maintain traffic control devices in use:

- .1 Check signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
- .2 Remove or cover signs which do not apply to conditions existing from day to day.

1.4 CONTROL OF PUBLIC TRAFFIC

.1 Provide competent flag personnel, trained in accordance with, and properly equipped to Manual of Uniform Traffic Control Devices for Streets and Highways for situations as follows:

- .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
- .2 When it is necessary to institute one way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and signal system is not in use.
- .3 When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
- .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
- .5 For emergency protection when other traffic control devices are not readily available.
- .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
- .7 Delays to public traffic due to contractor's operators: 15 minutes maximum.

.2 Where roadway, carrying two way traffic, is restricted to one lane, for 24 hours each day, provide portable traffic signal system.

- .1 Adjust, as necessary, and regularly maintain system during period of restriction.
- .2 Ensure signal system meets requirements of Manual of Uniform Traffic Control Devices for Streets and Highways.

1.5 OPERATIONAL REQUIREMENTS

.1 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken as specified and approved by the Engineer to protect and control public traffic.

.2 Maintain existing conditions for traffic crossing right of way.

.3 Maintain existing conditions for traffic crossing right of way except when required for construction.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 REFERENCES

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Safety Data Sheets (SDS).

.3 Province of Saskatchewan

.1 Occupational Health and Safety Act, 1993, S.S. 2005.

1.2 MEAUSUREMENT FOR PAYMENT

.1 All work described in this section is considered incidental to work described elsewhere and is deemed included in the prices provided by the Contractor in the Unit Price Table. Therefore no separate payment to be made for work included in this section.

1.3 SUBMITTALS

.1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:

.1 Results of site specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.

.3 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Engineer weekly.

.4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

.5 Submit copies of incident and accident reports.

.6 Engineer will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Engineer within 7 days after receipt of comments from Engineer.

.7 Engineer's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

.8 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior

to commencement of Work, and submit additional certifications for any new site personnel to Engineer.

.9 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.4 FILING OF NOTICE

.1 File Notice of Project with Provincial authorities prior to beginning of Work.

1.5 SAFETY ASSESSMENT

.1 Perform site specific safety hazard assessment related to project.

1.6 MEETINGS

.1 Schedule and administer Health and Safety meeting with Engineer prior to commencement of Work.

1.7 REGULATORY REQUIREMENTS

.1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.8 PROJECT/SITE CONDITIONS

.1 Work at site will involve contact with:

.1 Power, water, gas and electrical utilities.

.2 Motor vehicles.

1.9 GENERAL REQUIREMENTS

.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

.2 Engineer may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.10 RESPONSIBILITY

.1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

.2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.11 COMPLIANCE

.1 Comply with Occupational Health and Safety Regulations, 1996.

REQUIREMENTS

.2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.12 UNFORESEEN HAZARDS

.1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Engineer verbally and in writing.

1.13 HEALTH AND SAFETY CO-ORDINATOR

.1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:

.1 Have working experience specific to activities associated with underground pipe installation.

.2 Have working knowledge of occupational safety and health regulations.

.3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

.4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

.5 Be on site during execution of Work.

1.14 POSTING OF DOCUMENTS

.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Engineer.

1.15 CORRECTION OF NON-COMPLIANCE

.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Engineer.

.2 Provide Engineer with written report of action taken to correct non-compliance of health and safety issues identified.

.3 Engineer may stop Work if non-compliance of health and safety regulations is not corrected.

1.16 BLASTING

.1 Blasting or other use of explosives is not permitted.

1.17 POWDER ACTUATED DEVICES

.1 Use powder actuated devices only after receipt of written permission from Engineer.

1.18 WORK STOPPAGE

.1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 Section 31 23 33.01: Excavating, Trenching, and Backfilling.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 .Product Data:

- .1 Submit manufacturer's instructions, printed product literature, and data sheets for products supplied through contract and include product characteristics, performance criteria, physical size, finish, and limitations.
- .2 Submit 1 copy of WHMIS SDS in accordance with Section 01 35 29.06 - Health and Safety Requirements and 01 35 43 - Environmental Procedures.

1.3 FIRES

.1 Fires and burning of rubbish on site is not permitted.

1.4 DRAINAGE

.1 Develop and submit erosion and Sediment Control Plan (ESC) identifying type and location of erosion and sediment controls provided. Plan to include monitoring and reporting requirements.

.2 Provide temporary drainage and pumping required to keep excavations and site free from water.

.3 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.

.4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.5 SITE CLEARING AND PLANT PROTECTION

.1 Protect trees and plants on adjacent properties.

.2 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes.

.3 Minimize stripping of topsoil and vegetation.

1.6 WORK ADJACENT TO WATERWAYS

.1 Construction equipment to be operated on land only.

.2 Do not use waterway beds for borrow material.

.3 Waterways to be kept free of excavated fill, waste material and debris.

1.7 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under this Contract.

.2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.

.3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.8 HISTORICAL/ ARCHAEOLOGICAL CONTROL

.1 Notify Engineer promptly and cease all work until directed otherwise if historical, archaeological, or cultural artifacts or resources are discovered during construction.

1.9 NOTIFICATION

.1 Engineer will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.

.2 Contractor: after receipt of such notice, inform Engineer of proposed corrective action and take such action for approval by Engineer.

.1 Take action only after receipt of written approval by Engineer.

.3 Engineer will issue stop order of work until satisfactory corrective action has been taken.

.4 No time extensions granted, or equitable adjustments allowed to Contractor for such suspensions.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

.1 Leave Work area clean at end of each day.

.2 Burying of rubbish and waste materials on site is not permitted.

.3 Ensure waterways and wetlands remain free of waste and volatile materials disposal.

.4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.5 Waste Management: separate waste materials for reuse and recycling.

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

.1 Contractor responsible for following all required Regulations affecting the Work including but not limited to:

- .1 Water Security Agency
- .2 Saskatchewan Power Corporation
- .3 Saskatchewan Water Corporation
- .4 Saskatchewan Telecommunications
- .5 Saskatchewan Energy
- .6 Fisheries and Oceans Canada
- .7 Navigation Protection Act
- .8 Environment Canada
- .9 National Energy Board
- .10 Occupational Health and Safety
- .11 Municipal by-laws and servicing standards
- .12 Municipal utilities
- .13 Saskatchewan Environment

1.2 COMPLIANCE WITH REGULATIONS

.1 Ascertain requirements and regulations of authorities listed above.

.2 Comply with all such requirements and regulations as applicable to the Work.

.3 Requirements set out in this Section are for guidance and information and are not necessarily complete.

1.3 PERMITS

.1 Notwithstanding the provisions of CCDC 4, Owner will obtain construction permits required from:

- .1 Ministry of Environment.

.2 Obtain all construction permits necessary for the Works other than those listed under the above item.

1.4 WORK IN VICINITY OF OVERHEAD POWER LINES

.1 Request power company to relocate, de-energize or guard any energized conductor where construction equipment may operate within 3 m of conductor.

.2 Obtain power company approval prior to operating any equipment within 3 m of energized conductor.

.3 Where practical, avoid storage of metallic pipe sections under high voltage overhead power lines.

.4 If pipe sections must be stored under power lines, protect personnel from effects of induced currents by grounding pipe sections at two (2) locations with AWG #2 copper ground conductors and grounding rods.

.5 Complete and submit WCB Form 30M33 prior to commencement of work.

1.5 MIGRATORY BIRD ACT

.1 The Migratory Bird Act prohibits disturbance to migratory birds, their eggs

and habitat during nesting seasons. Vegetation clearing should be arranged to take place outside if the migratory bird nesting season.

.2 Cleating and grubbing shall be targeted to occur outside the migratory bird nesting window for the region.

.3 If clearing is to occur during the migratory nesting window, the Contractor shall employ a qualified biologist (at Contractor's cost) to conduct a bird survey of the target area and provide recommendations.

.4 the Contractor shall mitigate any delays resulting from biologist recommendations.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not used.

END OF SECTION

PART 1 – GENERAL

1.1 LATEST EDITIONS

.1 All references to specifications, standards, or methods of technical associations refer to the latest adopted revision, including all amendments, in effect on the date of submission of bids, except where a date or issue is specifically noted.

1.2 ABBREVIATIONS

AANDC Aboriginal Affairs and Northern Development Canada

AASHTO American Association of State Highway and Transportation Officials

ACI American Concrete Institute

AFBMA Antifriction Bearing Manufacturers Association

AGA American Gas Association

AGMA American Gear Manufacturers Association

AISC American Institute of Steel Construction

AMCA Air Moving and Conditioning Association

ANSI American National Standards Institute

API American Petroleum Institute

ARI Air-Conditioning and Refrigeration Institute

ASCE American Society of Civil Engineers

ASHRAE American Society of Heating, Refrigerating and Air Conditioning Engineers

ASME American Society of Mechanical Engineers

ASTM American Society for Testing and Materials

AWMAC Architectural Woodworkers Manufacturers Association of Canada

AWPA American Wood Preservers Association

AWS American Welding Society

AWWA American Water Works Association

CAN Canadian National Standard

CBM Certified Ballast Manufacturers

CBTIC Clay Brick and Tile Institute of Canada

CEC Canadian Electrical Code

CEMA Canadian Electrical Manufacturers Association

CGA Canadian Gas Association

CGRA Canadian Good Roads Association

CGSB Canadian General Standards Board

CISC Canadian Institute of Steel Construction

CITC Canadian Institute of Timber Construction

CLA Canadian Lumbermen Association

CMAA Crane Manufacturers Association of America

CMHC Canada Mortgage and Housing Corporation

CPCA Canadian Painting Contractors Association

CPCI Canadian Prestressed Concrete Institute

CRCA Canadian Roofing Contractors Association

CRSI Concrete Reinforcing Steel Institute

CSA Canadian Standards Association

CSSBI Canadian Sheet Steel Building Institute

CUA Canadian Underwriters Association

CWB Canadian Welding Bureau

CWC Canadian Wood Council

CSPI Corrugated Steel Pipe Institute

EEI Edison Electric Institute

EEMAC Electrical and Electronic Manufacturers of Canada

FFPC Federal Fire Prevention Committee

FM Factory Mutual Engineering Corporation

IAO Insurers' Advisory Organization

IBRM Institute of Boiler and Radiator Manufacturers

IEC International Electrotechnical Commission

IEE Institution of Electrical Engineers (U.K.)

IEEE Institute of Electrical and Electronics Engineers

IES Illuminating Engineering Society

IGMAC Insulated Glass Manufacturers Association of Canada

IPCEA Insulated Power Cable Engineers Association

ISA Instrument Society of America

ISO International Standardization Organization

LEMA Lighting Equipment Manufacturers Association

LTIC Laminated Timber Institute of Canada

MMA Millwork Manufacturers Association

NAAMM National Association of Architectural Metal Manufacturers

NBC National Building Code of Canada

NEC National Electrical Code

NESC National Electric Safety Code

NFPA National Fire Protection Association

NLGA National Lumber Grade Authority

OECI Overhead Electrical Crane Institute

PCA Portland Cement Association

PCI Prestressed Concrete Institute

RLM RLM Standards Institute

RTAC Road and Transportation Association of Canada

SAE Society of Automotive Engineers

SBI Steel Boilers Institute

SJI Steel Joist Institute

SSPC Steel Structures Painting Council

TTMAC Terrazzo, Tile and Marble Association of Canada

ULC Underwriters' Laboratories of Canada

USFG United States Federal Government

WCB Workers' Compensation Board

1.3 CONFORMANCE

.1 Conform to these standards, in whole or in part as specifically requested in Specifications.

.2 If there is question as to whether any product or system is in conformance with applicable standards, Engineer reserves the right to have such products or systems tested to prove or disprove conformance.

.3 The cost for such testing will be borne by Owner in the event of conformance with Contract Documents or by Contractor in the event of non-conformance.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not used.

END OF SECTION

PART 1 – GENERAL

1.1 MEASUREMENT OF PAYMENT

.1 All work described in this section is considered incidental to work described elsewhere and is deemed included in the prices provided by the Contractor in the Unit Price Table. Therefore, no separate payment to be made for work included in this section.

1.2 INSPECTION

.1 Allow Engineer access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.

.2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Engineer instructions, or law of Place of Work.

.3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.4 Engineer will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.3 INDEPENDENT INSPECTION AGENCIES

.1 Independent Inspection/Testing Agencies will be engaged by Engineer for purpose of inspecting and/or testing portions of Work.

.2 Provide equipment required for executing inspection and testing by appointed agencies.

.3 Employment of inspection/testing agencies does not relax Contractor's responsibility to perform Work in accordance with Contract Documents.

.4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Engineer at no cost to Engineer. Pay costs for retesting and re-inspection.

1.4 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Co-operate to provide reasonable facilities for such access

1.5 PROCEDURES

.1 Notify appropriate agency and Engineer in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.

.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

.4 All testing required to meet specifications is Quality Control testing to be conducted by a certified material and testing agencies to be engaged and paid by Contractor.

.5 Engineer may engage an independent testing laboratory to conduct random Quality assurance testing and will pay for that testing.

1.6 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Engineer as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

.2 Make good other Contractor's work damaged by such removals or replacements promptly.

.3 If in opinion of Engineer it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Engineer will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Engineer.

1.7 REPORTS

.1 Submit 4 copies of inspection and test reports to Engineer.

.2 Provide copies to subcontractor of work being inspected or tested and manufacturer or fabricator of material being inspected or tested.

1.8 TESTS AND MIX DESIGNS

.1 Not Used

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 CONTRACTOR'S GENERAL RESPONSIILITIES FOR EXISTING UTILITIES

.1 The approximate existence of service lines known to the Owner are indicated in the Contract Documents. Confirm the number, type, location and elevation of all existing service lines. Contact the appropriate Utility to locate all lines, conduits, and other such structures. Notify the Owner if any service lines have been omitted from or are incorrectly specified in the Contract Documents.

.2 Identify, stake, and flag all existing service line locations and elevations. Maintain staking and flagging.

.3 Notify the appropriate Utility prior to carrying out operations in the vicinity of the service lines. Comply with the requirements of, and co—operate fully with, each Utility for the location and protection of the service lines during the Work.

.4 Be responsible to the Utility for any claims resulting from damage to the service lines as a result of the Contractor's construction operations.

.5 Promptly notify the Utility and the Owner in the event of any damage or interruption to any services caused by the Contractor's construction operations. Co-operate with the Utility in the restoration of service as promptly as possible and bear all costs arising from the damage or interruption.

1.2 TEMPORARY UTILITIES

.1 Provide the specified temporary utilities and as otherwise required in order to execute the Work expeditiously. Remove the temporary utilities from the Site upon completion of the Work unless specified otherwise.

1.3 TEMPORARY POWER AND LIGHT

.1 Provide power for the Owner's Site office.

.2 Arrange for connection with the appropriate Utility. Pay all costs for installation, maintenance, power consumption, and removal.

.3 Provide and maintain sufficient temporary power for all construction equipment required to carry out the Work.

.4 Provide and maintain adequate lighting to safely perform the Work. Provide white light for night construction. Avoid light pollution off the Site.

.5 Where failure of the normal lighting system would endanger workers, provide an emergency lighting system capable of producing sufficient dependable illumination to enable the workers to:

.1 leave the worksite;
.2 initiate emergency shut-down procedures; or
.3 restore normal lighting.

1.4 TEMPORARY HEATING AND VENTILATION

.1 Provide temporary heating for the Owner's Site office including maintenance and fuel consumption during the period of construction up to the date of Substantial Performance. Design the heating system for a temperature differential of 60 0C and to be capable of maintaining a minimum temperature of 160 C.

.2 Provide temporary heating for construction as specified in the Contract Documents.

1.5 TEMPORARY WATER SUPPLY

.1 Provide a continuous supply of potable water for the Owner's Site office.

.2 Pay all costs for providing potable water.

1.6 TEMPORARY SANITATION FACILITIES

.1 Provide separate sanitation facilities for male and female workers on the Site in accordance with the requirements of the local health authorities.

.2 Provide sanitation facilities for the Owner's Site office.

.3 Provide toiletry consumables and maintain sanitation facilities in a clean condition.

.4 Arrange and pay all costs for installation, maintenance, and removal.

1.7 TEMPORARY NATURAL GAS OR PROPANE SUPPLY

.1 Provide a continuous supply of natural gas or propane for the Owner's Site office.

.2 Arrange for connection with the appropriate Utility and pay all costs for installation, maintenance, and removal.

.3 Pay for utility charges.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

- .1 CCDC 4-2011, Unit Price Contract.

.2 Canada Green Building Council (CaGBC)

- .1 LEED Canada-NC Version 1.0-[2004], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum [2007]).
- .2 LEED Canada-CI Version 1.0-[2007], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.

.3 Canadian General Standards Board (CGSB)

- .1 CAN/CGSB 1.189-[00], Exterior Alkyd Primer for Wood.
- .2 CGSB 1.59-[97], Alkyd Exterior Gloss Enamel.

.4 Canadian Standards Association (CSA International)

- .1 CSA-A23.1/A23.2-[04], Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
- .2 CSA-0121-[M1978(R2003)], Douglas Fir Plywood.
- .3 CAN/CSA-S269.2-[M1987(R2003)], Access Scaffolding for Construction Purposes.
- .4 CAN/CSA-Z321-[96(R2001)], Signs and Symbols for the Occupational Environment.

.5 Public Works Government Services Canada (PWGSC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions 'C', In Effect as of: May 14, 2004.

.6 U.S. Environmental Protection Agency (EPA) / Office of Water

- .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.3 INSTALLATION AND REMOVAL

.1 Prepare site plan indicating proposed location and dimensions of areas to be fenced, stockpile locations, materials storage areas, marshalling / parking areas, areas otherwise used by Contractor, location and number of trailers to be used, avenues of ingress/egress to work area and details of fence installation.

.2 Identify areas which have to be graveled to prevent tracking of mud.

.3 Indicate use of supplemental or other staging area.

.4 Provide construction facilities in order to execute work expeditiously.

.5 Remove from site all such work after use.

1.4 SITE STORAGE/ LOADING

.1 Refer to CCDC 4.

.2 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.3 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.5 CONSTRUCTION PARKING

.1 Parking will be permitted on site provided it does not disrupt performance of Work.

.2 Provide and maintain adequate access to project site.

1.6 SECURITY

.1 Contractor shall implement any measures required to ensure the safety and integrity of the worksite, at no additional cost to the owner.

1.7 OFFICES

.1 Contractor to provide office heated to 22 degrees C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table, as required.

.2 Provide marked and fully stocked first-aid case in a readily available location.

.3 Subcontractors may provide their own offices as deemed necessary. Direct location of these offices.

.4 Maintain office in neat and tidy condition.

.5 Engineer's Site office.

.1 A temporary office for Engineer is not required.
.2 Host onsite project meetings within Contractor office as scheduled.

1.8 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.9 SANITARY FACILITIES

.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

.2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.10 CONSTRUCTION SIGNAGE

.1 Provide and erect Contractor construction sign, within three weeks of signing Contract, in a location approved by Engineer.

.2 Contractor Construction sign dimensions and materials to be approved by Engineer.

.3 Install owner provided project sign, provided by funding program, at no additional cost, at location designated by Engineer.

.4 No other signs or advertisements, other than warning signs, are permitted on site.

1.11 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Owner will provide and upkeep access roads as necessary to maintain traffic.

.2 Advise Engineer promptly if road maintenance is required to maintain site activities.

.3 Protect travelling public from damage to person and property.

.4 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.5 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to public roads caused by construction operations.

.6 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.

.7 Dust control: adequate to ensure safe operation at all times.

.8 Provide snow removal during period of Work, if applicable.

OR

.1 Provide access and temporary relocated roads as necessary to maintain traffic.

.2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by the Engineer.

.3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights

around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs

.4 Protect travelling public from damage to person and property.

.5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.

.7 Construct access and haul roads necessary.

.8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.

.9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.

.10 Dust control: adequate to ensure safe operation at all times.

.11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by the Engineer.

.12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.

.13 Provide snow removal during period of Work.

.14 Remove, upon completion of work, haul roads designated by the Engineer.

1.12 CLEAN-UP

.1 Remove construction debris, waste materials, packaging material from work site daily.

.2 Clean dirt or mud tracked onto paved or surfaced roadways.

.3 Store materials resulting from demolition activities that are salvageable.

.4 Stack stored new or salvaged material not in construction facilities.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 REFERENCES

.1 Provide traffic accommodation in accordance with the following standards (latest revision) except where specified otherwise.

.2 Saskatchewan Highways and Transportation

.1 8400 — Specification for Traffic Accommodation and Safety

1.2 PUBLIC HIGHWAYS AND ROADS

.1 Comply with all requirements of the road authority having jurisdiction over public roads used by the Contractor in the execution of the Work.

.2 Determine the condition and availability of public highways and roads, clearances, restrictions, bridge load limits, bond requirements, and other limitations that may affect ingress to and egress from the Site.

.3 Comply with applicable load regulations during hauling of materials and equipment over public highways, roads, or bridges. Minimize interference with local traffic.

.4 Keep public highways and roads impacted by the Work open to traffic and passable at all times.

.5 Retain qualified personnel or organizations specializing in such work to develop a Traffic Accommodation Strategy in accordance with Saskatchewan Highways and Transportation and the requirements of other road authorities having jurisdiction.

.6 Supply, install, and maintain all necessary barricades, temporary signs, red lights, flashers, danger signals and signs, and all other precautions for the protection of the Work and the safety of the public.

.7 In addition to the requirements of the road authority having jurisdiction, provide flagmen to control traffic at all locations where the Contractor's operations interfere with public highways, roads, and detours.

.8 Promptly control dust and repair damage to public highways, roads, and bridges caused by Contract generated traffic in order to maintain public access and use.

.9 Not Used.

.10 Not Used.

.11 Do not permit scrapers, rock trucks or tracked equipment to travel on existing bridges or asphalt paved roadways.

.12 Do not block or impede access roads or driveways to local landowner residences located near the Site.

1.3 TEMPORARY ACCESS AND HAUL ROADS AND DETOURS

.1 Design and construct all temporary roads required for construction operations.

.2 Provide detours required for the execution of the Work.

.3 Confine construction traffic to the limits of temporary roads and avoid disturbances to adjacent lands.

.4 Contain hauled material in vehicles, and keep routes clear of mud, fallen rock, and debris resulting from construction operations.

.5 Control dust, remove snow, and maintain road surfaces daily or at frequent intervals depending upon weather or traffic and as required by the Owner.

.6 Reclaim all haul roads when they are no longer required. Scarify, grade to original contours, cultivate, replace topsoil, and seed to grass.

1.4 SUBMITTALS

.1 Provide the following submittals:

.2 The Traffic Accommodation Strategy at least 7 days prior to commencement of the Work at the Site.

.3 Plans showing the location of temporary access and haul roads and detours, drainage structures, and bridges required for execution of the Work, at least 10 days prior to commencement of the Work at the Site.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 Not Used.

1.2 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 4 – 2011, Unit Price Contract.

.2 Within text of each specifications section, reference may be made to reference standards.

.3 Conform to these reference standards in whole or in part as specifically requested in specifications.

.4 If there is question as to whether products or systems are in conformance with applicable standards, Engineer reserves right to have such products or systems tested to prove or disprove conformance.

.5 Cost for such testing will be borne by Owner in event of conformance with Contract Documents or by Contractor in event of non-conformance.

1.3 QUALITY

.1 Refer to CCDC 4.

.2 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source, and quality of products provided.

.3 Procurement policy is to acquire, in a cost-effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.

.4 Defective products, whenever identified prior to completion of Work, will be rejected regardless of previous inspections. Inspection does not relieve responsibility but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

.5 Should disputes arise as to quality or fitness of products, decision rests strictly with Engineer based upon requirements of Contract Documents.

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

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

1.4 AVAILABILITY

.1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Engineer of such in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

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

1.5 STORAGE, HANDLING AND PROTECTION

.1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.

.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.

.3 Store products subject to damage from weather in weatherproof enclosures.

.4 Store cementitious products clear of earth or concrete floors, and away from walls.

.5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.

.6 Store pipes, appurtenances, and fence materials on flat, solid supports and keep clear of ground. Slope to shed moisture.

.7 Remove and replace damaged products at own expense and to satisfaction of Engineer.

.8 Touch-up damaged factory finished surfaces to Engineer’s satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.6 TRANSPORTATION

.1 Pay costs of transportation of products required in performance of Work.

1.7 MANUFACTURER'S INSTRUCTIONS

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

.2 Notify Engineer in writing, of conflicts between specifications and manufacturer's instructions, so that Engineer will establish course of action.

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

1.8 QUALITY OF WORK

.1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Engineer if required Work is such as to make it impractical to produce required results.

.2 Do not employ anyone unskilled in their required duties. Engineer reserves right to require dismissal from site, workers deemed incompetent or careless.

.3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Engineer, whose decision is final.

1.9 CO-ORDINATION

.1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.

.2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.10 REMEDIAL WORK

.1 Refer to CCDC 4.

.2 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.

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

1.11 FASTENINGS

.1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.

.2 Prevent electrolytic action between dissimilar metals and materials.

.3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.

.4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.

.5 Keep exposed fastenings to a minimum, space evenly and install neatly.

.6 Fastenings which cause spalling or cracking of material to which anchorage

is made are not acceptable.

1.12 FASTENINGS - EQUIPMENT

.1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.

.2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.

.3 Bolts may not project more than one diameter beyond nuts.

.4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.13 EXISTING UTILITIES

.1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work and others.

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

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 FIELD ENGINEER ROLE & RESPONSIBILITIES

.1 Engineer will provide within 15 days after Contract award and update as required during the Contract, a contact list showing names, position and telephone numbers for the Engineer's Site Management personnel.

.2 Engineer will carry out site engineering duties as follows:

- .1 Record, transcribe and distribute minutes of formal progress and other meetings held during the course of the Contract.
- .2 Issue clarification of the Drawings and technical Specifications.
- .3 Receive from Contractor, for review purposes, the following:
- .4 Copy of proposed construction schedules and updates
- .5 Payment submissions.
- .6 Prepare Progress Payment submissions for Contractor.
- .7 Carry out inspection of the Work at the Site and other locations as deemed necessary by the Engineer, and issue instructions to correct observed deficiencies.
- .8 Receive Contractor submittals required with respect to the Work and deal with Contractor in matters arising from submittal review.
- .9 With respect to contemplated changes in the Work, issue the necessary documentation, receive the related quotations and information and authorize changes in the Work.

1.2 CONTRACTOR SITE SUPERVISION

.1 Provide site representative for superintendence of Work.

.2 Site representative shall be authorized to attend meetings, submit construction schedules and cash flow forecasts, supervise layout of Work, advise on changes to the Work, prepare payment submissions and receive instruction from the Engineer.

1.3 SURVEY REFERENCE POINTS AND LEGAL SURVEY MARKERS

.1 Existing base horizontal and vertical control points are designated on drawings.

.2 Locate, confirm and protect control points and legal survey markers prior to starting site work. Preserve permanent reference points during construction.

.3 Make no changes or relocations without prior written approval from the Engineer.

.4 Report to Engineer when a reference point or legal survey marker is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

.5 Employ a competent surveyor to replace control points in accordance with original survey control.

.6 Require surveyor to replace legal survey markers lost or destroyed as a result of construction activities.

.7 Maintain a complete, accurate log of control points and survey work as it progresses.

1.4 EXISTING SURVEY MARKERS

.1 Replace legal survey markers, disturbed or removed by the construction operation. If it is necessary to remove or disturb existing legal survey markers that are within 1.5 m of the Work, notify Engineer before such removal or disturbance and replacement will be at Owner's expense.

1.5 SUBSURFACE CONDITIONS

.1 Promptly notify Engineer in writing if subsurface conditions at Site differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.

.2 After prompt investigation, should Engineer determine that the conditions do differ materially, instructions will be issued for changes in Work as provided in CCDC 4.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not used.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 4 - 2011, Unit Price Contract

1.2 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 4 - 2011, Unit Price Contract.

1.3 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris.

.2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Engineer. Do not burn waste materials on site.

.3 Clear snow and ice from access to Site, and from all work areas.

.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.5 Provide on-site containers for collection of waste materials and debris.

.6 Provide and use marked separate bins for recycling.

.7 Dispose of waste materials and debris off site.

.8 Store volatile waste in covered metal containers and remove from premises at end of each working day.

.9 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

1.4 FINAL CLEANING

.1 Refer to CCDC 4.

.2 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.3 Remove waste products and debris and leave Work clean and suitable for occupancy.

.4 Prior to final review remove surplus products, tools, construction machinery and equipment.

.5 Remove dirt and other disfiguration from exterior surfaces.

.6 Clean roofs, downspouts, and drainage systems.

1.5 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 Not Used.

1.2 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 4 - 2011, Unit Price Contract.

1.3 ADMINISTRATIVE REQUIREMENTS

.1 Acceptance of Work Procedures:

.1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.a Notify Engineer in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.

.b Request Engineer's inspection.

.2 Engineer’s Inspection:

.a Engineer and Contractor to inspect Work and identify defects and deficiencies.

.b Contractor to correct Work as directed.

.3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:

.a Work: completed and inspected for compliance with Contract Documents.

.b Defects: corrected and deficiencies completed.

.c Equipment and systems: tested, adjusted and fully operational.

.4 Declaration of Substantial Performance: when Engineer considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.

5 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

.6 Final Payment:

.a When Engineer considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.

.b Refer to CCDC 4: when Work deemed incomplete by Engineer, complete outstanding items and request re-inspection.

.7 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.4 FINAL CLEANING

.1 Clean in accordance with Section 01 74 11 - Cleaning.

.1 Remove surplus materials, excess materials, rubbish, tools and equipment.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 SITE CONDITIONS

.1 Be aware that the project area is located in an area where strong winds and intense heat are prevalent.

PART 2 – PRODUCTS

2.1 EQUIPMENT AND MATERIALS

.1 Provide all pumps, hoses, and related equipment and power sources required for care of water.

.2 Maintain pumps in good operating condition at all times. Have at the Site at all times at least one standby pump for each category of pump required for care of water.

.3 Install a replacement pump or pumps of equal capacity before removing a pump or pumps for maintenance.

PART 3 – EXECUTION

3.1 GENERAL

.1 Design, construct and maintain Temporary Work, construct related Permanent Work, as required for care of water, including all necessary cofferdams, channels, flumes, drains, sandpoints, wells and sumps and other temporary diversion and protective works and furnish all materials required therefor. Furnish, install, maintain and operate all necessary pumping and other equipment, for dewatering the various parts of the work and for maintaining the foundation and other parts of the work free of water, ice and snow from whatever source.

.2 Maintain all sumps, trenches, and discharge lines to ensure proper containment and free flow of water to and from the pumps and other diversion and protective works at all times.

.3 Obtain any permits required.

.4 Ensure that care of water procedures do not interfere with the operation of the landfill.

.5 Repair damage to any part of the work caused by water or failure of protective works at no extra cost to the Owner.

.6 Be responsible for additional excavation and subsequent backfill made necessary by water, snow, or ice.

.7 Ensure procedures for “Care of Water” do not cause pollution in the area. Locate and control discharges of water to avoid causing damage to property, pollution of water courses, nuisance on roads, or injury to the public or wildlife.

.8 Make provisions for handling residual water, storm runoff and snowmelt that may enter the landfill or excavations from time to time.

.9 Make arrangements with landowners and agencies that may be affected by disposal of water, snow, and ice.

.10 Remove and dispose of all water, snow and ice from the landfill work areas.

3.2 CONSTRUCTION ACCESS CROSSING

.1 Provide construction access crossings.

.2 Design crossings to accommodate the drainage of runoff water during the non-irrigation season.

.3 Design crossings to accommodate the full canal flow without increasing the backwater in the canal if the crossing is to be used during the irrigation season.

.4 Design crossings for the maximum load of the construction equipment to be used.

.5 Do not use existing on Site, public and private, bridges and culvert crossings for construction equipment.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 35 29.06 - Health and Safety Requirements.

.3 Section 01 74 11 - Cleaning.

1.2 MEASUREMENT FOR PAYMENT

.1 All work described in this section is considered incidental to work described elsewhere and is deemed included in the prices provided by the Contractor in the Unit Price Table. Therefore no separate payment to be made for work included in this section.

1.3 REFERENCES

.1 U.S. Environmental Protection Agency (EPA)/Office of Water

.1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.4 DEFINITIONS

.1 Clearing consists of cutting off trees and brush vegetative growth to not more than specified height above ground and disposing of felled trees, previously uprooted trees and stumps, and surface debris.

.2 Close-cut clearing consists of cutting off standing trees, brush, scrub, roots, stumps and embedded logs, removing at, or close to, existing grade and disposing of fallen timber and surface debris.

.3 Clearing isolated trees consists of cutting off to not more than specified height above ground of designated trees, and disposing of felled trees and debris.

.4 Underbrush clearing consists of removal from treed areas of undergrowth, deadwood, [and trees smaller than 50 mm trunk diameter] and disposing of fallen timber and surface debris.

.5 Grubbing consists of excavation and disposal of stumps and roots [boulders and rock fragments of specified size] to not less than specified depth below existing ground surface.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Samples:

.1 Tree wound paint: one liter can with manufacturer's label.
.2 Herbicide: one liter can with manufacturer's label.

.3 Submit certificates signed by manufacturer certifying that materials comply

with specified performance characteristics and physical properties.

.4 Submit manufacturer's installation instructions.

1.6 QUALITY ASSURANCE

.1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.2 Safety Requirements: worker protection.

.1 Workers must wear gloves, respirators, long sleeved clothing, eye protection, and protective clothing when applying herbicide materials.
.2 Workers must not eat, drink or smoke while applying herbicide material.
.3 Clean up spills of preservative materials immediately with absorbent material and safely discard to landfill.

1.7 STORAGE AND PROTECTION

.1 Prevent damage to fencing, trees, landscaping, natural features, bench marks, existing buildings, existing pavement, utility lines, site appurtenances, water courses, root systems of trees which are to remain.

.1 Repair damaged items to approval of Engineer.
.2 Replace trees designated to remain, if damaged, as directed by Engineer.

1.8 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling as directed by Engineer.

PART 2 – PRODUCTS

2.1 MATERIALS

.1 Bituminous based paint of standard manufacture specially formulated for tree wounds.

.2 Herbicide: effective for killing annual and perennial weeds, and bamboo grass, by being absorbed through roots and foliage.

.1 Spray applied on non-crop land areas.

.3 Soil Material for Fill:

.1 Excavated soil material: free of debris, roots, wood, scrap material, vegetable matter, refuse, soft unsound particles, deleterious, or objectionable materials.
.2 Remove and store soil material for reused.

PART 3 – EXECUTION

3.1 TEMPORARY EROSION AND SEDIMENTATION

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to

CONTROL

adjacent properties and walkways, according to requirements of authorities having jurisdiction.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 PREPARATION

.1 Inspect site and verify with Engineer, items designated to remain.

.2 Locate and protect utility lines: preserve in operating condition active utilities traversing site.

.1 Notify Engineer immediately of damage to or when unknown existing utility lines are encountered.

.2 When utility lines which are to be removed are encountered within area of operations, notify Engineer in ample time to minimize interruption of service.

.3 Notify utility authorities before starting clearing and grubbing.

.4 Keep roads and walks free of dirt and debris.

3.3 APPLICATION

.1 Manufacturer's instructions: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.4 CLEARING

.1 Clearing includes felling, trimming, and cutting of trees into sections and satisfactory disposal of trees and other vegetation designated for removal, including downed timber, and rubbish occurring within cleared areas.

.2 Clear as directed by Engineer, by cutting at height of not more than 300 mm above ground. In areas to be subsequently grubbed, height of stumps left from clearing operations to be not more than 1000 mm above ground surface.

.3 Cut off branches and cut down trees overhanging area cleared as directed by Engineer.

.4 Cut off unsound branches on trees designated to remain as directed by Engineer.

.5 Apply herbicide in accordance with manufacturer's label to top surface of stumps designated not to be removed.

3.5 CLOSE CUT CLEARING

.1 Close cut clearing to within 100 mm of ground surface.

.2 Cut off branches down trees overhanging area cleared as directed by the

Engineer.

.3 Cut off unsound branches on trees designated to remain as directed by Engineer.

3.6 ISOLATED TREES

.1 Cut off isolated trees as directed by Engineer at height of not more than 300 mm above ground surface.

.2 Grub out isolated tree stumps.

.3 Prune individual trees as indicated.

.4 Trim trees designated to be left standing within cleared areas of dead branches [4] cm or more in diameter; and trim branches to heights as indicated.

.5 Cut limbs and branches to be trimmed close to bole of tree or main branches.

.6 Paint cuts more than 3 cm in diameter with approved tree wound paint.

3.7 UNDERBRUSH CLEARING

.1 Clear underbrush from areas as indicated.

3.8 GRUBBING

.1 Remove and dispose of roots larger than 7.5 cm in diameter, matted roots, and designated stumps from indicated grubbing areas.

.2 Grub out stumps and roots to not less than 200 mm below ground surface.

.3 Grub out visible rock fragments and boulders, greater than 300 mm in greatest dimension, but less than 0.25 m3.

.4 Fill depressions made by grubbing with suitable material and to make new surface conform with existing adjacent surface of ground.

3.9 REMOVAL AND DISPOSAL

.1 Remove cleared and grubbed materials to disposal area as indicated by Engineer.

.2 Cut timber greater than 125 mm diameter to 300 mm lengths and stockpile as indicated. Stockpiled timber becomes property of Owner.

.3 Burning of cleared and grubbed material is not allowed.

.4 Bury to approval of Engineer by:

.1 Consolidating.
.2 Covering with minimum [500] mm of mineral soil.
.3 Finishing surface.

.5 Chip or mulch and stockpile spread cleared and grubbed vegetative material

on site as directed by Engineer.

.6 Remove diseased trees identified by Engineer and dispose of this material to approval of Engineer.

3.10 FINISHED SURFACE

.1 Leave ground surface in condition suitable for stripping of topsoil to approval of Engineer.

3.11 CLEANING

.1 Proceed in accordance with Section 01 74 11 - Cleaning.

.2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 Section 01 74 11 – Cleaning.

1.2 REFERENCES

.1 U.S. Environmental Protection Agency (EPA)/Office of Water

.1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.3 MEASUREMENT FOR PAYMENT

.1 All work described in this section is considered incidental to work described elsewhere and is deemed included in the prices provided by the Contractor in the Unit Price Table. Therefore, no separate payment to be made for work included in this section.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 STRIPPING OF TOPSOIL

.1 Ensure that procedures are conducted in accordance with applicable Provincial and Municipal requirements.

.2 Remove topsoil before construction procedures commence to avoid compaction of topsoil.

.3 Handle topsoil only when it is dry and warm.

.4 Remove vegetation from targeted areas by non-chemical means and dispose of stripped vegetation by composting.

.5 Remove brush from targeted area by non-chemical means and dispose of mulching.

.6 Strip topsoil to depths as directed by Engineer.

.7 Avoid mixing topsoil with subsoil.

.8 Pile topsoil in berms in locations as directed by Engineer.

.9 Stockpile height not to exceed 3 m.

.10 Dispose of unused topsoil in location as indicated by Engineer.

.11 Protect stockpiles from contamination and compaction.

.12 Cover topsoil that has been piled for long term storage, with trefoil or grass to maintain agricultural potential of soil.

3.3 STOCKPILES

.1 Unless otherwise designated in the Contract Documents, stockpile stripped material adjacent to borrow areas, waste areas or along the road right of way. Choose stockpile locations such that they will not interfere with construction.

.2 Stockpile topsoil separately from other materials.

.3 Maintain a minimum separation of 1 m between stockpiles.

.4 Stockpile frozen material stripped from borrow areas separately from other materials.

.5 Adopt measures to prevent drifting of topsoil.

.6 Keep drainage courses clear of stockpiled material.

.7 Stockpile material at slopes lower than 2H: I V.

3.4 PREPARATION OF GRADE

.1 Verify that grades are correct and notify Engineer if discrepancies occur, do not begin work until instructed by Engineer.

.1 Grade area only when soil is dry to lessen soil compaction.
.2 Grade soil establishing natural contours and eliminating uneven areas and low spots, ensuring positive drainage.

3.5 PLACING OF TOPSOIL

.1 Place topsoil only after Engineer has accepted subgrade.

.2 Spread topsoil during dry conditions in uniform layers not exceeding 150 mm, over unfrozen subgrade free of standing water.

.3 Establish traffic patterns for equipment to prevent driving on topsoil after it has been spread to avoid compaction.

.4 Cultivate soil following spreading procedures.

3.6 SUB-SOILING

.1 Not Used.

3.7 CLEANING

.1 Proceed in accordance with Section 01 74 11 - Cleaning.

.2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

.3 Section 01 45 00 – Quality Control

.4 Section 01 74 11 - Cleaning.

1.2 REFERENCES

.1 ASTM International

.1 ASTM D 698-[07e1], Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (600 kN-m/m;).

.2 Canada Green Building Council (CaGBC)

.1 LEED Canada-NC Version 1.0-[2004], LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations (including Addendum [2007]).

.2 LEED Canada-NC-[2009], LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009.

.3 LEED Canada-CI Version 1.0-[2007], LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Commercial Interiors.

.4 LEED Canada-EB: O&M-[2009], LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Existing Buildings: Operations and Maintenance 2009.

.3 Underwriters' Laboratories of Canada (ULC)

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

1.4 EXISTING CONDITIONS

.1 Examine subsurface investigation report which is available for inspection at [_____].

.2 Known underground and surface utility lines and buried objects are as indicated on site plan.

.3 Refer to dewatering in Section 31 23 33.01 - Excavating, Trenching and Backfilling.

1.5 PROTECTION

.1 Protect and/or transplant existing fencing, trees, landscaping, natural features, bench marks, buildings, pavement, surface or underground utility lines which are to remain as directed by Engineer. If damaged, restore to original or better condition unless directed otherwise.

.2 Maintain access roads to prevent accumulation of construction related debris on roads.

PART 2 – PRODUCTS

2.1 MATERIALS

.1 Fill material: Type in accordance with of Section 31 23 33.01 - Excavating, Trenching and Backfilling.

.2 Excavated or graded material existing on site suitable to use as fill for grading work if approved by Engineer.

PART 3 – EXECUTION

3.1 STRIPPING OF TOPSOIL

.1 Do not handle topsoil while in wet or frozen condition or in any manner in which soil structure is adversely affected as determined by Engineer.

.2 Commence topsoil stripping of areas as directed by Engineer after area has been cleared of brush, weeds and grasses and removed from site.

.3 Strip topsoil to depths as directed by Engineer. Avoid mixing topsoil with subsoil.

.4 Stockpile in locations as directed by Engineer. Stockpile height not to exceed 2 m.

.5 Dispose of unused topsoil as directed by Engineer.

3.2 GRADING

.1 Rough grade to levels, profiles, and contours allowing for surface treatment as indicated.

.2 Slope rough grade away from buildings as directed (offers more choice).

.3 Grade ditches to depth as directed.

.4 Prior to placing fill over existing ground, scarify surface to depth of 150 mm minimum before placing fill over existing ground. Maintain fill and existing surface at approximately same moisture content to facilitate bonding.

.5 Compact filled and disturbed areas to maximum dry density to ASTM D 698, as follows:

.1 [85]% under landscaped areas.
.2 [95]% under paved and walk areas.

.6 Do not disturb soil within branch spread of trees or shrubs to remain.

3.3 TESTING

.1 Inspection and testing of soil compaction will be carried out by testing laboratory designated by Engineer. Costs of tests will be paid by Owner.

Refer to Section 01 45 00 – Quality Control.

.2 Submit testing procedure, frequency of tests to Engineer for review.

3.4 SURPLUS MATERIAL

.1 Remove surplus material and material unsuitable for fill, grading or landscaping as directed by Engineer.

3.5 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.3 Waste Management: separate waste materials for reuse and recycling when appropriate.

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

PART 1 – GENERAL

1.1 DESCRIPTION

.1 Read this Section in conjunction with other sections for testing requirements for Earthwork and Granular Material Testing specified herein.

.2 Read this Section in conjunction with requirements for testing specified in CCDC 4.

1.2 DETAILED DRAWINGS

.1 Not Used.

1.3 TESTING

.1 Contractor is responsible for performance testing in performance of the Work.

.2 The Owner's representative will perform quality assurance testing and related functions.

.3 The Owner's representative will perform quality assurance testing according to the testing standards listed in Reference Documents as selected by the Owner.

.4 Provide samples requested by Owner's representative for testing.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 FILL MATERIAL TESTING

.1 Fill materials may be tested, before and after placement, for conformance with specified requirements and to confirm suitability for intended uses.

.2 Acceptance of fill material will be made only after the material has been dumped, spread, and compacted in place. Owner may reject fill material in the borrow areas, in the stockpiles, in the transporting vehicle or in place. Cooperate with the Owner to ensure only acceptance fill material will be placed in the Work.

3.2 COMPACTION AND MOISTURE CONTENT TESTING

.1 Compaction and moisture content testing will be performed during fill material placement operations to ensure that specified requirements are met.

.2 The frequency of compaction and moisture content testing will be determined by the Owner.

END OF SECTION

PART1 – GENERAL

1.1 DESCRIPTION

.1 This Section specifies requirement for excavating trenches and backfilling for installation of pipelines and appurtenances.

1.2 RELATED REQUIREMENTS

.1 Section 01 35 29:06 - Health and Safety Requirements.

1.3 DEFINITIONS

.1 Common excavation is defined as the excavation of all materials other than rock, and shall include over-burden over rock, hard pan, quicksand and frozen earth and boulders up to a size of 1.0 cubic metres.

.2 Boulder excavation is defined as boulders, pieces of concrete or masonry excluding previously blasted rock in excess of 1.0 cubic metres which can be removed with a power operated excavator.

1.4 SAFETY REQUIREMENTS

.1 Adhere to municipal and provincial requirements relating to safety of trenching work.

.2 Adhere to municipal, provincial and national codes when blasting is required.

.3 Traffic accommodation will be the responsibility of the contractor during construction. The contractor shall submit, for approval by the Engineer, a traffic management plan prior to starting any work on site.

1.5 PROTECTION

.1 Existing Buried Utilities:

.1 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.

.2 Maintain and protect from damage, water, sewer, electric and other utilities encountered.

.3 Obtain direction of owner of utility and Engineer before moving or otherwise disturbing utility.

.2 Existing Surface Features:

.1 Protect existing buildings, culverts, trees and other plants, lawns, fencing, service poles, wires located within right-of-way or adjoining properties from damage while work is in progress and repair damage.

.3 Shoring and Bracing:

.1 Whenever shoring, sheeting, timbering and bracing of excavations is required engage services of a professional engineer to design and assume responsibility for adequacy of shoring and bracing.

Professional engineer to be registered in province or territory in which work is to be carried out.

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

.3 Close sheeting, when required, to be designed and constructed to prevent adjacent soil or water from entering excavation.

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

.5 Protect open excavation against flooding and damage from surface water run-off.

1.6 SITE CONDITIONS

.1 The Tenderer must examine the site of the Work before submitting his Tender, either personally or through a representative and satisfy himself as to the nature and location of the Work, local conditions, soils structure and topography at the site of the Work, the nature and quality of the materials to be used, the equipment and facilities needed preliminary to, and during, the prosecution of the Work, the means of access to the site, on-site accommodation, all necessary information as to risks, contingencies and circumstances as may affect his Tender, and all other matters which can, in any way, affect the Work under the Contract. The Tenderer is fully responsible for obtaining all information required for the preparation of his Tender and for the execution of the Work.

.2 The Tenderer is not entitled to rely on any data or information included in the Tender Documents as to site or sub-surface conditions or test results indicating the suitability or quantity or otherwise off-site or subsurface materials for backfilling or other uses in carrying out the construction of the Work. If the Tenderer requires additional time to conduct his own investigations or is of the opinion either that the site or subsurface conditions or that site or subsurface materials differ materially from that indicated by data or information included in the Tender Documents, he shall promptly request such additional time or notify the Engineer in writing of this opinion before the time of Tender submission. The Engineer will either request the Owner to extend the time for submission of Tenders or enable Tenderers to carry out further investigation or issue an addendum modifying the Tender Documents or both as the circumstances may permit.

1.7 MEASUREMENT AND PAYMENT

.1 Work performed to this section will be in conjunction with work involved in other sections with the exception of the following:

.1 Common Excavation: Payment for common excavation will be included in the unit price tendered per metre of pipe(s) being installed. The cost shall include excavation, hauling, stockpiling topsoil, dewatering, backfilling, placing and compaction of bedding material, disposal of excess excavation material, re-gravelling of roadways and driveways disturbed by construction, disposal of all rocks not allowed as backfill and replacement with suitable backfill,

and all other work required for which separate payment is not indicated in the tender form.

.2 Unstable Subgrade: Where the subgrade of the trench is unstable or will not properly support the pipe, or where it contains material harmful to the pipe such as ashes, cinders, refuse, vegetable or organic material, the Contractor shall excavate such material to the width, depth and length, authorized in writing by the Engineer, and dispose of the material at a suitable disposal location. The subgrade shall then be made by backfilling with bedding stone and compacting in 150 mm layers. The finished subgrade surface shall be shaped to provide a uniform and continuous support for the pipe. Unstable or otherwise unsuitable ground excavated from the bottom of the trench, will be measured in cubic metres calculated from the length, width and depth authorized for removal. Payment will be at the Unit Price tendered including excavation and hauling, backfilling with bedding stone, and compaction of all bedding material used.

PART 2 – PRODUCTS

2.1 MATERIALS

.1 Granular Backfill:

.1 Clean, hard, durable uncoated particles, free from clay lumps, cementation, organic and other objectionable material, meeting following gradation limits:

Sieve	% Passing
50 mm	100
31.5 mm	60-100
16 mm	40-90
4.75 mm	25-60
2.0 mm	25-50
0.425 mm	10-25
0.075 mm	0-10

.2 Common Backfill:

.1 Approved material selected from trench excavation or other source, unfrozen and free cinders, ashes, sods, refuse, or other deleterious materials

.2 The maximum size of boulders permitted in backfill will be 0.2 m3 or of 300 mm average diameter.

.3 Bedding Sand:

.1 Natural sand or crushed rock screenings to following gradation requirements:

Sieve	% Passing
9.50 mm	100
4.75 mm	50-100
2.00 mm	30-90
0.425 mm	10-50
0.075 mm	0-10

.2 Liquid Limit: ASTM D423-66 (1972) (AASHTO T89-68), Maximum 25.

.3 Plasticity Index: ASTM C424-59 (1971) (AASHTO T90-70), Maximum 6.

.4 Bedding Stone:

.1 Maximum compressive strength of 0.4 MPa at 28 days.

Sieve	% Passing
63.00 mm	100
37.5 mm	85-100
25.0 mm	75-90
19.00 mm	50-50
16.00 mm	25-50
9.50 mm	0-10

.5 Concrete:

.1 Concrete required for cradles, encasement, supports, reaction blocking to CAN A23.1-M90 and shall be 25 MPa sulphate resistant.

.6 Pit Locations:

.1 The Contractor shall be responsible for locating, organizing approvals for haul roads, screening or crushing to meet specified gradations, loading, hauling and all other associated work for the specific trenching, backfilling and compaction material requirements.

PART 3 – EXECUTION

3.1 SITE PREPARATION

.1 Remove trees, shrubs, vegetation, fences and other obstructions, ice and snow, from surfaces to be excavated within limits indicated.

.2 Strip topsoil from within limits of excavation and stockpile as directed.

3.2 DEWATERING

.1 Trenches must be maintained in a dry condition for pipe laying. Methods of dewatering are the responsibility of the Contractor.

.2 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.

3.3 EXCAVATION

.1 Excavate to lines, grades, elevations and dimensions indicated on drawings or as required by Engineer.

.2 Notify Engineer when soil at proposed elevation of trench bottom appears unsuitable for foundation of installation.

.3 Remove unsuitable material from trench bottom to extent and depth required by Engineer.

.4 The finished subgrade surface shall be shaped to provide a uniform and continuous support for the pipe.

.5 The trench bottom shall then be made by backfilling with bedding sand compacted in 150 mm layers, to 400 mm above crown of pipe.

.6 Unless otherwise authorized by Engineer in writing, do not excavate more than 30 m of trench in advance of installation operations and do not leave open more than 10 m of trench at end of day's operation.

.7 Stockpile suitable excavated materials required for trench backfill in approved location.

.8 Dispose of surplus and unsuitable excavated material in an approved disposal site location.

.9 Do not obstruct flow of surface drainage or natural water courses.

.10 Sufficient clear space must be left on one side of the trench to accommodate the construction survey stakes.

3.4 TRENCH BOTTOM PREPARATION

.1 Where required due to removal of unsuitable material or unauthorized over-excavation, bring bottom of excavation to design grade with granular backfill.

.2 The cost of any granular backfill required to correct any unauthorized over-excavation shall be borne by the Contractor.

.3 Compact trench bottom to density at least equal to density of adjacent surrounding soil.

.4 Protect fill materials from contamination.

3.5 PRE-INSTALLATION INSPECTION

.1 Excavations may require inspection and approval prior to commencement of installation operations.

3.6 BACKFILLING

.1 Do not proceed with trench backfilling operations until Engineer has inspected installations.

.2 Use common or granular backfill material as indicated or as required by the Engineer.

.3 Backfilling around installations:

- .1 Do not backfill around or over cast-in-place concrete within 24 hours after placing.
- .2 Place layers simultaneously on sides of installed work to equalize loading.
- .3 Place material by hand under, around and over installations until 300 mm of bedding sand above pipe crown is provided. Dumping material directly on installations will not be permitted.
- .4 Class III Backfill
  - .a After the bedding sand has been placed as described above, the common backfill material shall be pushed down a ramp or slope of existing backfill and not directly over the newly bedded pipe. The trench shall be compacted to the surface in lifts of 300 mm maximum depth. The minimum compacted effort required shall be that to obtain in-situ density of the adjacent soil type. The backfill shall not be placed at less than 92% Standard Proctor at the optimum moisture content.
- .5 Class II Backfill
  - .a Once the bedding sand has been placed as shown above, approved common backfill material shall be placed in 300 mm lifts over the whole width of the trench. Each lift shall be compacted to 95% of Standard Proctor Density, using mechanical compaction equipment. This backfill may contain coarse materials but shall be free from brush or other objectionable material that would prevent proper consolidation or that might cause subsequent settlement. Rocks or stones not exceeding 11.3 kilograms in weight may be placed in this portion of the backfill but must be placed by hand.

.4 Do not place backfill in freezing weather without written permission of Engineer.

.5 Shoring, sheeting, and bracing:

- .1 Unless otherwise shown on drawings, or directed by Engineer, remove sheeting and shoring from trench during backfilling operations.
- .2 Do not remove bracing until backfilling has reached level of bracing.

3.7 TRENCH SUBSIDENCE

.1 The Contractor shall be responsible for all trench settlement for a period of one year from time of substantial completion.

.2 Contractor shall bear the costs for repairs of subsidence to the satisfaction of the Engineer.

3.8 ACCESS TO PROPERTIES AND STREET MAINTENANCE

.1 Until the date of substantial completion, the Contractor, at his costs, shall be responsible for street maintenance and access to properties.

.2 Such maintenance and access to properties shall include providing proper drainage, temporary gravel streets, street levelling with use of motor patrol, providing towing services

3.9 CLEANUP

.1 The Contractor shall be required to restore all roadways and areas affected by his operation to conditions prior to construction start and to satisfaction of Engineer.

.2 The Contractor shall provide a schedule to the Engineer which details how the construction program will be undertaken. This shall meet the approval of the Engineer and the Owner so they are assured that access to properties is maintained.

END OF SECTION

PART 1 – GENERAL

1.1 INTENT

.1 Read this Section in conjunction with other Sections for location and requirement of Subgrade Preparation specified herein.

1.2 DETAILED DRAWINGS

.1 Not Used.

1.3 MEASUREMENT AND PAYMENT

.1 Payment for Subgrade Preparation will be at the unit price per cubic metre as shown in the Bid Form based upon measurements taken by the Engineer.

.2 This price will include all cost in connection with labour, materials, placement and all work incidental thereto.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 SUBGRADE PERPARATION

.1 The subgrade shall be scarified to a depth of 150 mm and compacted to a minimum of 98% standard Proctor maximum dry density at +/- 2 % of the optimum moisture content as determined by ASTM D698, over the full width of the cross-section. The material shall be worked to ensure as much uniformity as possible. Shape and roll alternately to obtain a smooth, even and uniformly compacted sub-grade.

.2 When the moisture content in the subgrade material is lower than that specified, water shall be added and mixed with the material to achieve uniform moisture content in the material to conform to the requirements.

.3 When the moisture content in the subgrade material is higher than that specified, the material shall dry by scarifying, disking and harrowing to achieve uniform moisture content in the material that conforms to the requirements.

.4 Remove and dispose of unsuitable materials as authorized by the Owners representative. Replace with an approved suitable material and compact as specified herein.

.5 The Contractor shall maintain the subgrade to the specified section, grades and condition required. The Contractor shall be responsible for providing interim drainage to prevent damage to the work or the causing of unstable conditions due to high moisture contents. No separate payment will be made for these items.

.6 The subgrade shall pass density and proof rolling requirements prior to the placement of filter fabric and/or granular materials.

3.2 TOLERANCES

.1 Shape and compact subgrade to the required cross-section and grade to within ± 10 mm of design elevations but not uniformly high or low and maintain surface drainage as required to protect the work.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

.1 Section 311413 Soil Stripping and Stockpiling

.2 Section 312320 Earthwork and Granular Material Testing

.3 Section 312700 Subgrade Preparation

1.2 MEASUREMENT AND PAYMENT

.1 Payment for Geosynthetic Clay Liner will be at the unit price per square metre as shown in the Bid Form based upon measurements taken by the Engineer of the horizontal surface area covered after installation of the GCL.

.2 This price will include all cost in connection with labour, materials, placement, and all work incidental thereto.

1.3 STORAGE AND HANDLING REQUIREMENTS

.1 Store materials in accordance with manufacturer's recommendations.

.2 Store and protect from damage.

.3 Replace defective or damaged materials with new.

PART 2 – PRODUCTS

2.1 PRODUCTS

.1 The GCL should consist of two layers of geosynthetic (textured HDFE geomembrane top layer, and non-woven geotextile bottom layer) sandwiching a layer of sodium bentonite.

.2 Typical properties of the GCL include:

- .1 Tensile Strength of finished GCL should be 7kN/m (minimum average roll value),
- .2 Maximum Hydraulic Conductivity of finished GCL should be $4x10^{-12}$cm/s.
- .3 Internal Shear Strength of Finished GCL should be at least 24kPA.

.3 All GCL products should be approved by the engineer prior to placement.

PART 3 – EXECUTION

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for GCL installation in accordance with manufacturer's written instructions.

- .1 Visually inspect substrate.
- .2 Inform Engineer of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Engineer.

3.2 PREPARATION

.1 Temporary Erosion and Sedimentation Control:

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control plan, specific to site.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 BEDDING

.1 Dewater excavation, as necessary, to allow placement of liner in dry condition.

.2 Smooth the excavation so as to create intimate contact between the liner and the subgrade free from voids, stones, and other protuberances that may damage the liner.

3.4 LAYER LINING

.1 Refer to manufacturer’s installation specifications.

3.5CLEANING

.1 Progress Cleaning: clean in accordance with relevant Sections.

.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.3 Waste Management: separate waste materials for reuse and recycling.

END OF SECTION

PART 1 – GENERAL

1.1 DELIVERY STORAGE AND HANDLING

.1 Provide seed in standard containers clearly labeled with the following information:

- .1 Supplier's name and address
- .2 Lot Number
- .3 Net Mass
- .4 Names and percentages of individual seed species

.2 Protect seed from moisture, mould and damage while in transit and storage.

.3 Provide fertilizer in standard containers clearly labeled with the following information:

- .1 Supplier's name and address
- .2 Specified Composition
- .3 Net Mass

PART 2 – PRODUCTS

2.1 MATERIALS

.1 For all manicured turf areas, a grass mixture of:

.1	Kentucky Bluegrass — any two of the following: Touchdown, Nugget, America or Midnight	35% by weight
.2	Creeping Red Fescue — either Boreal or Jasper	25% by weight
.3	Chewings Fescue — either Victory or Banner	30% by weight
.4	Redtop or turf type perennial ryegrass	10% by weight

This seed mixture shall be applied at a rate of not less than 2.93 kg per 100 sq. metre (6.0 1b Per 1,000 ft2)

.2 For all-natural areas that have been previously disturbed, a grass mixture of:

.1	Western Wheatgrass (Walsh)	45% by weight
.2	Northern Wheatgrass (Elbee)	45% by weight
.3	Fall Rye	10% by weight

.4 This seed mixture shall be applied at a rate of not less than 70 kg/ha.

.3 Provide seed and seed mixture that are free of all prohibited noxious weed seeds.

.4 Provide Canada No. 1 Grade seed in accordance with the Government of Canada Seeds Act and Seeds Regulations. Do not provide seeds which are wet, mouldy, or otherwise damaged.

.5 Provide fertilizer in accordance with Government of Canada Fertilizer Act and Fertilizers Regulations. Fertilizer is to be compatible with the seed mixture and the soil conditions.

PART 3 – EXECUTION

3.1 GENERAL

.1 Prepare topsoil surface for seeding as required by Engineer.

.2 Apply materials during calm weather and on ground free of frost and standing water.

.3 Measure the quantities of materials by weight.

3.2 APPLICATION OF SEEDS

.1 Perform seeding operations at such a time of the year when climatic conditions are suitable for establishing grass stands.

.2 Fine grade and loosen the surface to plow depth to obtain a proper seed bed without undue loss from high winds or ordinary rainfall.

.3 Where the work adjoins existing vegetation, blend the application at least 300 mm into adjacent vegetated areas.

.4 Protect seeded areas against damage.

.5 Sow seed mixture by drilling with disk or shoe-type grass drill.

.6 Apply seed uniformly at the rate specified.

.7 Regulate the drill so that the seed is properly placed in the soil to a depth of 20 to 32 mm.

.8 Apply fertilizer uniformly at the rate of 78.5 Kg per hectare using a fertilizer attachment.

3.3 MAINTENANCE

.1 Re-apply seed to all areas that do not show a uniform stand of grass. Perform such reapplication to allow for establishment prior to Substantial Performance of the Work. A uniform stand of grass will be considered growth that shows no bare spots greater than 0.25 square meters in size and provides a minimum of eighty percent ground cover.

.2 Areas seeded in the fall will be inspected in the following spring, one month after the staff of the growing season.

END OF SECTION

PART 1 – GENERAL

1.1 INTENT

.1 Read this section in conjunction with other sections for location, use and placement of restoration of sitework specified herein.

1.2 DETAILED DRAWINGS

.1 Not Applicable.

PART 2 – PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 – EXECUTION

3.1 RESTORATION – GENERAL

.1 Restore all existing areas and sitework damaged or disturbed due to earthwork or other work of this Contract, back to their original condition.

3.2 RESTORATION OF LANDSCAPED AREAS

.1 Replace topsoil in accordance with Section 311413 – Soil Stripping and Stockpiling.

.2 Restore grassed areas by seeding in accordance with Section 312900 Grass Seeding.

3.3 RESTORATION OF CONCRETE STRUCTURES

.1 Restore any damage to concrete curb & gutter, swales, sidewalks and driveways back to their original condition (or better) that is damage or disturbed by the installation of pipeline and associated work.

.2 The restoration of concrete monolithic sidewalks, curb & gutters and swales will require reinforcing dowel between existing concrete structures and replacement concrete structures.

3.4 RESTORATION OF GRAVEL SURFACING

.1 Push and windrow existing granular material prior to start of construction activities.

.2 Replace damaged gravel surface resulting form construction activities with base granular materials material to equal or greater thickness of existing gravel structure prior to construction.

.3 Grade gravel to match existing lines, grades and elevations.

.4 Granular materials shall be in accordance with Section 312320 Earthwork and Granular Material Testing.

3.5 RESTORATION OF HOT MIX ASPHALT

.1 Restore any damage to asphalt pavement due to construction activities.

.2 Where edges of existing paving have become ragged, cut paving to form a straight line prior to placing new paving.

.3 Thoroughly clean edges of existing paving and coat with bituminous bonding agent prior to placing asphalt.

.4 Place asphalt in maximum 75 mm lifts.

.5 Compact new asphalt paving using a steel wheel roller with a minimum weight of 8 tonnes.

.6 Ensure finished grade of asphalt paving conforms to existing surface with no rises, depressions or ridges.

END OF SECTION