

Town of Stratford

**Community Campus PV
Array – Design Build**




Request for Proposals

February 2024
Contract 222617.01

Town of Stratford

Community Campus PV Array – Design Build

<i>Issue or Revision</i>	<i>Reviewed By:</i>	<i>Date</i>	<i>Issued By:</i>
Issued as Request for Proposal	MC	February 28, 2024	LDF
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1. The Project

- .1 The project is located in Stratford, PEI, between Bunbury Road and Hollis Ave off of the newly constructed John Joe Sark Drive. The work generally includes design construction & installation of on-site solar photovoltaic (PV) system including environmental protection measures, site preparation, underground electrical, ground mount structures and associated foundations, PV generating equipment, and reinstatement.
- .2 This project will be governed by a power purchase agreement upon final approval from MECL. This agreement is only in place until the completion of the Community Centre building adjacent to the proposed PV site. Upon completion of the Community Centre, MECL has required the array to change to a net metering agreement. Due to this requirement, construction of this site will require connection to the MECL owned distribution system, and provisional conduits installed as indicated in Section 48 14 00 to the proposed Community Centre Building.

2. Purpose of the Request for Proposals (RFP)

- .1 The intent of this RFP is to select one (1) successful proponent to enter into a Contract with the Town of Stratford as the Design Builder to design, supply, and install a new solar PV Array.

3. Project Duties and Responsibilities

- .1 The Owner is the Town of Stratford. CBCL Limited has been engaged by the Owner to act as the Owner's Advisor during the selection of the Design-Builder and throughout the implementation of the project.
- .2 CBCL Limited will also be the Payment Certifier for the Design-Build Contract.
- .3 The Design Builder will be responsible for the design and construction of the new PV Array complete with the ground mount structures, electrical, and site preparation.

1. **Submission of Proposal**

Proposals are comprised of a two (2) envelope submission (Envelope 1 and Envelope 2). Proposal submissions shall be addressed and delivered to:

Town of Stratford

***Attention: Carter Livingstone
Project Manager
Town of Stratford
234 Shakespeare Drive
Stratford, PE, C1B 2V8***

Phone and Email:

Tel: (902) 367-4448

Email: clivingstone@townofstratford.ca

and delivered to this address up until **2:00PM (local time), March 20th, 2024** hereinafter referred to as the "Closing Time".

Responses and their envelopes should be clearly marked with the name and address of the proponent.

2. **Proposal Submission Requirements**

Envelope 1 shall be sealed and shall contain three (3) printed hard copies of the non-financial portion of the proponent's submission and one (1) USB Drive containing the same in PDF format. In the event of a discrepancy between the printed hard copies and the USB Drive, the printed hard copy prevails. No cost information shall be included in this portion of the submission. This portion of the proposal shall be clearly marked as follows:

***Town of Stratford
Community Campus PV Array - Design Build
222617.01
Technical Proposal***

Envelope 2 shall be sealed and shall contain one (1) copy of the complete documentation in Section 00 41 30 - Proposal Form. The required proposal security shall also be submitted in this envelope, as detailed in clause 9 herein. This portion of the proposal shall be clearly marked as follows:

***Town of Stratford
Community Campus PV Array - Design Build
222617.01
Financial Proposal***

Only complete responses received and marked before closing time will be considered. Late responses will not be considered or evaluated and will be returned to the proponent, unopened. Responses delivered by fax or e-mail will not be considered.

3. Review and Selection

The Owner will evaluate responses against the evaluation criteria, as stated in Section 00 41 15. The Owner may enlist the assistance of an evaluation committee to evaluate the responses. This committee will include town staff and the Owner's Advisor. Responses not meeting all mandatory submission requirements will be rejected without further consideration. The Owner may interview the proponents and the results of the interviews may form part of the evaluation and selection process.

4. Estimated Time-Frames

The following timetable describes the tentative timing and sequence of events for the project.

Event	Date (Tentative)
Issuance of RFP	February 29 th 2024
RFP Closing Date	March 20 th 2024
Initiate Contract Between Owner and Design-Builder	April 12 th 2024
Substantial Completion	October 30 th 2024

5. Validity Period

All proposals, including as amended pursuant to this RFP, shall be valid for acceptance for sixty (60) calendar days from the closing time.

6. Complete Proposal

By submitting a response, the proponent represents that it is a legal entity, duly authorized to negotiate and to bind itself, and/or its constituent partners or members, contractually to perform as proposed or as subsequently negotiated (if awarded a contract). Any Joint Venture proponent shall:

- Form and sign their proposal as a distinct legal entity, and
- Ensure that each member of the Joint Venture has read, understood, accepted and agreed to be bound by the terms of the proposal.

A complete proposal shall be determined by the Owner and shall be a bona fide, substantial submission of all requested information, proposal security, proper endorsement and full adherence to this RFP. Should the technical portion of the submission be deemed incomplete, the proponent's cost proposal envelope will be returned to the proponent unopened.

7. RFP Documents

The RFP documents include the Procurement and Contracting Requirements, the Owners Statement of Requirements, all Appendices attached hereto,

the Documents, Data and Reference Reports transmitted to all proponents and any addenda issued during the course of this RFP.

8. Proponents Expenses

Proponents are solely responsible for their own expenses in preparing a response to this RFP and for subsequent negotiations with the Owner, if any. The Owner will not be liable to any proponent for any claims, whether for costs or damages incurred by the proponent in preparing the response to the RFP, loss of anticipated profit in connection with any final contract, or any other matter whatsoever.

9. Proposal Security

Proposals shall be accompanied by an initial deposit for a sum of ten percent (10%) of the Total Amount Payable (Base Contract Scope of Work) as evidence of the bona fide nature of the proposal. This deposit shall be in favour of the Town of Stratford and shall be made in the form of an irrevocable letter of credit, certified cheque or a bid bond which shall guarantee to the Owner that in the event of the successful proponents declining to enter into a formal agreement with the Owner, as called for in the Contract Documents, or declining or neglecting to provide the contract security required by the Contract Documents, then the Owner will be reimbursed the additional cost of accepting another proposal or ten percent (10%) of the Total Amount Payable, whichever is the lesser.

The proposal security of proponents will be retained until such successful proponent has executed the Agreement. The proposal security of other proponents will be returned to them after execution of the Agreement with the successful proponent, or on return of the proposal by the Owner in accordance with Clause 5 herein, whichever is sooner.

The bonds shall be issued by a company whose guarantee bonds are acceptable to the Government of Canada. Use latest edition CCDC bond forms. Include cost of proposal security in the Contract Price.

11. Definition of Contract

The form of Contract to be used is CCDC 14 - Design Build Stipulated Price Contract (2013) as published by the Canadian Construction Documents Committee with supplements as described in this RFP.

12. Modification of Terms

The Owner reserves the right to modify the terms of this RFP at any time at its sole discretion. This includes the right to cancel this RFP at any time without entering into a contract.

13. Collection and Use of Personal Information

Proponents are solely responsible for familiarizing themselves, and ensuring that they comply, with the laws applicable to the collection and dissemination of information, including resumes and other personal information concerning employees and employees of any subcontractors.

If this RFP requires proponents to provide the Owner with personal information of employees who have been included as resources in response to this RFP, proponents will ensure that they have obtained written consent from each of those employees before forwarding such personal information. Such written consents are to specify that the personal information may be forwarded to the Owner for the purposes of responding to this RFP and use by the Owner for the purposes set out in the RFP.

14. Contact and Communications during the RFP Period

The RFP period shall be defined as starting at the issuance of this RFP and ending at the successful signing of the Contract between the Owner and the Design-Builder. During the RFP period, proponents and potential members of design-build teams shall limit their direct communication with the Owner on matters relating to the RFP. The Owner requests that all questions and enquiries relating to this RFP be directed to the Owner's Advisor - Contact: Mr. Tim LeLacheur, CBCL Limited, Tel: (902) 892-0303, E-mail: tlelacheur@cbcl.ca.

15. Debriefing

Upon request, the Owner's Advisor will offer a debriefing to unsuccessful proponents at a mutually agreeable time.

16. Site and Existing Condition

The proponent must visit the site to become familiar with and satisfy themselves as to the working conditions, including labour conditions and labour rules, the nature and kind of work to be done, any special risks associated therewith and all other matters which may be necessary in order to ascertain a full understanding of the work which will be required to be performed. The proponent shall not claim or allege at any time after execution of the Contract that there was any misunderstanding in regard to such conditions. The proponent shall consider federal, provincial and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work; and study and carefully correlate proponent's knowledge and observations with the RFP documents and such other related data.

17. Technical Documents

Specification Section 26 00 00 outlines the minimum technical requirements for electrical work.

Specification Section 48 00 00 outlines the minimum technical

requirements for the solar energy electrical power generation work.

Appendix A provides a Geotechnical Investigation Report for the site completed in July 2022.

Appendix B provides preliminary concept drawings. These drawings are provided to provide proponents with the owners intent and are not considered to be complete.

END

1. Exhibits Required with Proposal

Proponent shall submit with their technical proposal, the following:

- .1 Project Implementation Plan, including:
 - .1 Statement of Understanding of the Work - Provide a description of the Work which demonstrates the proponent's understanding of the Work as well as the remaining activities associated with the RFP.
 - .2 Project Management Plan - Provide a description of the proponent's plans to implement the project including project management, detailed design, construction, testing, commissioning, and warranty period phases.
 - .3 Risk Management Plan - Provide a description of the proponent's methodology for addressing project risk. The risk management plan shall identify any significant risk factors for the project (system standards, material delivery, regulatory, etc), in the proponent's opinion, and how the proponent will manage these risks.
 - .4 Description of the proponent's team and resources - provide a description of the proponent's team and individual duties using organizational charts and written descriptions. Clearly describe the scope of activities by design resources. Indicate who will carry out other significant subtrades. Indicate the name of the firm and the lead individual responsible for the work on site, for stamping the design submissions and for each subcontractor.
 - .5 Schedule - Provide a detailed schedule for the project in bar format including all key start and finish dates and key activities. Indicate development time and submission dates for design drawings, review periods by the Owner, approvals submissions, start of construction, commissioning period, performance trials, substantial performance, and any other relevant milestones.
 - .6 Exclusions and Clarifications: Provide a list which details where the proposal differs from the Owner's Statement of Requirements.
- .2 Preliminary design report and plan: Provide a preliminary design report and plans as specified in section 48 14 00.
- .3 Proposal Form: provide a completed proposal form in its entirety with all pages and spaces for entry by proponents filled as instructed.
- .4 Addenda: provide all addenda received by the proponent during the RFP period.

2. Evaluation Criteria

- .1 The Owner may request clarifications or additional information during the proposal evaluation with the intent to ensure that the

proponent intends to provide a system that fully conforms to the RFP documents and the required level of technical and financial compliance.

- .2 A preferred proponent will be selected based on a best value basis which includes a combination of technical and financial components. The lowest cost submission will not necessarily be selected as the preferred proposal.
- .3 The preferred proponent will be notified and invited to enter into a negotiation or contract for the delivery of the Work. Unsuccessful proponents will be advised of the selection.
- .4 Proposals will be evaluated on their technical and financial merit. For the purpose of evaluating proposals, the evaluation criteria will be given the following relative weights:

Technical Merit:	60 points
<u>Financial Merit:</u>	<u>40 points</u>
TOTAL	100 points

- .5 Technical Merit:
 - .1 The technical merit evaluation will be based on the Owner's relative ranking of the quality of the submissions with particular consideration given to the design, construction, and environmental components of the proposal. The specific parameters the technical proposal will be judged against are as follows:
 - .1 30 points for proposed system based on the below,
 - .1 Make and model of proposed PV modules.
 - .2 Make and model of proposed inverter.
 - .3 Proposed power generation data monitoring system.
 - .4 Demonstration of consideration given to the connection to the utility.
 - .5 Demonstration of consideration given to the provisional interconnection as required for the future change to net metering.
 - .6 AC and DC distribution system design.
 - .7 PV system model.
 - .8 Warranty period.
 - .2 15 points for team experience.
 - .2 10 points past local project experience (list three similar projects with references that have been completed by the proponent in the last 5 years).
 - .3 5 points for proposal quality, project understanding, risk mitigation, and schedule.
- .6 Financial Merit:
 - .1 The full financial merit points will be assigned to the proposal with the lowest price. All other proposals will be prorated.

- .7 Total Evaluation Points:
 - .1 The points awarded for Technical Merit will be added to those awarded for Financial Merit to arrive at the proponent's total points award. The proponent having a proposal with the highest number of total points will be the Owner's preferred proponent. However, the Owner reserves the right to award the proposal to any proponent or to not award the project at all.

3. Owner's Acceptance or Rejection of Proposals

- .1 Proposals will be reviewed to ensure submissions generally conform to the requirements outlined in this RFP. It is the sole responsibility of the proponent to ensure that adequate and complete information as requested in this RFP is submitted.
- .2 Only the Owner has the authority to make or accept an offer or to enter into a contract or to create any rights against or to impose any obligations.
- .3 The Owner shall not be responsible for any liabilities, costs, expenses, loss or damage incurred, sustained or suffered by any proponent prior or subsequent to or by reason of the acceptance or the non-acceptance by the Owner of any proposal or by reason of any delay in the acceptance of a proposal save as provided in the contract.
- .4 Proposals are subject to a formal contract being prepared and executed.
- .5 The Owner reserves the right to reject any or all proposals including the preferred proposal.
- .6 The lowest cost or any proposal, including the preferred proposal, will not necessarily be accepted.
- .7 Without limiting the generality of the foregoing, the Owner shall have the right to:
 - .1 Reject a proposal which it deems to be incomplete;
 - .2 Accept a proposal which is not the lowest;
 - .3 Reject a proposal even if it is the only one received.
- .8 The Owner will not consider proposals which:
 - .1 Are received by the Owner after the Closing Time;
 - .2 Do not include proposal securities as specified;
 - .3 Have not been properly executed;

4. Signing of Contract

- .1 When the Owner gives a notice to the successful proponent that

they intend to enter into an Agreement with the successful proponent, such notice will be accompanied by the Agreement for signing. Within seven (7) days thereafter, the Design-Builder shall sign and deliver the required number of counterparts of the Agreement and attached documents to the Owner with the required Contract Security and contract insurance certificate. Within fifteen (15) days thereafter, the Owner shall deliver one (1) fully signed counterpart to Design-Builder.

5. Contract Security

- .1 The Design-Builder shall, provide to the Owner a Performance Bond and a Labour and Materials Bond, each in the amount of fifty percent (50%) of the Total Amount Payable as identified on the Proposal Form.

6. Design Submissions

- .1 The proponent shall provide a statement acknowledging the requirement and the proponent's commitment to provide complete design submissions should they be awarded the project. The successful proponent shall present drawings and specifications to the Owner for compliance review as part of the final design process following award of the Contract. Design review submissions shall be presented at 85% and 100% design (prior to construction commencing) completion. These drawings can build upon the content and detail of the documents submitted as part of the proposal. Provide three (3) copies of updated design report, specifications and full sized drawings with each design submittal. Include electronic copy of all design documents in PDF. 100% design drawings must be stamped and signed by a professional engineer licenced to practice in the Province of Prince Edward Island.

END

1. PROPOSAL SALUTATION

To: *Town of Stratford*

For: *Community Campus PV Array Design Build*

From: _____

2. PROPOSAL OBLIGATIONS AND REPRESENTATIONS

- 2.1 The undersigned proponent proposes and agrees, if it is accepted as the preferred proponent and this proposal, including as amended in accordance with this RFP, is accepted, to enter into an Agreement with the Owner in the form included in these RFP documents to perform and furnish all Work as specified or indicated for in the Contract Price and within the Contract Time indicated in this proposal and in accordance with the other terms and conditions of the Contract Documents.
- 2.2 This proposal, including as amended in accordance with this RFP, will remain valid for acceptance for sixty (60) days after the Closing Time. Proponent will sign and deliver the required number of counterparts of the Agreement with any Contract Security and other documents required by the RFP and Proposal Form within seven (7) days after the date of the Owner's notice of award.
- 2.3 In submitting this proposal, the proponent represents and agrees that:
- .1 Proponent has examined and carefully studied the RFP documents and Addendum __ through ___ and including the form of Agreement to be entered into with the successful proponent and attached to the RFP.
 - .2 Proponent is familiar with the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work.
 - .3 Proponent is familiar with all applicable federal, provincial and local Laws and Regulations that may affect cost, progress, performance and furnishing of Work.
 - .4 Proponent has carefully studied all available reports of explorations and tests of site conditions at or contiguous to the site and all available drawings of physical conditions relating to existing surface or subsurface structures at or contiguous to the site which have been identified or made available by the Owner.
 - .5 Proponent has correlated the information known to proponent, information and observations obtained from visits to the site or reports identified in the RFP documents and all additional examinations, investigations, explorations, tests, studies and data with the RFP documents.
 - .6 Proponent has given the Owner written notice of all conflicts, errors, ambiguities or discrepancies that proponent has discovered in the RFP documents and the written resolution thereof by the Owner is acceptable to proponent, and the proposal documents are generally sufficient to indicate and convey an understanding of all terms and conditions for performing and furnishing the work for which this proposal is submitted.
 - .7 This proposal is genuine and not made in the interest of or on

behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Proponent has not solicited or induced any individual or entity to refrain from submitting a Proposal; and Proponent has not sought by collusion to obtain for itself any advantage over any other proponent or over the Owner.

3. CONTRACT PRICE (BASE SCOPE OF WORK)

3.1 The Base Scope of Work consists of the design and construction of:

- Environmental Protection Measures,
- Site preparation,
- Underground electrical,
- Ground mount structures and associated foundations,
- PV Generating Equipment, wiring, connection to the MECL grid, testing, and commissioning,
- Site reinstatement,
- All other work required for a complete, functional, and ready system,
- Warranties and documentation.

3.2 Proponent will complete the Work in accordance with the Contract Documents for the stipulated Contract Price of:

CONTRACT PRICE (BASE SCOPE OF WORK)	\$ _____
ADD HST (15% OF CONTRACT PRICE)	\$ _____
TOTAL AMOUNT PAYABLE	\$ _____

3.3 **Separate Price (Not included above)**

Total Maintenance Agreement \$ _____

4. CONTRACT TIME

4.1 Proponent proposed schedule based on an award date of April 12th 2024:
100% Design Submission _____, 2024.
Construction Start Date _____, 2024.
Substantial Performance of the Work _____, 2024.

5. SUBMISSION

Submitted on _____, 2024.

If Proponent is a Corporation:

By _____ (SEAL)
(Corporation Name)

(Province of Incorporation)

(Title)

Attest _____
(Secretary)

Business Address: _____

Phone No.: _____ Facsimile No.: _____

If Proponent is a Joint Venture:

By _____ (SEAL)
(Name)

(Address)

By _____ (SEAL)
(Name)

(Address)

Business Address: _____

Phone No.: _____ Facsimile No.: _____

END

CCDC14 - 2013, Design Build Stipulated Price Contract

CCDC 14

Design-Build Stipulated Price Contract

2 0 1 3

Name of Work

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Public-Sector Owners

Private-Sector Owners

*The Association of Consulting Engineering Companies-Canada

*The Canadian Construction Association

*Construction Specifications Canada

*The Royal Architectural Institute of Canada

*Committee policy and procedures are directed and approved by the four constituent national organizations.

This document has also been endorsed by the Canadian Design-Build Institute.



Comments and inquiries should be directed to:
Canadian Construction Documents Committee
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Ottawa, ON
K1P 5H9
613 236-9455
info@ccdc.org
ccdc.org

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AGREEMENT BETWEEN OWNER AND DESIGN-BUILDER

For use when a stipulated price is the basis of payment.

This Agreement made on the _____ day of _____ in the year _____ .

by and between the parties:

hereinafter called the "*Owner*"
and

hereinafter called the "*Design-Builder*"

The *Owner* and the *Design-Builder* agree as follows:

ARTICLE A-1 DESIGN SERVICES AND THE WORK

The *Design-Builder* shall:

- 1.1 provide the *Design Services*, and
- 1.2 perform the *Work* for

insert above the name of the Work

located at

insert above the Place of the Work

for which the Agreement has been signed by the parties, and for which

insert above the name of the Consultant

is acting as, and is hereinafter called, the "*Consultant*", and for which

insert above the name of the Payment Certifier

is acting as, and is hereinafter called the *Payment Certifier*, and for which

insert above the name of the Owner's Advisor

is acting as, and is hereinafter called the *Owner's Advisor**,
(*Strike out if none appointed)

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1.3 subject to adjustment in *Contract Time* as provided for in the *Contract Documents*, attain *Substantial Performance of the Work* by the _____ day of _____ in the year _____ .

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

2.1 This *Contract* supersedes all prior negotiations, representations or agreements, either written or oral, including bidding documents that are not expressly listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS.

2.2 This *Contract* may be amended only as provided for in the *Contract Documents*.

ARTICLE A-3 CONTRACT DOCUMENTS

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

- Agreement Between *Owner* and *Design-Builder*
- Definitions in this *Contract*
- General Conditions of this *Contract*
- *Owner's Statement of Requirements*, consisting of the following (list those written requirements and information constituting those documents intended to comprise the *Owner's Statement of Requirements*):

- *Construction Documents*

*

* (Insert here, attaching additional pages if required, a list identifying all other *Contract Documents*, e.g. *Supplementary Conditions*; *Proposals*; *Specifications* (giving a list of contents with section numbers and titles, number of pages, date and revision date(s), if any); *Drawings* (giving drawing number, title, date, revision date or mark); *Addenda* (giving title, number, date).

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ARTICLE A-4 CONTRACT PRICE

4.1 The *Contract Price*, which excludes *Value Added Taxes*, is:

/100 dollars \$

4.2 *Value Added Taxes* (of _____ %) payable by the *Owner* to the *Design-Builder* are:

/100 dollars \$

4.3 Total amount payable by the *Owner* to the *Design-Builder* is:

/100 dollars \$

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

4.5 Amounts are in Canadian funds.

ARTICLE A-5 PAYMENT

5.1 Subject to provisions of the *Contract Documents*, and in accordance with legislation and statutory regulations respecting holdback percentages and, where such legislation or regulations do not exist or apply, subject to a holdback of _____ percent (_____ %), the *Owner* shall:

- .1 make progress payments to the *Design-Builder* on account of the *Contract Price* when due in the amount certified by the *Payment Certifier*, together with such *Value Added Taxes* as may be applicable to such payment, and
- .2 upon *Substantial Performance of the Work*, pay to the *Design-Builder* the unpaid balance of the holdback amount when due, together with such *Value Added Taxes* as may be applicable to such payment, and
- .3 upon the issuance of the final certificate for payment, pay to the *Design-Builder* the unpaid balance of the *Contract Price* when due, together with such *Value Added Taxes* as may be applicable to such payment.

5.2 In the event of loss or damage occurring where payment becomes due under the property and boiler and machinery insurance policies, payments shall be made to the *Design-Builder* in accordance with the provisions of GC 11.1 – INSURANCE.

5.3 Interest

- .1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by arbitration or court, interest at the following rates on such unpaid amounts shall also become due and payable until payment:
 - (1) 2% per annum above the prime rate for the first 60 days.
 - (2) 4% per annum above the prime rate after the first 60 days.

Such interest shall be compounded on a monthly basis. The prime rate shall be the rate of interest quoted by

(Insert name of chartered lending institution whose prime rate is to be used)

for prime business loans as it may change from time to time.

- .2 Interest shall apply at the rate and in the manner prescribed by paragraph 5.3.1 of this Article on the settlement amount of claims in dispute that are resolved either pursuant to Part 8 of the General Conditions – DISPUTE RESOLUTION or otherwise, from the date on which the amount would have been due and payable under the *Contract*, had it not been in dispute, until the date it is paid.

ARTICLE A-6 RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING

6.1 *Notices in Writing* will be addressed to the recipient at the address set out below.

6.2 The delivery of a *Notice in Writing* will be by hand, by courier, by prepaid first class mail, by facsimile or other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender.

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- 6.3 A *Notice in Writing* delivered by one party in accordance with this *Contract* will be deemed to have been received by the other party on the date of delivery if delivered by hand or courier, or if sent by mail it shall be deemed to have been received five calendar days after the date on which it was mailed, provided that if either such day is not a *Working Day*, then the *Notice in Writing* shall be deemed to have been received on the *Working Day* next following such day.
- 6.4 A *Notice in Writing* sent by facsimile or other form of electronic communication shall be deemed to have been received on the date of its transmission provided that if such day is not a *Working Day* or if it is received after the end of normal business hours on the date of its transmission at the place of receipt, then it shall be deemed to have been received at the opening of business at the place of receipt on the first *Working Day* next following the transmission.
- 6.5 An address for a party may be changed by *Notice in Writing* to the other party setting out the new address in accordance with this Article.

Owner

*name of Owner**

Address

facsimile number

email address

Design-Builder

*name of Design-Builder**

Address

facsimile number

email address

Owner's Advisor**

*name of Owner's Advisor**

Address

facsimile number

email address

* If it is intended that the notice must be received by a specific individual, indicate that individual's name.

** Strike out this entry if no Owner's Advisor is designated as per GC 2.3 – OWNER'S ADVISOR.

ARTICLE A-7 LANGUAGE OF THE CONTRACT

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

*** Complete this statement by striking out the inapplicable term.

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7.2 This Agreement is drawn in English at the request of the parties hereto. La présente convention est rédigée en anglais à la demande des parties.

ARTICLE A-8 SUCCESSION

8.1 This *Contract* shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representatives, successors, and permitted assigns.

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

SIGNED AND DELIVERED

in the presence of:

WITNESS

OWNER

name of Owner

signature

signature

name of person signing

name and title of person signing

signature

name of person signing

WITNESS

DESIGN-BUILDER

name of Design-Builder

signature

signature

name of person signing

name and title of person signing

signature

name of person signing

- N.B. Where legal jurisdiction, local practice, or Owner or Design-Builder requirement calls for:
- (a) proof of authority to execute this document, attach such proof of authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign the Agreement for and on behalf of the corporation or partnership; or
 - (b) the affixing of a corporate seal, this Agreement should be properly sealed.

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DEFINITIONS

The following Definitions shall apply to all *Contract Documents*.

Change Directive

A *Change Directive* is a written instruction signed by the *Owner* directing a change in the *Work* or in the *Design Services* within the general scope of the *Contract Documents*.

Change Order

A *Change Order* is a written amendment to the *Contract* signed by the *Owner* and the *Design-Builder* stating their agreement upon:

- a change in the *Work* or in the *Design Services*;
- an amendment to the *Owner's Statement of Requirements*, if any;
- the method of adjustment or the amount of the adjustment in the *Contract Price*, if any; and
- the extent of the adjustment in the *Contract Time*, if any.

Construction Documents

The *Construction Documents* consist of *Drawings*, *Specifications*, and other documents prepared by or on behalf of the *Design-Builder*, based on the *Contract Documents*, and accepted in writing by the *Owner* and the *Design-Builder* as meeting the *Owner's Statement of Requirements* and the general intent of the *Contract Documents*.

Construction Equipment

Construction Equipment means machinery and equipment, either operated or not operated, that is required for preparing, fabricating, conveying, erecting, or otherwise performing the *Work* but is not incorporated into the *Work*.

Consultant

The *Consultant* is the person or entity identified as such in the Agreement. The *Consultant* is the architect, the engineer, or entity licensed to practise in the province or territory of the *Place of the Work* and engaged by the *Design-Builder* to provide all or part of the *Design Services*.

Contract

The *Contract* is the undertaking by the parties to perform their respective duties, responsibilities, and obligations as prescribed in the *Contract Documents* and represents the entire agreement between the parties.

Contract Documents

The *Contract Documents* consist of those documents listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS and amendments thereto agreed upon between the parties.

Contract Price

The *Contract Price* is the amount stipulated in Article A-4 of the Agreement – CONTRACT PRICE.

Contract Time

The *Contract Time* is the time stipulated in paragraph 1.3 of Article A-1 of the Agreement – DESIGN SERVICES AND THE WORK from the date of the Agreement to the date of *Substantial Performance of the Work*.

Design-Builder

The *Design-Builder* is the person or entity identified as such in the Agreement.

Design Services

Design Services are the professional design and related services required by the *Contract Documents*.

Drawings

The *Drawings* are the graphic and pictorial portions of the *Construction Documents*, wherever located and whenever issued, showing the design, location and dimensions of the *Work*, generally including plans, elevations, sections, details, and diagrams.

Notice in Writing

A *Notice in Writing* is a written communication between the parties that is transmitted in accordance with the provisions of Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

Other Consultant

Other Consultant is a person or entity, other than the *Consultant*, that may be engaged by the *Design-Builder* to perform part of the *Design Services*.

Owner

The *Owner* is the person or entity identified as such in the Agreement.

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Owner's Advisor

The *Owner's Advisor*, if any, is the person or entity appointed by the *Owner* and identified as such in the Agreement.

Owner's Statement of Requirements

The *Owner's Statement of Requirements* consists of written requirements and information provided by the *Owner* and as listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS and amendments thereto agreed upon between the parties.

Payment Certifier

The *Payment Certifier* is the person or entity identified as such in the Agreement responsible for the issuance of certificates for payment.

Place of the Work

The *Place of the Work* is the designated site or location of the *Work* identified in the *Contract Documents*.

Product

Product or Products means material, machinery, equipment, and fixtures incorporated into the *Work*, but does not include *Construction Equipment*.

Project

The *Project* means the *Owner's* entire undertaking of which the *Work* may be the whole or a part thereof.

Shop Drawings

Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, *Product* data, and other data which the *Design-Builder* provides to illustrate details of portions of the *Work*.

Specifications

The *Specifications* are that portion of the *Construction Documents*, wherever located and whenever issued, consisting of the written requirements and standards for *Products*, systems, workmanship, quality, and the necessary services for the *Work*.

Subcontractor

A *Subcontractor* is a person or entity having a direct contract with the *Design-Builder* to perform a part or parts of the *Work* at the *Place of the Work*.

Substantial Performance of the Work

Substantial Performance of the Work is as defined in the lien legislation applicable to the *Place of the Work*. If such legislation is not in force or does not contain such definition, or if the *Work* is governed by the Civil Code of Quebec, *Substantial Performance of the Work* shall have been reached when the *Work* is ready for use or is being used for the purpose intended and is so certified by the *Payment Certifier*.

Supplemental Instruction

A *Supplemental Instruction* is an instruction, not involving adjustment in the *Contract Price* or *Contract Time*, in the form of *Specifications*, *Drawings*, schedules, samples, models or written instructions, consistent with the intent of the *Contract Documents*. It is to be issued by the *Owner* to supplement the *Contract Documents* as required for the performance of the *Work*.

Supplier

A *Supplier* is a person or entity having a direct contract with the *Design-Builder* to supply *Products*.

Temporary Work

Temporary Work means temporary supports, structures, facilities, services, and other temporary items, excluding *Construction Equipment*, required for the *Work* but not incorporated into the *Work*.

Value Added Taxes

Value Added Taxes means such sum as shall be levied upon the *Contract Price* by the federal or any provincial or territorial government and includes the Goods and Services Tax, the Quebec Sales Tax, the Harmonized Sales Tax, and any similar tax, the collection and payment of which have been imposed on the *Design-Builder* by tax legislation.

Work

The *Work* means the total construction and related services required by the *Contract Documents*, but does not include *Design Services*.

Working Day

Working Day means a day other than a Saturday, Sunday, statutory holiday, or statutory vacation day that is observed by the construction industry in the area of the *Place of the Work*.

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GENERAL CONDITIONS OF THE DESIGN-BUILD STIPULATED PRICE CONTRACT

PART 1 GENERAL PROVISIONS

GC 1.1 CONTRACT DOCUMENTS

- 1.1.1 The intent of the *Contract Documents* is to include the design, the labour, the *Products* and other services necessary for the design and performance of the *Work* by the *Design-Builder* in accordance with these documents. It is not intended, however, that the *Design-Builder* shall supply products or perform services or work not consistent with, not covered by, or not properly inferable from the *Contract Documents*.
- 1.1.2 Nothing contained in the *Contract Documents* shall create any contractual relationship between the *Owner* and the *Consultant*, an *Other Consultant*, a *Subcontractor*, a *Supplier*, or their agent, employee, or any other person performing any portion of the *Design Services* or the *Work*.
- 1.1.3 The *Contract Documents* are complementary, and what is required by any one shall be as binding as if required by all.
- 1.1.4 Words and abbreviations which have well known technical or trade meanings are used in the *Contract Documents* in accordance with such recognized meanings.
- 1.1.5 References in the *Contract Documents* to the singular shall be considered to include the plural as the context requires.
- 1.1.6 If there is a conflict within the *Contract Documents*:
- .1 the order of priority of documents, from highest to lowest, shall be
 - the Agreement between the *Owner* and the *Design-Builder*,
 - the Definitions,
 - Supplementary Conditions,
 - the General Conditions,
 - the *Owner's Statement of Requirements*,
 - the *Construction Documents*,
 - .2 later dated documents shall govern over earlier documents of the same type, and
 - .3 amendments to documents shall govern over documents so amended.
- 1.1.7 Copyright for the design and *Drawings* and electronic media, prepared on behalf of the *Design-Builder* belongs to the *Consultant* or *Other Consultants* who prepared them. Plans, sketches, *Drawings*, graphic representations, and *Specifications*, including, but not limited to computer generated designs, are instruments of the *Consultant's* or *Other Consultant's* services and shall remain their property, whether or not the *Work* for which they are made is executed and whether or not the *Design-Builder* has paid for the *Design Services*. Their alteration by the *Owner* is prohibited.
- 1.1.8 The *Owner* may retain copies, including reproducible copies, of plans, sketches, *Drawings*, graphic representations, and *Specifications* for information and reference in connection with the *Owner's* use and occupancy of the *Work*. Copies may only be used for the purpose intended and for a one time use, on the same site, and for the same *Project*. Except for reference purposes, the plans, sketches, *Drawings*, electronic files, graphic representations, and *Specifications* shall not be used for additions or alterations to the *Work* or on any other project without a written license from the *Consultant* or *Other Consultants* who prepared the documents, for their limited or repeat use.
- 1.1.9 The *Owner* shall be entitled to keep original models or renderings specifically commissioned and paid for.
- 1.1.10 Should the *Owner* alter a *Consultant's* or *Other Consultant's* instrument of service, or use or provide them to third parties other than in connection with the *Work* without informing the *Consultant* and without the *Consultant's* or *Other Consultant's* prior written consent, the *Owner* shall indemnify the *Design-Builder* against claims and costs (including legal costs) associated with such improper alteration or use.

GC 1.2 LAW OF THE CONTRACT

- 1.2.1 The law of the *Place of the Work* shall govern the interpretation of the *Contract*.

GC 1.3 RIGHTS AND REMEDIES

- 1.3.1 Except as expressly provided in the *Contract Documents*, the duties and obligations imposed by the *Contract Documents* and the rights and remedies available hereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

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- 1.3.2 No action or failure to act by the *Owner, Design-Builder, Consultant, Other Consultant, Payment Certifier, or Owner's Advisor* shall constitute a waiver of any right or duty afforded to either the *Owner* or the *Design-Builder* under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed to in writing.

GC 1.4 ASSIGNMENT

- 1.4.1 Neither party to the *Contract* shall assign the *Contract* or a portion thereof without the prior written consent of the other, which consent shall not be unreasonably withheld.

GC 1.5 CONFIDENTIALITY

- 1.5.1 Where a confidentiality agreement exists or as the *Owner* otherwise expressly identifies and requires, the *Owner* and the *Design-Builder* shall keep confidential all matters respecting technical and commercial issues relating to or arising from the performance of the *Contract* and shall not, without the prior written consent of the other party, disclose any such matters, except in strict confidence, to their respective professional advisors.

PART 2 OWNER'S RESPONSIBILITIES

GC 2.1 OWNER'S INFORMATION

- 2.1.1 The *Owner* shall furnish the information required to complete the *Contract* promptly to avoid delay in the performance of the *Contract*.
- 2.1.2 Unless the *Contract Documents* specifically state otherwise, the *Design-Builder* is entitled to rely on the accuracy of all information provided by or on behalf of the *Owner* without regard for the source of such information.
- 2.1.3 Notwithstanding any other provision of the *Contract*, the *Design-Builder* is not responsible for any design errors or omissions in any designs or *Specifications* provided by or on behalf of the *Owner* unless the *Design-Builder* has been specifically requested to review and has accepted in writing those designs and *Specifications* under the *Contract*.

GC 2.2 ROLE OF THE OWNER

- 2.2.1 The *Owner* will render any necessary decisions or provide instructions promptly to avoid delay in the performance of the *Contract*.
- 2.2.2 All communications between the *Owner* and the *Consultant, an Other Consultant, a Subcontractor, or a Supplier* shall be forwarded through the *Design-Builder*.
- 2.2.3 The *Owner* will be, in the first instance, the interpreter of the requirements of the *Owner's Statement of Requirements*.
- 2.2.4 The *Owner* will have authority to reject by *Notice in Writing* design or work which in the *Owner's* opinion does not conform to the requirements of the *Owner's Statement of Requirements*.
- 2.2.5 Whenever the *Owner* considers it necessary or advisable, the *Owner* will have authority to require a review of the *Design Services* and inspection or testing of the *Work*, whether or not such work is fabricated, installed or completed, in accordance with paragraph 2.5.5 of GC 2.5 – OWNER'S REVIEW OF THE DESIGN AND THE WORK.
- 2.2.6 During the progress of the *Design Services* or of the *Work* the *Owner* will furnish *Supplemental Instructions* related to the *Owner's Statement of Requirements* to the *Design-Builder* with reasonable promptness or in accordance with a schedule for such instructions agreed to by the *Owner* and the *Design-Builder*.

GC 2.3 OWNER'S ADVISOR

- 2.3.1 When the *Owner* appoints an *Owner's Advisor*, the duties, responsibilities and limitations of authority of the *Owner's Advisor* shall be as set forth in the *Contract Documents*.
- 2.3.2 The duties, responsibilities and limitations of authority of the *Owner's Advisor* as set forth in the *Contract Documents* shall be modified or extended only with the written consent of the *Owner* and the *Design-Builder*.
- 2.3.3 Subject to any notified limitations in authority, the *Design-Builder* may rely upon any written instructions or directions provided by the *Owner's Advisor*. Neither the authority of the *Owner's Advisor* to act, nor any decision to exercise or not exercise such authority, shall give rise to any duty or responsibility of the *Owner's Advisor* to the *Design-Builder, the Consultant, Other Consultants, Subcontractors, Suppliers, or their agents, employees or other persons performing any portion of the Design Services or the Work*.

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- 2.3.4 If the employment of the *Owner's Advisor* is terminated, the *Owner* may appoint or reappoint an *Owner's Advisor* against whom the *Design-Builder* makes no reasonable objection and whose status under the *Contract Documents* shall be that of the former *Owner's Advisor*.

GC 2.4 ROLE OF THE PAYMENT CERTIFIER

- 2.4.1 The *Owner* shall designate a *Payment Certifier* who will review the *Design-Builder's* applications for payment and certify the value of the *Design Services* and of *Work* performed and *Products* delivered to the *Place of the Work*.
- 2.4.2 The duties, responsibilities and limitations of authority of the *Payment Certifier* as set forth in the *Contract Documents* shall be modified or extended only with the written consent of the *Owner* and the *Design-Builder*.
- 2.4.3 Neither the authority of the *Payment Certifier* to act nor any decision either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the *Payment Certifier* to the *Design-Builder*, the *Consultant*, *Other Consultants*, *Subcontractors*, *Suppliers*, or their agents, employees or other persons performing any of the *Design Services* or the *Work*.
- 2.4.4 The *Payment Certifier* will take all reasonable steps to be accessible to the *Design-Builder* during performance of the *Contract* and shall render any necessary decisions or instructions promptly as provided in GC 5.3 – PROGRESS PAYMENT to avoid delay in the processing of payment claims.
- 2.4.5 Based on the *Payment Certifier's* observations and evaluation of the *Design-Builder's* applications for payment, the *Payment Certifier* will determine the amounts owing to the *Design-Builder* under the *Contract* and will issue certificates for payment as provided in Article A-5 of the Agreement – PAYMENT, GC 5.3 – PROGRESS PAYMENT and GC 5.7 – FINAL PAYMENT.
- 2.4.6 All communications between the *Payment Certifier* and the *Consultant*, an *Other Consultant*, a *Subcontractor*, or a *Supplier* shall be forwarded through the *Design-Builder*.
- 2.4.7 The *Payment Certifier* will promptly inform the *Owner* of the date of receipt of the *Design-Builder's* applications for payment as provided in paragraph 5.3.1.1 of GC 5.3 – PROGRESS PAYMENT.
- 2.4.8 If the *Payment Certifier's* services are terminated, the *Owner* shall immediately designate a new *Payment Certifier* against whom the *Design-Builder* makes no reasonable objection and whose status under the *Contract Documents* shall be that of the former *Payment Certifier*.
- 2.4.9 The *Owner* may provide to the *Consultant*, *Other Consultants*, *Subcontractors* or *Suppliers*, through the *Payment Certifier*, information as to the percentage of the *Design Services* and *Work* that has been certified for payment.

GC 2.5 OWNER'S REVIEW OF THE DESIGN AND THE WORK

- 2.5.1 The *Owner* shall review the design as set out in the design development documents and proposed *Construction Documents* as the *Design Services* proceed, to confirm that the design is in compliance with the *Owner's Statement of Requirements* and the *Contract Documents*.
- 2.5.2 The *Owner* shall complete the reviews in accordance with the schedule agreed upon, or in the absence of an agreed schedule, with reasonable promptness so as to cause no delay.
- 2.5.3 The *Owner's* review shall not relieve the *Design-Builder* of responsibility for errors or omissions in the *Construction Documents* or for meeting all requirements of the *Contract Documents* unless the *Owner* accepts in writing a deviation from the *Contract Documents*.
- 2.5.4 No later than 10 days after completing the review, the *Owner* shall advise the *Design-Builder* in writing that the *Owner* has accepted or rejected the proposed *Construction Documents*. If rejected, the *Owner* shall inform the *Design-Builder* of the reasons of non-conformance and the *Design-Builder* shall revise the proposed *Construction Documents* to address such non-conformance. The *Design-Builder* shall inform the *Owner* in writing of any revisions other than those requested by the *Owner*.
- 2.5.5 The *Owner* may order any portion or portions of the *Work* to be examined to confirm that the *Work* performed is in accordance with the requirements of the *Contract Documents*. If the *Work* is not in accordance with the requirements of the *Contract Documents*, the *Design-Builder* shall correct the *Work* and pay the cost of examination and correction. If the *Work* is in accordance with the requirements of the *Contract Documents*, the *Owner* shall pay all costs incurred by the *Design-Builder* as a result of such examination and restoration.

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GC 2.6 WORK BY OWNER OR OTHER CONTRACTORS

- 2.6.1 The *Owner* reserves the right to award separate contracts in connection with other parts of the *Project* to other contractors and to perform other design or other work with its own forces.
- 2.6.2 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Owner* shall:
- .1 provide for the co-ordination of the activities and work of other contractors and *Owner's* own forces with the *Design Services* and the *Work*;
 - .2 assume overall responsibility for compliance with the applicable health and construction safety legislation at the *Place of the Work*;
 - .3 enter into separate contracts with other contractors under conditions of contract which are compatible with the conditions of the *Contract*;
 - .4 ensure that insurance coverage is provided to the same requirements as are called for in GC 11.1 – INSURANCE and co-ordinate such insurance with the insurance coverage of the *Design-Builder* as it affects the *Design Services* and the *Work*; and
 - .5 take all reasonable precautions to avoid labour disputes or other disputes on the *Project* arising from the work of other contractors or the *Owner's* own forces.
- 2.6.3 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Design-Builder* shall:
- .1 afford the *Owner* and other contractors reasonable opportunity to store their products and execute their work;
 - .2 cooperate with other contractors and the *Owner* in reviewing their construction schedules; and
 - .3 promptly report to the *Owner* in writing any apparent deficiencies in the work of other contractors or of the *Owner's* own forces, where such work affects the proper execution of any portion of the *Design Services* or of the *Work*, prior to proceeding with that portion of the *Design Services* or of the *Work*.
- 2.6.4 Where the *Contract Documents* identify work to be performed by other contractors or the *Owner's* own forces, the *Design-Builder* shall co-ordinate and schedule the *Design Services* and the *Work* with the work of other contractors and the *Owner's* own forces as specified in the *Contract Documents*.
- 2.6.5 Where a change in the *Design Services* or in the *Work* is required as a result of the co-ordination and integration of the work of other contractors or *Owner's* own forces with the *Design Services* or with the *Work*, the changes shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 2.6.6 Disputes and other matters in question between the *Design-Builder* and the *Owner's* other contractors shall be dealt with as provided in Part 8 of the General Conditions – DISPUTE RESOLUTION provided the other contractors have reciprocal obligations. The *Design-Builder* shall be deemed to have consented to arbitration of any dispute with any other contractor whose contract with the *Owners* contains a similar agreement to arbitrate.

PART 3 DESIGN-BUILDER'S RESPONSIBILITIES

GC 3.1 CONTROL OF THE DESIGN SERVICES AND THE WORK

- 3.1.1 The *Design-Builder* shall have total control of the *Design Services* and of the *Work* and shall direct and supervise the *Design Services* and the *Work* so as to ensure conformity with the *Contract Documents*.
- 3.1.2 The *Design-Builder* shall be solely responsible for the *Design Services* and construction means, methods, techniques, sequences, and procedures with respect to the *Work*.
- 3.1.3 The *Design-Builder* shall preserve and protect the rights of the parties under the *Contract* with respect to the *Design Services* to be performed by the *Consultant* and *Other Consultants*, and shall enter into a contract with the *Consultant* and *Other Consultants* to perform *Design Services* as provided in the *Contract*, in accordance with laws applicable at the *Place of the Work*.
- 3.1.4 The *Design-Builder's* contract with the *Consultant* shall:
- .1 be based on the version of CCDC 15 – Design Services Contract between Design-Builder and Consultant in effect as at the date of this *Contract* or incorporate terms and conditions consistent with this version of CCDC 15, and
 - .2 incorporate terms and conditions of the *Contract Documents*, insofar as they are applicable.
- 3.1.5 Upon the *Owner's* request, the *Design-Builder* shall promptly provide the *Owner* with proof of compliance with paragraph 3.1.4.

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- 3.1.6 The *Design-Builder* shall be as fully responsible to the *Owner* for acts and omissions of the *Consultant* and *Other Consultants*, and of persons directly or indirectly employed by the *Consultant* and *Other Consultants*, as for acts and omissions of persons directly employed by the *Design-Builder*.
- 3.1.7 The *Design-Builder's* responsibility for *Design Services* performed by the *Consultant* and *Other Consultants* shall be limited to the degree of care, skill and diligence normally provided by consultants in the performance of comparable services in respect of projects of a similar nature to that contemplated by this *Contract*. The *Design-Builder* shall ensure that the *Consultant* and *Other Consultants* perform the *Design Services* to this standard.
- 3.1.8 The *Design-Builder* shall ensure that the *Consultant* and *Other Consultants* provide documentation required by authorities having jurisdiction in accordance with regulations and by-laws in effect at the *Place of the Work*.
- 3.1.9 The *Design-Builder* is solely responsible for the quality of the *Design Services* and of the *Work* and shall undertake any quality control activities specified in the *Contract Documents* or, if none are specified, as may be reasonably required to ensure such quality.
- 3.1.10 The *Design Builder* shall provide access to the *Work*, including parts being performed at locations other than the *Place of the Work* and to the location where the *Design Services* are performed, that the *Owner*, or the *Payment Certifier* may reasonably require to verify the progress of the *Work* or *Design Services* and their conformity to the requirements of the *Contract Documents*. The *Design-Builder* shall also provide sufficient, safe, and proper facilities at all times for such reviews of the *Design Services* or the *Work* and for inspection of the *Work* by authorized agencies.
- 3.1.11 If work is designated for tests, inspections, or approvals in the *Contract Documents*, or by the instructions of the *Owner*, the *Consultant*, or *Other Consultants*, or the laws or ordinances of the *Place of the Work*, the *Design-Builder* shall give the *Owner* reasonable notice of when the work will be ready for review and inspection.
- 3.1.12 The *Design-Builder* shall arrange for and shall give the *Owner* reasonable notice of the date and time of inspections by other authorities.
- 3.1.13 If the *Design-Builder* covers, or permits to be covered, work that has been designated for special tests, inspections, or approvals before such special tests, inspections, or approvals are made, given or, completed, the *Design-Builder* shall, if so directed, uncover such work, have the inspections or tests satisfactorily completed, and restore the covering work at the *Design-Builder's* expense.
- 3.1.14 The *Design-Builder* shall furnish promptly to the *Owner*, on request, a copy of certificates, test reports and inspection reports relating to the *Work*.

GC 3.2 DESIGN-BUILDER'S REVIEW OF OWNER'S STATEMENT OF REQUIREMENTS OR OTHER INFORMATION

- 3.2.1 The *Design-Builder* shall promptly notify the *Owner* of any significant error, inconsistency, or omission discovered in the *Owner's Statement of Requirements* or other information provided by or on behalf of the *Owner*. The *Design-Builder* shall not proceed with the *Design Services* or *Work* affected until the *Design-Builder* and the *Owner* have agreed in writing how the information should be corrected or supplied.
- 3.2.2 The *Design-Builder* shall not be liable for damages or costs resulting from such errors, inconsistencies, or omissions in the *Owner's Statement of Requirements* or other information provided by or on behalf of the *Owner*.

GC 3.3 ROLE OF THE CONSULTANT

- 3.3.1 The *Consultant* or *Other Consultants* will be, in the first instance, the interpreter of the requirements of the *Construction Documents* that they have prepared.
- 3.3.2 The duties, responsibilities and limitations of authority of the *Consultant* shall be in accordance with paragraph 3.1.4 of GC 3.1 – CONTROL OF THE DESIGN SERVICES AND THE WORK and shall be modified only with the written consent of the *Owner*, which consent shall not be unreasonably withheld.
- 3.3.3 If the *Consultant's* engagement is terminated, the *Design-Builder* shall immediately appoint or reappoint a *Consultant* against whom the *Owner* makes no reasonable objection and whose status under the *Contract Documents* shall be that of the former *Consultant*.

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GC 3.4 OTHER CONSULTANTS, SUBCONTRACTORS AND SUPPLIERS

- 3.4.1 The *Design-Builder* shall preserve and protect the rights of the parties under the *Contract* with respect to work to be performed under subcontract, and shall:
1. enter into contracts or written agreements with *Other Consultants* to require them to perform *Design Services* as provided in the *Contract Documents*;
 2. enter into contracts or written agreements with *Subcontractors* and *Suppliers* to require them to perform *Work* as required by the *Contract Documents*;
 3. incorporate the terms and conditions of the *Contract Documents* into all contracts or written agreements with *Other Consultants*, *Subcontractors* and *Suppliers* insofar as they are applicable; and
 4. be as fully responsible to the *Owner* for acts and omissions of *Other Consultants*, *Subcontractors*, *Suppliers* and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the *Design-Builder*.
- 3.4.2 The *Design-Builder* shall indicate in writing, at the request of the *Owner*, the names of *Other Consultants*, *Subcontractors*, or *Suppliers* whose proposals or bids have been received by the *Design-Builder* which the *Design-Builder* would be prepared to accept for the performance of a portion of the *Design Services* or of the *Work*. Should the *Owner* not object before signing the subcontract, the *Design-Builder* shall employ *Other Consultants*, *Subcontractors* or *Suppliers* so identified by the *Design-Builder* in writing for the performance of that portion of the *Design Services* or of the *Work* to which their proposal or bid applies.
- 3.4.3 The *Owner* may, for reasonable cause, at any time before the *Design-Builder* has signed the subcontract, object to the use of a proposed *Other Consultant*, *Subcontractor* or *Supplier* and require the *Design-Builder* to employ another proposed *Other Consultant*, *Subcontractor* or *Supplier* bidder.
- 3.4.4 If the *Owner* requires the *Design-Builder* to change a proposed *Other Consultant*, *Subcontractor* or *Supplier*, the *Contract Price* and *Contract Time* shall be adjusted by the differences resulting from such required change.
- 3.4.5 The *Design-Builder* shall not be required to employ any *Subcontractor*, *Supplier*, *Other Consultant*, person or firm to whom the *Design-Builder* may reasonably object.

GC 3.5 CONSTRUCTION DOCUMENTS

- 3.5.1 The *Design-Builder* shall submit the proposed *Construction Documents* to the *Owner* to review in orderly sequence and sufficiently in advance so as to cause no delay. The *Owner* and the *Design-Builder* shall jointly prepare a schedule of the dates for submission and return of proposed *Construction Documents*.
- 3.5.2 During the progress of the *Design Services*, the *Design-Builder* shall furnish to the *Owner* documents that describe details of the design required by the *Contract Documents*.
- 3.5.3 At the time of submission the *Design-Builder* shall advise the *Owner* in writing of any significant deviations in the proposed *Construction Documents* from the requirements of the *Contract Documents*. The *Owner* may or may not accept such deviations. Accepted deviations from the *Owner's Statement of Requirements* will be recorded in a *Change Order*.
- 3.5.4 When a change is required to the *Construction Documents* it shall be made in accordance with GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER, or GC 6.3 – CHANGE DIRECTIVE.

GC 3.6 DESIGN SERVICES AND WORK SCHEDULE

- 3.6.1 The *Design-Builder* shall:
- .1 promptly after signing the Agreement, prepare and submit to the *Owner* a *Design Services* and *Work* schedule that indicates the timing of the major activities of the *Design Services* and of the *Work* and provides sufficient detail of the critical events and their inter-relationship to demonstrate that the *Design Services* and the *Work* will be performed in conformity with the schedule;
 - .2 monitor the progress of the *Design Services* and of the *Work* relative to the schedule and update the schedule on a monthly basis or as stipulated by the *Contract Documents*; and
 - .3 advise the *Owner* of any revisions required to the schedule as a result of extensions to the *Contract Time* as provided in Part 6 of the General Conditions – CHANGES IN THE CONTRACT.

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GC 3.7 SUPERVISION

- 3.7.1 The *Design-Builder* shall provide all necessary supervision and appoint a competent representative who shall be in attendance at the *Place of the Work* while work is being performed. The appointed representative shall not be changed except for valid reason.
- 3.7.2 The appointed representative shall represent the *Design-Builder* at the *Place of the Work*. Information and instructions provided by the *Owner* to the *Design-Builder's* appointed representative shall be deemed to have been received by the *Design-Builder* except that *Notices in Writing* otherwise required under the *Contract* shall be given as indicated in Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

GC 3.8 LABOUR AND PRODUCTS

- 3.8.1 The *Design-Builder* shall provide and pay for labour, *Products*, tools, *Construction Equipment*, water, heat, light, power, transportation, and other facilities and services necessary for the performance of the *Work* in accordance with the *Contract*.
- 3.8.2 Unless otherwise specified in the *Contract Documents*, *Products* provided shall be new. *Products* which are not specified shall be of a quality consistent with the *Contract Documents* and their use acceptable to the *Owner*.
- 3.8.3 The *Design-Builder* shall maintain good order and discipline among the *Design-Builder's* employees involved in the performance of the *Work* and shall not employ anyone not skilled in the tasks assigned.

GC 3.9 DOCUMENTS AT THE SITE

- 3.9.1 The *Design-Builder* shall keep one copy of current *Owner's Statement of Requirements*, *Construction Documents*, *Shop Drawings*, reports, and records of meetings at the *Place of the Work*, in good order and available to the *Owner*.

GC 3.10 SHOP DRAWINGS

- 3.10.1 The *Design-Builder* shall provide *Shop Drawings* as described in the *Contract Documents* or as the *Owner* may reasonably request.
- 3.10.2 *Shop Drawings* which require approval of any legally constituted authority having jurisdiction shall be provided to such authority by the *Design-Builder* for approval.
- 3.10.3 The *Design-Builder* shall review all *Shop Drawings* before providing them to the *Owner*. The *Design-Builder* represents by this review that the *Design-Builder* has:
- .1 determined and verified all applicable field measurements, field construction conditions, *Product* requirements, catalogue numbers and similar data, or will do so, and
 - .2 checked and co-ordinated each *Shop Drawing* with the requirements of the *Contract Documents*.
- 3.10.4 If the *Owner* requests to review shop drawings, the *Design-Builder* shall submit them in an orderly sequence and sufficiently in advance so as to cause no delay in the *Design Services* or the *Work* or in the work of other contractors. The *Owner* and the *Design-Builder* shall jointly prepare a schedule of the dates for submission and return of *Shop Drawings*.
- 3.10.5 The *Owner's* review under paragraph 3.10.4 is for conformity to the intent of the *Contract Documents* and for general arrangement only. The *Owner's* review shall not relieve the *Design-Builder* of the responsibility for errors or omissions in the *Shop Drawings* or for meeting all requirements of the *Contract Documents* unless the *Owner* expressly accepts a deviation from the *Contract Documents* by *Change Order*.

GC 3.11 NON-CONFORMING DESIGN AND DEFECTIVE WORK

- 3.11.1 Where the *Owner* has advised the *Design-Builder*, by *Notice in Writing*, that designs or *Specifications* fail to comply with the *Owner's Statement of Requirements*, the *Design-Builder* shall ensure that the design documents or proposed *Construction Documents* are promptly corrected or altered.
- 3.11.2 The *Design-Builder* shall promptly correct defective work that has been rejected by *Notice in Writing* by the *Owner* as failing to conform to the *Contract Documents* whether or not the defective work has been incorporated in the *Work* and whether or not the defect is the result of poor workmanship, design, use of defective products, or damage through carelessness or other act or omission of the *Design-Builder*.
- 3.11.3 The *Design-Builder* shall promptly make good other contractors' work destroyed or damaged by such removals or replacements at the *Design-Builder's* expense.

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- 3.11.4 If, in the opinion of the *Owner*, it is not expedient to correct defective work or work not performed as provided in the *Contract Documents*, the *Owner* may deduct from the amount otherwise due to the *Design-Builder* the difference in value between the work as performed and that called for by the *Contract Documents*. If the *Design-Builder* does not agree on the difference in value, the *Design-Builder* shall refer the dispute to Part 8 of the General Conditions – DISPUTE RESOLUTION.

PART 4 ALLOWANCES

GC 4.1 CASH ALLOWANCES

- 4.1.1 The *Contract Price* includes the cash allowances, if any, stated in the *Owner's Statement of Requirements*. The scope of work or costs included in such cash allowances shall be as described in the *Owner's Statement of Requirements*.
- 4.1.2 The *Contract Price*, and not the cash allowances, includes the *Design-Builder's* overhead and profit in connection with such cash allowances.
- 4.1.3 Expenditures under cash allowances shall be authorized by the *Owner*.
- 4.1.4 Where the actual cost of the work performed under any cash allowance exceeds the amount of the allowance, the *Design-Builder* shall be compensated for the excess incurred and substantiated plus an amount for overhead and profit on the excess as set out in the *Contract Documents*. Where the actual cost of the work performed under any cash allowance is less than the amount of the allowance, the *Owner* shall be credited for the unexpended portion of the cash allowance, but not for the *Design-Builder's* overhead and profit on such amount. Multiple cash allowances shall not be combined for the purpose of calculating the foregoing.
- 4.1.5 The *Contract Price* shall be adjusted by *Change Order* to provide for any difference between each cash allowance and the actual cost of the work performed under that cash allowance.
- 4.1.6 The value of the work performed under a cash allowance is eligible to be included in progress payments.
- 4.1.7 The *Design-Builder* and the *Owner* shall jointly prepare a schedule that shows when the *Owner* must authorize ordering of items called for under cash allowances to avoid delaying the progress of the *Design Services* or of the *Work*.

GC 4.2 CONTINGENCY ALLOWANCE

- 4.2.1 The *Contract Price* includes the contingency allowance, if any, stated in the *Owner's Statement of Requirements*.
- 4.2.2 The contingency allowance includes the *Design-Builder's* overhead and profit in connection with such contingency allowance.
- 4.2.3 Expenditures under the contingency allowance shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 4.2.4 The *Contract Price* shall be adjusted by *Change Order* to provide for any difference between the expenditures authorized under paragraph 4.2.3 and the contingency allowance.

PART 5 PAYMENT

GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

- 5.1.1 The *Owner* shall, at the request of the *Design-Builder*, before signing the *Contract*, and promptly from time to time thereafter, furnish to the *Design-Builder* reasonable evidence that financial arrangements have been made to fulfill the *Owner's* obligations under the *Contract*.
- 5.1.2 The *Owner* shall give the *Design-Builder Notice in Writing* of any material change in the *Owner's* financial arrangements to fulfill the *Owner's* obligations under the *Contract* during the performance of the *Contract*.

GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT

- 5.2.1 Applications for payment on account as provided in Article A-5 of the Agreement – PAYMENT may be made monthly as the *Design Services* and the *Work* progress.
- 5.2.2 Applications for payment shall be dated the last day of each payment period, which is the last day of the month or an alternative day of the month agreed to in writing by the parties.
- 5.2.3 The amount claimed shall be for the value, proportionate to the amount of the *Contract*, of the *Design Services* and of the *Work* performed and *Products* delivered to the *Place of the Work* as of the last day of the payment period.

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- 5.2.4 The *Design-Builder* shall submit to the *Payment Certifier*, at least 15 calendar days before the first application for payment, a schedule of values for the parts of the *Design Services* and of the *Work*, aggregating the total amount of the *Contract Price*, so as to facilitate evaluation of applications for payment.
- 5.2.5 The schedule of values shall be made out in such form and supported by such evidence as the *Payment Certifier* may reasonably direct, and when accepted by the *Payment Certifier*, shall be used as the basis for applications for payment unless it is found to be in error.
- 5.2.6 The *Design-Builder* shall include a statement based on the schedule of values with each application for payment.
- 5.2.7 A declaration by the *Design-Builder* as to the distribution made of the amounts received using document CCDC 9A – Statutory Declaration of Progress Payment Distribution by Contractor shall be joined to each application for progress payment except the first one.
- 5.2.8 Applications for payment for *Products* delivered to the *Place of the Work* but not yet incorporated into the *Work* shall be supported by such evidence as the *Payment Certifier* may reasonably require to establish the value and delivery of the *Products*.

GC 5.3 PROGRESS PAYMENT

- 5.3.1 After receipt by the *Payment Certifier* of an application for payment submitted by the *Design-Builder* in accordance with GC 5.2 – APPLICATIONS FOR PROGRESS PAYMENT:
 - .1 the *Payment Certifier* will promptly inform the *Owner* of the date of receipt and value of the *Design-Builder's* application for payment,
 - .2 the *Payment Certifier* will issue to the *Owner* and copy to the *Design-Builder*, no later than 10 calendar days after the receipt of the application for payment, a certificate for payment in the amount applied for, or in such other amount as the *Payment Certifier* determines to be properly due. If the *Payment Certifier* amends the application, the *Payment Certifier* will promptly advise the *Design-Builder* in writing giving reasons for the amendment,
 - .3 the *Owner* shall make payment to the *Design-Builder* on account as provided in Article A-5 of the Agreement – PAYMENT on or before 20 calendar days after the later of:
 - receipt by the *Payment Certifier* of the application for payment, or
 - the last day of the monthly payment period for which the application for payment is made.

GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

- 5.4.1 When the *Design-Builder* considers that the *Work* is substantially performed or, if permitted by the lien legislation applicable at the *Place of the Work*, a designated portion thereof which the *Owner* agrees to accept separately is substantially performed, the *Design-Builder* shall prepare and submit to the *Payment Certifier* appropriate documents as required by the *Contract Documents* together with a written application for a review by the *Payment Certifier* to establish *Substantial Performance of the Work* or substantial performance of the designated portion of the *Work*. Failure to include this information does not alter the responsibility of the *Design-Builder* to complete the *Contract*.
- 5.4.2 The *Design-Builder's* application for *Substantial Performance of the Work* shall include a statement from the *Consultant*, and *Other Consultants* in support of the submitted information and the date of *Substantial Performance of the Work* or designated portion of the *Work*.
- 5.4.3 The *Payment Certifier* shall, within 7 calendar days after receipt of the *Design-Builder's* application for *Substantial Performance of the Work*, issue a certificate of the *Substantial Performance of the Work* which shall state the date of *Substantial Performance of the Work* or designated portion thereof or advise the *Design-Builder* in writing of the reasons for which such a certificate is not issued.
- 5.4.4 If the applicable lien legislation requires the *Consultant* to determine whether the *Work* has been substantially performed, the *Consultant* shall issue a certificate of the *Substantial Performance of the Work* which shall state the date of *Substantial Performance of the Work* or designated portion of the *Work* or advise the *Design-Builder* in writing of the reasons for which such a certificate is not issued.
- 5.4.5 Immediately following the issuance of the certificate of *Substantial Performance of the Work*, the *Design-Builder*, in consultation with the *Owner* will establish a reasonable date for completing the *Work*.

GC 5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

- 5.5.1 After the issuance of the certificate of *Substantial Performance of the Work*, the *Design-Builder* shall:
 - .1 submit an application for payment of the holdback amount,
 - .2 submits a CCDC 9A Statutory Declaration of Progress Payment Distribution by Contractor.

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- 5.5.2 After the receipt of an application for payment from the *Design-Builder* and the statement as provided in paragraph 5.5.1, the *Payment Certifier* will issue a certificate for payment of the holdback amount.
- 5.5.3 Where the holdback amount required by the applicable lien legislation has not been placed in a separate holdback account, the *Owner* shall, 10 calendar days prior to the expiry of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*, place the holdback amount in a bank account in the joint names of the *Owner* and the *Design-Builder*.
- 5.5.4 In the common law jurisdictions, the holdback amount authorized by the certificate for payment of the holdback amount is due and payable on the calendar day following the expiration of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*. Where lien legislation does not exist or apply, the holdback amount shall be due and payable in accordance with other legislation, industry practice or provisions which may be agreed to between the parties. The *Owner* may retain out of the holdback amount any sums required by law to satisfy any liens against the *Work* or, if permitted by the lien legislation applicable to the *Place of the Work*, other third party monetary claims against the *Design-Builder* which are enforceable against the *Owner*.
- 5.5.5 In the Province of Quebec, the holdback amount authorized by the certificate for payment of the holdback amount is due and payable 30 calendar days after the issuance of the certificate. The *Owner* may retain out of the holdback amount any sums required to satisfy any legal hypothecs that have been taken, or could be taken, against the *Work* or other third party monetary claims against the *Design-Builder* which are enforceable against the *Owner*.

GC 5.6 PROGRESSIVE RELEASE OF HOLDBACK

- 5.6.1 In the common law jurisdictions, where legislation permits and where, upon application by the *Design-Builder*, the *Payment Certifier* has certified that the work of a *Subcontractor* or *Supplier* has been performed prior to *Substantial Performance of the Work*, the *Owner* shall pay the *Design-Builder* the holdback amount retained for such subcontract work, or the *Products* supplied by such *Supplier*, on the first calendar day following the expiration of the holdback period for such work stipulated in the lien legislation applicable to the *Place of the Work*. The *Owner* may retain out of the holdback amount any sums required by law to satisfy any liens against the *Work* or, if permitted by the lien legislation applicable to the *Place of the Work*, other third party monetary claims against the *Design-Builder* which are enforceable against the *Owner*.
- 5.6.2 In the Province of Quebec, where, upon application by the *Design-Builder*, the *Payment Certifier* has certified that the work of a *Subcontractor* or *Supplier* has been performed prior to *Substantial Performance of the Work*, the *Owner* shall pay the *Design-Builder* the holdback amount retained for such subcontract work, or the *Products* supplied by such *Supplier*, no later than 30 calendar days after such certification by the *Payment Certifier*. The *Owner* may retain out of the holdback amount any sums required to satisfy any legal hypothecs that have been taken, or could be taken, against the *Work* or other third party monetary claims against the *Design-Builder* which are enforceable against the *Owner*.
- 5.6.3 Notwithstanding the provisions of the preceding paragraphs, and notwithstanding the wording of such certificates, the *Design-Builder* shall ensure that such subcontract work or *Products* are protected pending the issuance of a *Substantial Performance of the Work* certificate and be responsible for the correction of defects or work not performed regardless of whether or not such was apparent when such certificates were issued.

GC 5.7 FINAL PAYMENT

- 5.7.1 When the *Design-Builder* considers that the *Design Services* and the *Work* are completed, the *Design-Builder* shall submit an application for final payment.
- 5.7.2 The *Payment Certifier* will, no later than 10 calendar days after the receipt of an application from the *Design-Builder* for final payment, verify the validity of the application and advise the *Design-Builder* in writing that the application is valid or give reasons why it is not valid.
- 5.7.3 When the *Payment Certifier* finds the *Design-Builder's* application for final payment valid, the *Payment Certifier* will promptly issue a final certificate for payment.
- 5.7.4 Subject to the provision of paragraph 10.4.1 of GC 10.4 – WORKERS' COMPENSATION, and any lien legislation applicable to the *Place of the Work*, the *Owner* shall, no later than 5 calendar days after the issuance of a final certificate for payment, pay the *Design-Builder* as provided in Article A-5 of the Agreement – PAYMENT.

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GC 5.8 DEFERRED WORK

- 5.8.1 If because of climatic or other conditions reasonably beyond the control of the *Design-Builder*, there are items of work that cannot be performed, payment in full for that portion of the *Design Services* or *Work* which has been performed as certified by the *Payment Certifier* shall not be withheld or delayed by the *Owner* on account thereof, but the *Owner* may withhold, until the remaining portions of the *Design Services* and *Work* are finished, only such amount that the *Payment Certifier* determines is sufficient and reasonable to cover the cost of performing such remaining work.

GC 5.9 NON-CONFORMING DESIGN SERVICES AND WORK

- 5.9.1 No payment by the *Owner* under the *Contract* nor partial or entire use or occupancy of the *Work* by the *Owner* shall constitute an acceptance of any portion of the *Design Services* and the *Work* which are not in accordance with the requirements of the *Contract Documents*.

PART 6 CHANGES IN THE CONTRACT

GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

- 6.1.1 The *Owner* without invalidating the *Contract*, may make:
- .1 changes to the *Work* or to the *Owner's Statement of Requirements* consisting of additions, deletions or revisions to the *Design Services* or to the *Work*, by *Change Order* or *Change Directive*, and
 - .2 changes to the *Contract Time* by *Change Order*.
- 6.1.2 The *Design-Builder* shall not perform a change in the *Design Services*, *Construction Documents* or to the *Work* without a *Change Order* or a *Change Directive*.

GC 6.2 CHANGE ORDER

- 6.2.1 When a change is proposed or required, the *Owner* or the *Design-Builder* shall provide a written description of the proposed change to the other party. The *Design-Builder* shall present, in a form acceptable to the *Owner*, a method of adjustment or an amount of adjustment for the *Contract Price*, if any, and the adjustment in the *Contract Time*, if any, for the proposed change.
- 6.2.2 When the *Owner* and *Design-Builder* agree to the adjustments in the *Contract Price* and *Contract Time*, or to the method to be used to determine the adjustments, such agreement shall be effective immediately and shall be recorded in a *Change Order*. The value of the *Design Services* or the *Work* performed as the result of a *Change Order* shall be included in applications for progress payment.
- 6.2.3 If the *Owner* requests the *Design-Builder* to submit a proposal for a change and then elects not to proceed with the change, a *Change Order* shall be issued by the *Owner* to reimburse the *Design-Builder* for all costs incurred by the *Design-Builder* in developing the proposal, including the cost of the related *Design Services*.

GC 6.3 CHANGE DIRECTIVE

- 6.3.1 If the *Owner* requires the *Design-Builder* to proceed with a change prior to the *Owner* and the *Design-Builder* agreeing upon the corresponding adjustment in *Contract Price* and *Contract Time*, the *Owner* shall issue a *Change Directive*.
- 6.3.2 A *Change Directive* shall only be used to direct a change which is within the general scope of the *Contract Documents*.
- 6.3.3 A *Change Directive* shall not be used to direct a change in the *Contract Time* only.
- 6.3.4 Upon receipt of a *Change Directive*, the *Design-Builder* shall proceed promptly with the change.
- 6.3.5 For the purpose of valuing *Change Directives*, changes that are not substitutions or otherwise related to each other shall not be grouped together in the same *Change Directive*.
- 6.3.6 The adjustment in the *Contract Price* for a change carried out by way of a *Change Directive* shall be determined on the basis of the cost of the *Design-Builder's* actual expenditures and savings attributable to the *Change Directive*, valued in accordance with paragraph 6.3.7 and as follows:
- .1 If the change results in a net increase in the *Design-Builder's* cost, the *Contract Price* shall be increased by the amount of the net increase in the *Design-Builder's* cost, plus the *Design-Builder's* percentage fee on the net increase.

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- .2 If the change results in a net decrease in the *Design-Builder's* cost, the *Contract Price* shall be decreased by the amount of the net decrease in the *Design-Builder's* cost, without adjustment for the *Design-Builder's* percentage fee.
- 6.3.7 The cost of performing the work attributable to the *Change Directive* shall be limited to the actual cost of the following:
- .1 salaries, wages and benefits paid to personnel in the direct employ of the *Design-Builder* under a salary or wage schedule agreed upon by the *Owner* and the *Design-Builder*, or in the absence of such a schedule, actual salaries, wages and benefits paid under applicable bargaining agreement, and in the absence of a salary or wage schedule and bargaining agreement, actual salaries, wages and benefits paid by the *Design-Builder*, for personnel:
 - (1) stationed at the *Design-Builder's* field office, in whatever capacity employed;
 - (2) engaged in expediting the production or transportation of material or equipment, at shops or on the road;
 - (3) engaged in the preparation or review of *Shop Drawings*, fabrication drawings, coordination drawings, and project record drawings; or
 - (4) engaged in the processing of changes in the *Design Services* or in the *Work*;
 - .2 contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan, insofar as such cost is based on wages, salaries, or other remuneration paid to employees of the *Design-Builder* and included in the cost of the work as provided in paragraphs 6.3.7.1;
 - .3 travel and subsistence expenses of the *Design-Builder's* personnel described in paragraphs 6.3.7.1;
 - .4 all *Products* including cost of transportation thereof;
 - .5 materials, supplies, *Construction Equipment*, *Temporary Work*, and hand tools not owned by the workers, including transportation and maintenance thereof, which are consumed in the performance of the *Work*, and cost less salvage value on such items used but not consumed, which remain the property of the *Design-Builder*;
 - .6 all tools and *Construction Equipment*, exclusive of hand tools used in the performance of the *Work* whether rented from or provided by the *Design-Builder* or others, including installation, minor repairs and replacements, dismantling, removal, transportation, and delivery cost thereof;
 - .7 all equipment and services required for the *Design-Builder's* field office;
 - .8 deposits lost;
 - .9 the cost of *Design Services* including all fees and disbursements of the *Consultant* and *Other Consultants* engaged to perform such services;
 - .10 the amounts of all subcontracts;
 - .11 quality assurance such as independent inspection and testing services;
 - .12 charges levied by authorities having jurisdiction at the *Place of the Work*;
 - .13 royalties, patent license fees, and damages for infringement of patents and cost of defending suits therefore subject always to the *Design-Builder's* obligations to indemnify the *Owner* as provided in paragraph 10.3.1 of GC 10.3 – PATENT FEES;
 - .14 any adjustment in premiums for all bonds and insurance which the *Design-Builder* is required, by the *Contract Documents*, to purchase and maintain;
 - .15 any adjustment in taxes, other than *Value Added Taxes*, and duties for which the *Design-Builder* is liable;
 - .16 charges for long distance telephone and facsimile communications, courier services, expressage, and petty cash items incurred in relation to the performance of the *Work*;
 - .17 removal and disposal of waste products and debris; and
 - .18 safety measures and requirements.
- 6.3.8 Notwithstanding other provisions contained in the General Conditions of the *Contract*, it is the intention of the parties that the cost of any item under any cost element referred to in paragraph 6.3.7 shall cover and include any and all costs or liabilities attributable to the *Change Directive* other than those which are the result of or occasioned by any failure on the part of the *Design-Builder* to exercise reasonable care and diligence in the *Design-Builder's* attention to the *Design Services* or to the *Work*. Any cost due to failure on the part of the *Design-Builder* to exercise reasonable care and diligence in the *Design-Builder's* attention to the *Design Services* or to the *Work* shall be borne by the *Design-Builder*.
- 6.3.9 The *Design-Builder* shall keep full and detailed accounts and records necessary for the documentation of the cost of performing the work attributable to the *Change Directive* and shall provide the *Owner* with copies thereof when requested.
- 6.3.10 For the purpose of valuing *Change Directives*, the *Owner* shall be afforded reasonable access to all of the *Design-Builder's* pertinent documents related to the cost of performing the work attributable to the *Change Directive*.

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- 6.3.11 Pending determination of the final amount of a *Change Directive*, the undisputed value of the work performed as the result of a *Change Directive* is to be included in progress payments.
- 6.3.12 If the *Owner* and *Design-Builder* do not agree on the proposed adjustment in the *Contract Time* attributable to the change, or the method of determining it, the adjustment shall be referred to the provisions of PART 8 – DISPUTE RESOLUTION, for determination.
- 6.3.13 When the *Owner* and the *Design-Builder* reach agreement on the adjustment to the *Contract Price* and to the *Contract Time*, this agreement shall be recorded in a *Change Order*.

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

- 6.4.1 If the *Owner* or the *Design-Builder* discovers conditions at the *Place of the Work* which are:
 - .1 subsurface or otherwise concealed physical conditions which existed before the commencement of the *Contract* and which differ materially from those indicated in the *Contract Documents*; or
 - .2 physical conditions, other than conditions due to weather, that are of a nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the *Contract Documents*,
 then the observing party shall give *Notice in Writing* to the other party of such conditions before they are disturbed and in no event later than 5 *Working Days* after first observance of the conditions.
- 6.4.2 The *Owner* will promptly investigate such conditions. If the conditions differ materially from the *Contract Documents* and this would cause an increase or decrease in the *Design-Builder's* cost or time to perform the *Design Services* or the *Work*, the *Owner* will issue appropriate instructions for a change in the *Contract* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.
- 6.4.3 If the *Owner* is of the opinion that the conditions at the *Place of the Work* are not materially different or that no change in the *Contract Price* or the *Contract Time* is justified, the *Owner* will advise the *Design-Builder* in writing of the grounds on which this opinion is based.
- 6.4.4 The *Design-Builder* shall not be entitled to an adjustment in the *Contract Price* or the *Contract Time* if such conditions were reasonably apparent during the request for proposal period or bidding period and prior to proposal closing or bid closing.
- 6.4.5 If such concealed or unknown conditions relate to toxic and hazardous substances and materials, artifacts and fossils, or mould, the parties will be governed by the provisions of GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES AND MATERIALS, GC 9.3 – ARTIFACTS AND FOSSILS and GC 9.5 – MOULD.

GC 6.5 DELAYS

- 6.5.1 If the *Design-Builder* is delayed in the performance of the *Design Services* or the *Work* by an action or omission of the *Owner* or anyone employed or engaged by the *Owner* directly or indirectly, contrary to the provisions of the *Contract Documents*, then the *Contract Time* shall be extended for such reasonable time as agreed between the *Owner* and the *Design-Builder*. The *Design-Builder* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Design-Builder* as the result of such delay.
- 6.5.2 If the *Design-Builder* is delayed in the performance of the *Design Services* or the *Work* by a stop work order issued by a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Design-Builder* or any person employed or engaged by the *Design Builder* directly or indirectly, then the *Contract Time* shall be extended for such reasonable time as agreed between the *Owner* and the *Design-Builder*. The *Design-Builder* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Design-Builder* as the result of such delay.
- 6.5.3 If the *Design-Builder* is delayed in the performance of the *Design Services* or the *Work* by:
 - .1 labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized contractors' association, of which the *Design-Builder* is a member or to which the *Design-Builder* is otherwise bound), or
 - .2 fire, unusual delay by common carriers or unavoidable casualties, or
 - .3 abnormally adverse weather conditions, or
 - .4 any cause beyond the *Design-Builder's* control other than one resulting from a default or breach of *Contract* by the *Design-Builder*,
 then the *Contract Time* shall be extended for such reasonable time as agreed between the *Owner* and the *Design-Builder*. The extension of time shall not be less than the time lost as the result of the event causing the delay, unless the *Design-Builder* agrees to a shorter extension. The *Design-Builder* shall not be entitled to payment for costs

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incurred by such delays unless such delays result from actions of the *Owner*, or anyone employed or engaged by the *Owner* directly or indirectly.

- 6.5.4 No extension shall be made for delay unless *Notice in Writing* of the cause of delay is given to the *Owner* no later than 10 *Working Days* after the commencement of the delay. In the case of a continuing cause of delay only one *Notice in Writing* shall be necessary.
- 6.5.5 Any adjustment to *Contract Price* and *Contract Time* required as a result of GC 6.5 – DELAYS shall be made as provided in GC 6.1 – OWNER’S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER, and GC 6.3 – CHANGE DIRECTIVE.

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

- 6.6.1 If the *Design-Builder* intends to make a claim for an increase to the *Contract Price*, or if the *Owner* intends to make a claim for a credit to the *Contract Price*, the party that intends to make the claim shall give timely *Notice in Writing* of intent to claim to the other party, to give the other party the opportunity to take actions to mitigate the claim.
- 6.6.2 Upon commencement of the event or series of events giving rise to a claim, the party intending to make the claim shall:
 - .1 take all reasonable measures to mitigate any loss or expense which may be incurred as a result of such event or series of events, and
 - .2 keep such records as may be necessary to support the claim.
- 6.6.3 The party making the claim shall submit within a reasonable time to the other party a detailed account of the amount claimed and the grounds upon which the claim is based.
- 6.6.4 Where the event or series of events giving rise to the claim has a continuing effect, the detailed account submitted under paragraph 6.6.3 shall be considered to be an interim account and the party making the claim shall, at regular intervals as agreed between the parties, submit further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.
- 6.6.5 If the *Owner* and *Design-Builder* are in disagreement regarding the basis for the claim or its valuation, the matter shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION.

PART 7 RIGHT TO SUSPEND OR TERMINATE

GC 7.1 OWNER'S RIGHT TO SUSPEND THE DESIGN SERVICES OR TERMINATE THE CONTRACT BEFORE THE WORK COMMENCES

- 7.1.1 The *Owner* may, at any time before the *Work* commences at the *Place of the Work*, suspend performance of the *Design Services* by giving *Notice in Writing* to the *Design-Builder* indicating the expected length of the suspension. Such suspension shall be effective in the manner as stated in the *Notice in Writing* and shall be without prejudice to any claims which either party may have against the other.
- 7.1.2 Upon receiving a notice of suspension, the *Design-Builder* shall, subject to any directions in the notice of suspension, suspend performance of the *Design Services*.
- 7.1.3 If the *Design Services* are suspended for a period of 20 *Working Days* or less, the *Design-Builder*, upon the expiration of the period of suspension, shall resume the performance of the *Design Services* in accordance with the *Contract Documents*. The *Contract Price* and *Contract Time* shall be adjusted as provided in paragraph 6.5.1 of GC 6.5 – DELAYS.
- 7.1.4 If, after 20 *Working Days* from the date of delivery of the *Notice in Writing* regarding the suspension of the *Design Services*, the *Owner* and the *Design-Builder* agree to continue with and complete the *Design Services* and the *Work*, the *Design-Builder* shall resume the *Design Services* in accordance with any terms and conditions agreed upon by the *Owner* and the *Design-Builder*. Failing such an agreement, the *Owner* shall be deemed to have terminated the *Contract* and the *Design-Builder* shall be entitled to be paid for all *Design Services* performed and for such other damages as the *Design-Builder* may have sustained, including reasonable profit, as a result of the termination of the *Contract*.

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GC 7.2 OWNER'S RIGHT TO TERMINATE THE DESIGN-BUILDER'S RIGHT TO CONTINUE WITH THE DESIGN SERVICES OR WORK, OR TERMINATE THE CONTRACT

- 7.2.1 If the *Design-Builder* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Design-Builder's* insolvency, or if a receiver is appointed because of the *Design-Builder's* insolvency, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, terminate the *Design-Builder's* right to continue with the *Design Services* or *Work*, by giving the *Design-Builder* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.2.2 If the *Design-Builder* neglects to properly perform the *Design Services* or *Work*, or otherwise fails to comply with the requirements of the *Contract* to a substantial degree, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, give the *Design-Builder Notice in Writing* that the *Design-Builder* is in default of the *Design-Builder's* contractual obligations and instruct the *Design-Builder* to correct the default in the 5 *Working Days* immediately following the receipt of such *Notice in Writing*.
- 7.2.3 If the default cannot be corrected in the 5 *Working Days* specified or in such other time period as may be subsequently agreed in writing by the parties, the *Design-Builder* shall be in compliance with the *Owner's* instructions if the *Design-Builder*:
- .1 commences the correction of the default within the specified or agreed time, as the case may be, and
 - .2 provides the *Owner* with an acceptable schedule for such correction, and
 - .3 corrects the default in accordance with the *Contract* terms and with such schedule.
- 7.2.4 If the *Design-Builder* fails to correct the default in the time specified or in such other time period as may be subsequently agreed in writing by the parties, without prejudice to any other right or remedy the *Owner* may have, the *Owner* may:
- .1 correct such default and deduct the cost thereof from any payment then or thereafter due the *Design-Builder* provided the *Payment Certifier* has certified such cost to the *Owner* and the *Design-Builder*, or
 - .2 terminate the *Design-Builder's* right to continue with the *Design Services* or *Work* in whole or in part, or
 - .3 terminate the *Contract*.
- 7.2.5 If the *Owner* terminates the *Design-Builder's* right to continue with the *Design Services* or *Work* as provided in paragraphs 7.2.1 and 7.2.4, or if the *Owner* terminates the *Contract*, the *Owner* shall be entitled to:
- .1 use the plans, sketches, *Drawings*, graphic representations and *Specifications* pursuant to paragraph 1.1.8 of GC 1.1 – CONTRACT DOCUMENTS, as reasonably required for the completion of design and construction of the *Project*, but unless otherwise agreed, the *Consultant* and *Other Consultants* shall not assume any responsibility or liability resulting from use of such documents which may be incomplete;
 - .2 take possession of the *Work* and *Products* at the *Place of the Work*, and subject to the rights of third parties, utilize the *Construction Equipment* at the *Place of the Work*, and finish the *Design Services* and *Work* by whatever method the *Owner* may consider expedient, but without undue delay or expense;
 - .3 withhold further payment to the *Design-Builder* until final payment is determined in accordance with paragraphs 7.2.5.4 and 7.2.5.5;
 - .4 charge the *Design-Builder* the amount by which:
 - (1) the full cost of finishing the *Design Services* and the *Work*, as certified by the *Payment Certifier*, including compensation to the *Payment Certifier* for the *Payment Certifier's* additional services, plus
 - (2) a reasonable allowance as determined by the *Payment Certifier* to cover the cost of corrections to work performed by the *Design-Builder* that may be required under GC 12.5 – WARRANTY, together exceeds the unpaid balance of the *Contract Price*; however, if such cost of finishing the *Design Services* and the *Work* is less than the unpaid balance of the *Contract Price*, the *Owner* shall pay the *Design-Builder* the difference; and
 - .5 on expiry of the warranty period, charge the *Design-Builder* the amount by which the cost of corrections to the *Design-Builder's* work under GC 12.5 – WARRANTY exceeds the allowance provided for such corrections, or if the cost of such corrections is less than the allowance, pay the *Design-Builder* the difference.
- 7.2.6 The *Design-Builder's* obligation under the *Contract* as to quality, correction and warranty of the *Work* performed by the *Design-Builder* up to the time of termination shall continue after such termination of the *Contract*.

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GC 7.3 DESIGN-BUILDER'S RIGHT TO SUSPEND THE DESIGN SERVICES OR WORK, OR TERMINATE THE CONTRACT

- 7.3.1 If the *Owner* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Owner's* insolvency, or if a receiver is appointed because of the *Owner's* insolvency, the *Design-Builder* may, without prejudice to any other right or remedy the *Design-Builder* may have, terminate the *Contract* by giving the *Owner* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.3.2 If the *Design Services* or *Work* are suspended or otherwise delayed for a period of more than 20 *Working Days* under an order of a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Design-Builder* or of anyone directly or indirectly employed or engaged by the *Design-Builder*, the *Design-Builder* may, without prejudice to any other right or remedy the *Design-Builder* may have, terminate the *Contract* by giving the *Owner* *Notice in Writing* to that effect.
- 7.3.3 The *Design-Builder* may give *Notice in Writing* to the *Owner* that the *Owner* is in default of the *Owner's* contractual obligations if:
- .1 the *Owner* fails to furnish, when so requested by the *Design-Builder*, reasonable evidence that financial arrangements have been made to fulfill the *Owner's* obligations under the *Contract*, or
 - .2 the *Payment Certifier* fails to issue a certificate as provided in GC 5.3 – PROGRESS PAYMENT, or
 - .3 the *Owner* fails to pay the *Design-Builder* when due the amounts certified by the *Payment Certifier* or awarded by arbitration or court, or
 - .4 the *Owner* violates the requirements of the *Contract* to a substantial degree.
- 7.3.4 The *Design-Builder's* *Notice in Writing* to the *Owner* provided under paragraph 7.3.3 shall advise that if the default is not corrected within 5 *Working Days* following the receipt of the *Notice in Writing*, the *Design-Builder* may, without prejudice to any other right or remedy the *Design-Builder* may have, suspend the *Design Services* or the *Work*, or terminate the *Contract*.
- 7.3.5 If the *Design-Builder* suspends the *Work* pursuant to paragraph 7.3.4, the *Design-Builder* shall:
- .1 at the cost of the *Owner* maintain operations necessary for safety reasons and for care and preservation of the *Work*,
 - .2 make reasonable efforts to delay *Product* deliveries, and
 - .3 not remove from the *Place of the Work* any part of the *Work* or any *Products* not yet incorporated into the *Work*.
- 7.3.6 If the *Design-Builder* terminates the *Contract* under the conditions set out above, the *Design-Builder* shall be entitled to be paid for all *Design Services* and *Work* performed including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and for such other damages as the *Design-Builder* may have sustained as a result of the termination of the *Contract*.

PART 8 DISPUTE RESOLUTION

GC 8.1 NEGOTIATION, MEDIATION AND ARBITRATION

- 8.1.1 Differences between the parties to the *Contract* as to the interpretation, application or administration of the *Contract* or any failure to agree where agreement between the parties is called for, herein collectively called disputes, shall be settled in accordance with the requirements of Part 8 of the General Conditions – DISPUTE RESOLUTION.
- 8.1.2 If a dispute does arise, the parties shall make all reasonable efforts to resolve their dispute by amicable negotiations and agree to provide, without prejudice, frank, candid and timely disclosure of relevant facts, information and documents to facilitate these negotiations.
- 8.1.3 If the parties do not reach an agreement, either party shall send a *Notice in Writing* of dispute to the other party which contains the particulars of the matter in dispute, the relevant provisions of the *Contract Documents* and, if a Project Mediator has not already been appointed, a request that a Project Mediator be appointed. The responding party shall send a *Notice in Writing* of reply to the dispute within 10 *Working Days* after receipt of such *Notice in Writing*, setting out particulars of the response and any relevant provisions of the *Contract Documents*.
- 8.1.4 If a dispute is not resolved promptly, the *Owner* will issue such instructions as necessary to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by so doing neither party will jeopardize any claim the party may have. If it is subsequently determined that such instructions were in error or at variance with the *Contract Documents*, the *Owner* shall pay the *Design-Builder* costs incurred by the *Design-Builder* in carrying out such instructions which the *Design-Builder* was required to do beyond what the *Contract Documents* correctly understood and interpreted would have required, including costs resulting from interruption of the *Design Services* or the *Work*.

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- 8.1.5 The parties shall, in accordance with the Rules for Mediation of Construction Disputes as provided in CCDC 40 in effect at the time of proposal closing or bid closing, appoint a Project Mediator:
- .1 within 20 *Working Days* after the *Contract* was awarded, or
 - .2 if the parties neglected to make an appointment within the 20 *Working Days*, within 10 *Working Days* after either party by *Notice in Writing* requests that the Project Mediator be appointed.
- 8.1.6 After a period of 10 *Working Days* following receipt of a responding party's *Notice in Writing* of reply under paragraph 8.1.3, the parties shall request the Project Mediator to assist the parties to reach agreement on any unresolved dispute. The mediated negotiations shall be conducted in accordance with the Rules for Mediation and Arbitration of Construction Disputes as provided in CCDC 40 Rules for Mediation and Arbitration of Construction Disputes in effect at the time of proposal closing or bid closing.
- 8.1.7 If the dispute has not been resolved within 10 *Working Days* after the Project Mediator was requested under paragraph 8.1.6 or within such further period agreed by the parties, the Project Mediator shall terminate the mediated negotiations by giving *Notice in Writing* to the *Owner* and the *Design-Builder*.
- 8.1.8 By giving a *Notice in Writing* to the other party not later than 10 *Working Days* after the date of termination of the mediated negotiations under paragraph 8.1.7, either party may refer the dispute to be finally resolved by arbitration conducted in accordance with the Rules for Mediation and Arbitration of Construction Disputes as provided in CCDC 40 in effect at the time of proposal closing or bid closing. The arbitration shall be conducted in the jurisdiction of the *Place of the Work*.
- 8.1.9 On expiration of the 10 *Working Days* stipulated in paragraph 8.1.8, the arbitration agreement under paragraph 8.1.8 is not binding on the parties and, if a *Notice in Writing* is not given under paragraph 8.1.8 within the required time, the parties may refer the unresolved dispute to the courts or to any other form of dispute resolution, including arbitration, which they have agreed to use.
- 8.1.10 If neither party, by *Notice in Writing*, given within 10 *Working Days* of the date of *Notice in Writing* requesting arbitration in paragraph 8.1.8, requires that a dispute be arbitrated immediately, all disputes referred to arbitration as provided in paragraph 8.1.8 shall be
- .1 held in abeyance until
 - (1) *Substantial Performance of the Work*,
 - (2) the *Contract* has been terminated, or
 - (3) the *Design-Builder* has abandoned the *Design Services* or the *Work*, whichever is earlier; and
 - .2 consolidated into a single arbitration under the rules governing the arbitration under paragraph 8.1.8.

GC 8.2 RETENTION OF RIGHTS

- 8.2.1 It is agreed that no act by either party shall be construed as a renunciation or waiver of any rights or recourses, provided the party has given the *Notice in Writing* required under Part 8 of the General Conditions – DISPUTE RESOLUTION and has carried out the instructions as provided in paragraph 8.1.4.
- 8.2.2 Nothing in Part 8 of the General Conditions – DISPUTE RESOLUTION shall be construed in any way to limit a party from asserting any statutory right to a lien under applicable lien legislation of the jurisdiction of the *Place of the Work* and the assertion of such right by initiating judicial proceedings is not to be construed as a waiver of any right that party may have under paragraph 8.1.9 of GC 8.1 – NEGOTIATION, MEDIATION AND ARBITRATION to proceed by way of arbitration to adjudicate the merits of the claim upon which such a lien is based.
- 8.2.3 Part 8 of the General Conditions – DISPUTE RESOLUTION shall survive suspension or termination of the *Contract*.

PART 9 PROTECTION OF PERSONS AND PROPERTY

GC 9.1 PROTECTION OF WORK AND PROPERTY

- 9.1.1 The *Design-Builder* shall protect the *Work* and the *Owner's* property and property adjacent to the *Place of the Work* from damage which may arise as the result of the *Design-Builder's* operations under the *Contract*, and shall be responsible for such damage, except damage which occurs as the result of:
- .1 errors in the *Owner's Statement of Requirements*, or
 - .2 acts or omissions by the *Owner*, the *Owner's* agents and employees.
- 9.1.2 Before commencing any work, the *Design-Builder* shall determine the location of all underground utilities and structures that are reasonably apparent in an inspection of the *Place of the Work*.

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- 9.1.3 Should the *Design-Builder* in the performance of the *Contract* damage the *Work*, the *Owner's* property, or property adjacent to the *Place of the Work*, the *Design-Builder* shall be responsible for making good such damage at the *Design-Builder's* expense.
- 9.1.4 Should damage occur to the *Work* or *Owner's* property for which the *Design-Builder* is not responsible, as provided in paragraph 9.1.1, the *Design-Builder* shall make good such damage to the *Work* and, if the *Owner* so directs, to the *Owner's* property. The *Contract Price* and *Contract Time* shall be adjusted as provided in GC 6.1 – OWNER’S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES AND MATERIALS

- 9.2.1 For the purposes of applicable legislation related to toxic and hazardous substances, the *Owner* shall be deemed to have control and management of the *Place of the Work* with respect to existing conditions.
- 9.2.2 Prior to the *Design-Builder* commencing the *Design Services* or *Work*, the *Owner* shall, subject to legislation applicable to the *Place of the Work*:
- .1 take all reasonable steps to determine whether any toxic or hazardous substances are present at the *Place of the Work*, and
 - .2 provide the *Design-Builder* with a written list of any such substances that are known to exist and their locations.
- 9.2.3 The *Owner* shall take all reasonable steps to ensure that no person’s exposure to any toxic or hazardous substance exceeds the time weighted levels prescribed by applicable legislation at the *Place of the Work* and that no property is damaged or destroyed as a result of exposure to, or the presence of, toxic or hazardous substances which were at the *Place of the Work* prior to the *Design-Builder* commencing the *Work*.
- 9.2.4 Unless the *Contract* expressly provides otherwise, the *Owner* shall be responsible for taking all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to dispose of, store or otherwise render harmless toxic or hazardous substances which were present at the *Place of the Work* prior to the *Design-Builder* commencing the *Work*.
- 9.2.5 If the *Design-Builder* encounters toxic or hazardous substances at the *Place of the Work* or has reasonable grounds to believe that toxic or hazardous substances are present at the *Place of the Work*, which were not brought to the *Place of the Work* by the *Design-Builder* or anyone for whom the *Design-Builder* is responsible and which were not disclosed by the *Owner* or which were disclosed but have not been dealt with as required under paragraph 9.2.4, the *Design-Builder* shall:
- .1 take all reasonable steps, including stopping the *Work*, to ensure that no person’s exposure to any toxic or hazardous substances exceeds any applicable time weighted levels prescribed by legislation applicable to the *Place of the Work*, and
 - .2 immediately report the circumstances to the *Owner* in writing.
- 9.2.6 If the *Owner* and *Design-Builder* do not agree on the existence or significance of the toxic or hazardous substances, or whether the toxic or hazardous substances were brought onto the *Place of the Work* by the *Design-Builder* or anyone for whom the *Design-Builder* is responsible, the *Owner* shall retain and pay for an independent qualified expert to investigate and make a determination on such matters. The expert’s report shall be delivered to the *Owner* and the *Design-Builder*.
- 9.2.7 If the *Owner* and *Design-Builder* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were not brought onto the *Place of the Work* by the *Design Builder* or anyone for whom the *Design Builder* is responsible, the *Owner* shall promptly at the *Owner’s* own expense:
- .1 take all steps as required under paragraph 9.2.4;
 - .2 reimburse the *Design-Builder* for the costs of all steps taken pursuant to paragraph 9.2.5;
 - .3 extend the *Contract Time* for such reasonable time as agreed between the *Design-Builder* and the *Owner* in consultation with the expert referred to in 9.2.6 and reimburse the *Design-Builder* for reasonable costs incurred as a result of the delay; and
 - .4 indemnify the *Design-Builder* as required by GC 12.2 – INDEMNIFICATION.
- 9.2.8 If the *Owner* and *Design-Builder* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substance was brought onto the *Place of the Work* by the *Design-Builder* or anyone for whom the *Design-Builder* is responsible, the *Design-Builder* shall promptly at the *Design-Builder’s* own expense:
- .1 take all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to safely remove and dispose the toxic or hazardous substances;
 - .2 make good any damage to the *Work*, the *Owner’s* property or property adjacent to the *Place of the Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY;

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- .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.2.6; and
- .4 indemnify the *Owner* as required by GC 12.2 – INDEMNIFICATION.

9.2.9 If either party does not accept the expert's findings under paragraph 9.2.6, the disagreement shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraph 9.2.7 or 9.2.8 it being understood that by so doing, neither party will jeopardize any claim that party may have to be reimbursed as provided in paragraphs 9.2.7 or 9.2.8.

GC 9.3 ARTIFACTS AND FOSSILS

9.3.1 Fossils, coins, articles of value or antiquity, structures and other remains or things of scientific or historic interest discovered at the *Place of the Work* shall, as between the *Owner* and the *Design-Builder*, be deemed to be the absolute property of the *Owner*.

9.3.2 The *Design-Builder* shall take all reasonable precautions to prevent removal or damage to discoveries as identified in paragraph 9.3.1, and shall advise the *Owner* upon discovery of such items.

9.3.3 The *Owner* will investigate the impact on the *Design Services* or the *Work* of the discoveries identified in paragraph 9.3.1. If conditions are found that would cause an increase or decrease in the *Design-Builder's* cost or time to perform the *Design Services* or the *Work*, the *Owner* will issue appropriate instructions for a change in the *Contract* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.

GC 9.4 CONSTRUCTION SAFETY

9.4.1 Except as provided for in paragraph 2.6.2.2 of GC 2.6 – WORK BY OWNER OR OTHER CONTRACTORS, the *Design-Builder* shall assume overall responsibility for:

- .1 construction health and safety at the *Place of the Work* in compliance with the rules, regulations and practices required by the applicable construction health and safety legislation, and
- .2 establishing, initiating, maintaining, and supervising all health and safety precautions and programs in connection with the performance of the *Work*.

GC 9.5 MOULD

9.5.1 If the *Design-Builder* or *Owner* observes or reasonably suspects the presence of mould at the *Place of the Work*, the remediation of which is not expressly part of the *Work*,

- .1 the observing party shall promptly report the circumstances to the other party in writing, and
- .2 the *Design-Builder* shall promptly take all reasonable steps, including stopping the *Work* if necessary, to ensure that no person suffers injury, sickness or death and that no property is damaged as a result of exposure to or the presence of the mould.

9.5.2 If the *Owner* and *Design-Builder* do not agree on the existence, significance or cause of the mould or as to what steps need be taken to deal with it, the *Owner* shall retain and pay for an independent qualified expert to investigate and make a determination on such matters. The expert's report shall be delivered to the *Owner* and *Design-Builder*.

9.5.3 If the *Owner* and *Design-Builder* agree, or if the expert referred to in paragraph 9.5.2 determines that the presence of mould was caused by the *Design-Builder's* operations under the *Contract*, the *Design-Builder* shall promptly, at the *Design-Builder's* own expense:

- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould, and
- .2 make good any damage to the *Work*, the *Owner's* property or property adjacent to the *Place of the Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY, and
- .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.5.2, and
- .4 indemnify the *Owner* as required by GC 12.2 – INDEMNIFICATION.

9.5.4 If the *Owner* and *Design-Builder* agree, or if the expert referred to in paragraph 9.5.2 determines that the presence of mould was not caused by the *Design-Builder's* operations under the *Contract*, the *Owner* shall promptly, at the *Owner's* own expense:

- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould, and
- .2 reimburse the *Design-Builder* for the cost of taking the steps under paragraph 9.5.1.2 and making good any damage to the *Work* as provided in paragraph 9.1.4 of GC 9.1 – PROTECTION OF WORK AND PROPERTY, and
- .3 extend the *Contract Time* for such reasonable time as agreed between the *Design-Builder* and the *Owner* in consultation with the expert referred to in paragraph 9.5.2 and reimburse the *Design-Builder* for reasonable costs incurred as a result of the delay, and

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.4 indemnify the *Design-Builder* as required by GC 12.2 – INDEMNIFICATION.

9.5.5 If either party does not accept the expert's finding under paragraph 9.5.2, the disagreement shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraphs 9.5.3 or 9.5.4, it being understood that by so doing neither party will jeopardize any claim the party may have to be reimbursed as provided in paragraphs 9.5.3 or 9.5.4.

PART 10 GOVERNING REGULATIONS

GC 10.1 TAXES AND DUTIES

10.1.1 The *Contract Price* shall include all taxes and customs duties in effect at the time of the proposal closing or bid closing except for *Value Added Taxes* payable by the *Owner* to the *Design-Builder* as stipulated in Article A-4 of the Agreement – CONTRACT PRICE.

10.1.2 Any increase or decrease in costs to the *Design-Builder* due to changes in such included taxes and duties after the time of the proposal closing or bid closing shall increase or decrease the *Contract Price* accordingly, and either party may submit a claim in accordance with the requirements of GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

10.2.1 The laws of the *Place of the Work* shall govern the *Design Services* and the *Work*.

10.2.2 The *Owner* shall obtain and pay for the permanent easements and rights of servitude.

10.2.3 Unless otherwise stated, the *Design-Builder* shall obtain and pay for the building permit and other permits, licences, or certificates necessary for the performance of the *Work* at the time of the proposal closing or bid closing. The *Contract Price* includes the cost of these permits, licences, inspections, and certificates, and their procurement.

10.2.4 The *Design-Builder* shall give the required notices and comply with the laws, ordinances, rules, regulations, or codes which are or become in force during the *Design Services* or the performance of the *Work* and which relate to the *Design Services* or the *Work*, to the preservation of the public health, and to construction safety.

10.2.5 The *Design-Builder* shall not be responsible for verifying that the *Owner's Statement of Requirements* is in substantial compliance with the applicable laws, ordinances, rules, regulations, or codes relating to the *Design Services* or the *Work*. If after the time of the proposal closing or bid closing, changes are made to the applicable laws, ordinances, rules, regulations, or codes which require modification to the *Contract Documents*, the *Design-Builder* shall advise the *Owner* in writing requesting direction immediately upon such variance or change becoming known. Changes shall be made as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

10.2.6 If the *Design-Builder* fails to advise the *Owner* in writing and fails to obtain direction as required in paragraph 10.2.5, and performs work knowing it to be contrary to any laws, ordinances, rules, regulations, or codes, the *Design-Builder* shall be responsible for and shall correct the violations thereof, and shall bear the costs, expenses and damages attributable to the failure to comply with the provisions of such laws, ordinances, rules, regulations, or codes.

10.2.7 If, subsequent to the time of proposal closing or bid closing, changes are made to applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction which affect the cost of the *Design Services* or the *Work*, either party may submit a claim in accordance with the requirements of GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.

GC 10.3 PATENT FEES

10.3.1 The *Design-Builder* shall pay the royalties and patent licence fees required for the performance of the *Contract*. The *Design-Builder* shall hold the *Owner* harmless from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Design-Builder's* performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention by the *Design-Builder* or anyone for whose acts the *Design-Builder* may be liable.

10.3.2 The *Owner* shall hold the *Design-Builder* harmless against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Design-Builder's* performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention in executing anything for the purpose of the *Contract*, the model, plan or design of which was supplied by the *Owner* to the *Design-Builder* as part of the *Contract Documents*.

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GC 10.4 WORKERS' COMPENSATION

- 10.4.1 Prior to commencing the *Design Services* or the *Work*, again with the *Design-Builder's* application for payment of the holdback amount following *Substantial Performance of the Work* and again with the *Design-Builder's* application for final payment, the *Design-Builder* shall provide evidence of compliance with workers' compensation legislation at the *Place of the Work*, including payments due thereunder.
- 10.4.2 At any time during the term of the *Contract*, when requested by the *Owner*, the *Design-Builder* shall provide such evidence of compliance by the *Design-Builder* and *Subcontractors*.

PART 11 INSURANCE AND CONTRACT SECURITY

GC 11.1 INSURANCE

- 11.1.1 Without restricting the generality of GC 12.2 – INDEMNIFICATION, the *Design-Builder* shall provide, maintain and pay for the following insurance coverages, the minimum requirements of which are specified in CCDC 41 – CCDC INSURANCE REQUIREMENTS in effect at the time of proposal closing or bid closing except as hereinafter provided:
- .1 Everywhere used in CCDC 41 – CCDC INSURANCE REQUIREMENTS, the term “*Contractor*” shall be replaced with the term “*Design-Builder*”.
 - .2 General liability insurance in the name of the *Design-Builder* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner*, the *Consultant*, *Other Consultants*, the *Owner's Advisor*, and the *Payment Certifier* as insured but only with respect to liability arising out of the operations of the *Design-Builder* with regard to the *Design Services* or *Work*. All liability coverage shall be provided for completed operations hazards from the date of *Substantial Performance of the Work*, as set out in the certificate of *Substantial Performance of the Work*, on an ongoing basis for a period of 6 years.
 - .3 Automobile Liability Insurance from the date of commencement of the *Design Services* or the *Work* until one year after the date of *Substantial Performance of the Work*.
 - .4 If owned or non-owned aircraft and watercraft are used directly or indirectly in the performance of the *Design Services* or *Work*, Aircraft and Watercraft Liability Insurance from the date of commencement of the *Design Services* or *Work* until one year after the date of *Substantial Performance of the Work*.
 - .5 "All risks" property insurance in the joint names of the *Design-Builder*, the *Owner*, the *Consultant*, the *Owner's Advisor*, and the *Payment Certifier*. The policy shall include as Additional Insureds all *Subcontractors*. Where the full insurable value of the *Work* is substantially less than the *Contract Price*, the *Owner* may reduce the amount of insurance required or waive the insurance requirement. The “all risks” property insurance shall be provided from the date of commencement of the *Work* until the earliest of:
 - (1) 10 calendar days after the date of *Substantial Performance of the Work*;
 - (2) on the commencement of use or occupancy of any part or section of *Work* unless such use or occupancy is for construction purposes, habitational, office, banking, convenience store under 465 square metres in area, or parking purposes, or for the installation, testing and commissioning of equipment forming part of the *Work*; or
 - (3) when left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.
 - .6 Boiler and machinery insurance in the joint names of the *Design-Builder* and the *Owner*. The coverage shall be maintained continuously from commencement of use or operation of the boiler and machinery objects insured by the policy and until 10 calendar days after the date of *Substantial Performance of the Work*.
 - .7 The “all risks” property and boiler and machinery policies shall provide that, in the case of a loss or damage, payment shall be made to the *Owner* and the *Design-Builder* as their respective interests may appear. In the event of loss or damage:
 - (1) the *Design-Builder* shall act on behalf of the *Owner* for the purpose of adjusting the amount of such loss or damage payment with the insurers. When the extent of the loss or damage is determined, the *Design-Builder* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except that the *Design-Builder* shall be entitled to such reasonable extension of *Contract Time* as agreed by the *Owner* and *Design-Builder*;
 - (2) the *Design-Builder* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount at which the *Owner's* interest in restoration of the *Work* has been appraised, such amount to be paid as the restoration of the *Work* proceeds in accordance with the progress payment provisions of the *Contract*. In addition the *Design-Builder* shall be entitled to receive from the payments made by the insurer the amount of the *Design-Builder's* interest in the restoration of the *Work*; and

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- (3) to the *Work* arising from the work of the *Owner*, the *Owner's* own forces, or another contractor, in accordance with the *Owner's* obligations under the provisions relating to construction by *Owner* or other contractors, the *Owner* shall pay the *Design-Builder* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as in accordance with the progress payment provisions of the *Contract*.
- .8 *Design-Builder's* Equipment Insurance from the date of commencement of the *Work* until one year after the date of *Substantial Performance of the Work*.
- .9 In addition to the insurance requirements specified in CCDC 41 – CCDC INSURANCE REQUIREMENTS, the *Design-Builder* shall carry professional liability insurance with limits of not less than \$1,000,000 per claim and with an aggregate limit of not less than \$2,000,000 within any policy year, unless specified otherwise in the *Contract Documents*. The policy shall be maintained continuously from the commencement of the *Contract* until 2 years after *Substantial Performance of the Work*.
- 11.1.2 Prior to commencement of the *Design Services* or *Work* and upon the placement, renewal, amendment, or extension of all or any part of the insurance, the *Design-Builder* shall promptly provide the *Owner* with confirmation of coverage and, if required, a true copy of the policies certified by an authorized representative of the insurer together with copies of any amending endorsements applicable to the *Design Services* or *Work*.
- 11.1.3 The *Design-Builder* shall be responsible for deductible amounts under the policies except where such amounts may be excluded from the *Design-Builder's* responsibility by the terms of GC 9.1 – PROTECTION OF WORK AND PROPERTY and GC 12.2 – INDEMNIFICATION.
- 11.1.4 If the *Design-Builder* fails to provide or maintain insurance as required by the *Contract Documents*, then the *Owner* shall have the right to provide and maintain such insurance and give evidence of same to the *Design-Builder* and the *Consultant*. The *Design-Builder* shall pay the cost thereof to the *Owner* on demand or the *Owner* may deduct the cost from any amount which is due or may become due to the *Design-Builder*.
- 11.1.5 All required insurance policies shall be with insurers licensed to underwrite insurance in the jurisdiction of the *Place of the Work*.
- 11.1.6 If a revised version of CCDC 41 – CCDC INSURANCE REQUIREMENTS is published, which specifies reduced insurance requirements, the parties shall address such reduction, prior to the *Design-Builder's* insurance policy becoming due for renewal, and record any agreement in a *Change Order*.
- 11.1.7 If a revised version of CCDC 41 – CCDC INSURANCE REQUIREMENTS is published, which specifies increased insurance requirements, the *Owner* may require the increased coverage from the *Design-Builder* by way of a *Change Order*.
- 11.1.8 A *Change Directive* shall not be used to direct a change in the insurance requirements in response to any revision of CCDC 41 – CCDC INSURANCE REQUIREMENTS.

GC 11.2 CONTRACT SECURITY

- 11.2.1 The *Design-Builder* shall, prior to commencement of the *Design Services* or *Work* or within such other time as may be specified in the *Contract Documents*, provide to the *Owner* any *Contract* security specified in the *Contract Documents*.
- 11.2.2 If the *Contract Documents* require surety bonds to be provided, such bonds shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province or territory of the *Place of the Work* and shall be maintained in good standing until the fulfillment of the *Contract*. The form of such bonds shall be in accordance with the latest edition of the CCDC approved bond forms.

PART 12 INDEMNIFICATION, LIMITATION OF LIABILITY, WAIVER OF CLAIMS, AND WARRANTY

GC 12.1 DEFINITION AND SURVIVAL

- 12.1.1 For the purposes of Part 12 – INDEMNIFICATION, LIMITATION OF LIABILITY, WAIVER OF CLAIMS, AND WARRANTY, “claim” or “claims” shall mean claims, demands, losses, costs, damages, actions, suits or proceedings, whether in contract or tort.
- 12.1.2 Part 12 of the General Conditions – INDEMNIFICATION, LIMITATION OF LIABILITY, WAIVER OF CLAIMS, AND WARRANTY shall survive suspension or termination of the *Contract*.

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GC 12.2 INDEMNIFICATION

- 12.2.1 Without restricting the parties' obligations to indemnify one another as described in paragraph 12.2.4 and the Owner's obligation to indemnify as described in paragraph 12.2.5, the *Owner* and the *Design-Builder* shall each indemnify and hold harmless the other from and against all claims, whether in respect to losses suffered by them or in respect to claims by third parties that arise out of, or are attributable in any respect to their involvement as parties to this *Contract*, provided such claims are:
- .1 caused by:
 - (1) errors, omissions, or negligence of the party from whom indemnification is sought or anyone for whom that party is responsible, or
 - (2) a breach of this *Contract* by the party from whom indemnification is sought; and
 - .2 made by *Notice in Writing* within a period of 6 years from the date of *Substantial Performance of the Work* as set out in the certificate of *Substantial Performance of the Work* issued pursuant to paragraph 5.4.3 of GC 5.4 – SUBSTANTIAL PERFORMANCE OF THE WORK or within such shorter period as may be prescribed by any limitation statute of the province or territory of the *Place of the Work*.
- The parties expressly waive the right to indemnity for claims other than those provided for in this *Contract*.
- 12.2.2 The obligation of either party to indemnify as set forth in paragraph 12.2.1 shall be limited as follows:
- .1 In respect to losses suffered by the *Owner* and the *Design-Builder* for which insurance is to be provided by either party pursuant to GC 11.1 – INSURANCE, the general liability insurance limit for one occurrence as referred to in CCDC 41 – CCDC INSURANCE REQUIREMENTS in effect at the time of proposal or bid closing.
 - .2 In respect to losses suffered by the *Owner* and the *Design-Builder* for which insurance is not required to be provided by either party in accordance with GC 11.1 – INSURANCE, the greater of the *Contract Price* as recorded in Article A-4 of the Agreement – CONTRACT PRICE or \$2,000,000, but in no event shall the sum be greater than \$20,000,000.
 - .3 In respect to claims by third parties for direct loss resulting from bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, the obligation to indemnify is without limit. In respect to all other claims for indemnity as a result of claims advanced by third parties, the limits of indemnity set forth in paragraphs 12.2.2.1 and 12.2.2.2 shall apply.
- 12.2.3 The obligation of either party to indemnify the other as set forth in paragraphs 12.2.1 and 12.2.2 shall be inclusive of interest and all legal costs.
- 12.2.4 The *Owner* and the *Design-Builder* shall indemnify and hold harmless the other from and against all claims arising out of their obligations described in GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES AND MATERIALS.
- 12.2.5 The *Owner* shall indemnify and hold harmless the *Design-Builder* from and against all claims:
- .1 as described in paragraph 10.3.2 of GC 10.3 – PATENT FEES, and
 - .2 arising out of the *Design-Builder's* performance of the *Contract* which are attributable to a lack of or defect in title or an alleged lack of or defect in title to the *Place of the Work*.
- 12.2.6 In respect to any claim for indemnity or to be held harmless by the *Owner* or the *Design-Builder*:
- .1 *Notice in Writing* of such claim shall be given within a reasonable time after the facts upon which such claim is based became known; and
 - .2 should any party be required as a result of its obligation to indemnify another to pay or satisfy a final order, judgment or award made against the party entitled by this *Contract* to be indemnified, then the indemnifying party upon assuming all liability for any costs that might result shall have the right to appeal in the name of the party against whom such final order or judgment has been made until such rights of appeal have been exhausted.

GC 12.3 LIMITATION OF LIABILITY FOR DESIGN SERVICES

- 12.3.1 Notwithstanding any other provisions of this *Contract*, the *Design-Builder's* liability for claims which the *Owner* may have against the *Design-Builder*, including the *Design-Builder's* officers, directors, employees and representatives, that arise out of, or are related to, the *Design Services*, shall be limited:
- .1 to claims arising from errors, omissions, or negligent performance of the *Design Services* by the *Consultant* or *Other Consultant* and
 - .2 where claims are covered by insurance the *Design-Builder* is obligated to carry pursuant to GC 11.1 – INSURANCE, to the amount of such insurance.

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GC 12.4 WAIVER OF CLAIMS

- 12.4.1 Subject to any lien legislation applicable at the *Place of the Work*, as of the fifth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*, the *Design-Builder* waives and releases the *Owner* from all claims which the *Design-Builder* has or reasonably ought to have knowledge of that could be advanced by the *Design-Builder* against the *Owner* arising from the *Design-Builder's* involvement in the *Design Services* or *Work*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the date of *Substantial Performance of the Work*, except as follows:
- .1 claims arising prior to or on the date of *Substantial Performance of the Work* for which *Notice in Writing* of claim has been received by the *Owner* from the *Design-Builder* no later than the sixth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*;
 - .2 indemnification for claims advanced against the *Design-Builder* by third parties for which a right of indemnification may be asserted by the *Design-Builder* against the *Owner* pursuant to the provisions of this *Contract*;
 - .3 claims for which a right of indemnity could be asserted by the *Design-Builder* pursuant to the provisions of paragraphs 12.2.4 or 12.2.5 of GC 12.2 – INDEMNIFICATION; and
 - .4 claims resulting from acts or omissions which occur after the date of *Substantial Performance of the Work*.
- 12.4.2 The *Design-Builder* waives and releases the *Owner* from all claims referenced in paragraph 12.4.1.4 except for those referred in paragraphs 12.4.1.2 and 12.4.1.3 and claims for which *Notice in Writing* of claim has been received by the *Owner* from the *Design-Builder* within 395 calendar days following the date of *Substantial Performance of the Work*.
- 12.4.3 Subject to any lien legislation applicable at the *Place of the Work*, as of the fifth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*, the *Owner* waives and releases the *Design-Builder* from all claims which the *Owner* has or reasonably ought to have knowledge of that could be advanced by the *Owner* against the *Design-Builder* arising from the *Owner's* involvement in the *Design Services* or *Work*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the date of *Substantial Performance of the Work*, except as follows:
- .1 claims arising prior to or on the date of *Substantial Performance of the Work* for which *Notice in Writing* of claim has been received by the *Design-Builder* from the *Owner* no later than the sixth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*;
 - .2 indemnification for claims advanced against the *Owner* by third parties for which a right of indemnification may be asserted by the *Owner* against the *Design-Builder* pursuant to the provisions of this *Contract*;
 - .3 claims for which a right of indemnity could be asserted by the *Owner* against the *Design-Builder* pursuant to the provisions of paragraph 12.2.4 of GC 12.2 – INDEMNIFICATION;
 - .4 damages arising from the *Design-Builder's* actions which result in substantial defects or deficiencies in the *Work*. “Substantial defects or deficiencies” mean those defects or deficiencies in the *Work* which affect the *Work* to such an extent or in such a manner that a significant part or the whole of the *Work* is unfit for the purpose intended by the *Contract Documents*;
 - .5 claims arising pursuant to GC 12.5 – WARRANTY; and
 - .6 claims arising from acts or omissions which occur after the date of *Substantial Performance of the Work*.
- 12.4.4 The *Owner* waives and releases the *Design-Builder* from all claims referred to in paragraph 12.4.3.4 except claims for which *Notice in Writing* of claim has been received by the *Design-Builder* from the *Owner* within a period of six years from the date of *Substantial Performance of the Work* should any limitation statute of the Province or Territory of the *Place of the Work* permit such agreement. If the applicable limitation statute does not permit such agreement, within such shorter period as may be prescribed by:
- .1 any limitation statute of the Province or Territory of the *Place of the Work*; or
 - .2 if the *Place of the Work* is the Province of Quebec, then Article 2118 of the Civil Code of Quebec.
- 12.4.5 The *Owner* waives and releases the *Design-Builder* from all claims referenced in paragraph 12.4.3.6 except for those referred in paragraph 12.4.3.2, 12.4.3.3 and those arising under GC 12.5 – WARRANTY and claims for which *Notice in Writing* has been received by the *Design-Builder* from the *Owner* within 395 calendar days following the date of *Substantial Performance of the Work*.
- 12.4.6 “*Notice in Writing* of claim” as provided for in GC 12.4 – WAIVER OF CLAIMS to preserve a claim or right of action which would otherwise, by the provisions of GC 12.4 – WAIVER OF CLAIMS, be deemed to be waived, must include the following:
- .1 a clear and unequivocal statement of the intention to claim;

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- .2 a statement as to the nature of the claim and the grounds upon which the claim is based; and
 - .3 a statement of the estimated quantum of the claim.
- 12.4.7 The party giving “*Notice in Writing* of claim” as provided for in GC 12.4 – WAIVER OF CLAIMS shall submit within a reasonable time a detailed account of the amount claimed.
- 12.4.8 Where the event or series of events giving rise to a claim made under paragraphs 12.4.1 or 12.4.3 has a continuing effect, the detailed account submitted under paragraph 12.4.7 shall be considered to be an interim account and the party making the claim shall submit further interim accounts, at reasonable intervals, giving the accumulated amount of the claim and any further grounds upon which it is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.
- 12.4.9 If a *Notice in Writing* of claim pursuant to paragraph 12.4.1.1 is received on the seventh or sixth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*, the period within which *Notice in Writing* of claim is received pursuant to paragraph 12.4.3.1 shall be extended to two calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*.
- 12.4.10 If a *Notice in Writing* of claim pursuant to paragraph 12.4.3.1 is received on the seventh or sixth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*, the period within which *Notice in Writing* of claim is received pursuant to paragraph 12.4.1.1 shall be extended to two calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*.

GC 12.5 WARRANTY

- 12.5.1 Except for extended warranties as described in paragraph 12.5.6, the warranty period under the *Contract* is one year from the date of *Substantial Performance of the Work*.
- 12.5.2 The *Design-Builder* warrants that the *Work* is in accordance with the *Contract Documents*.
- 12.5.3 The *Owner* shall promptly give the *Design-Builder Notice in Writing* of observed defects and deficiencies which occur during the one year warranty period.
- 12.5.4 The *Design-Builder* shall promptly correct, at the *Design-Builder's* expense, any work which is not in accordance with the *Contract Documents* or defects or deficiencies in the *Work* which appear at any time until the end of the warranty periods specified in the *Contract Documents*.
- 12.5.5 The *Design-Builder* shall correct or pay for damage resulting from corrections made under the requirements of paragraph 12.5.4.
- 12.5.6 Any extended warranties required beyond the one year warranty period as described in paragraph 12.5.1, shall be as specified in the *Contract Documents*. Extended warranties shall be issued by the warrantor for the benefit of the *Owner*. The *Design-Builder's* responsibility with respect to extended warranties shall be limited to obtaining any such extended warranties from the warrantor. The obligations under such extended warranties are solely the responsibilities of the warrantor.
- 12.5.7 The *Design-Builder* does not warrant against the effects of corrosion, erosion or wear and tear of any *Product* or failure of any *Product* due to faulty operations or maintenance by the *Owner* or conditions of operation more severe than those specified for the *Product*.
- 12.5.8 The warranties specified in GC 12.5 – WARRANTY or elsewhere in the *Contract Documents* are the only warranties of the *Design-Builder* applicable to the *Work* and no other warranties, statutory or otherwise, are implied.

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These Supplementary Conditions amend Standard Construction Document - CCDC 14 - 2013 Design-Build Stipulated Price Contract (the "Document"). Where a portion of the Document is modified or deleted by these Supplementary Conditions, the unaltered portions of the Document shall remain in effect.

AGREEMENT BETWEEN OWNER AND DESIGN-BUILDER

1.12 Page 5, after Article A-8 insert the following:

"ARTICLE A-9 SEVERABILITY

9.1 Each and every paragraph, section, clause, sub-clause or other component of the *Contract* is severable one from the other. Should it be found by a court of competent jurisdiction that any one or more paragraphs or parts thereof are null and void, the validity of the remaining paragraphs or parts thereof shall not be affected.

ARTICLE A-10 TIME OF THE ESSENCE

10.1 Time shall be deemed to be of the essence of the performance of the *Design-Builder's* obligations hereunder."

GENERAL CONDITIONS OF THE DESIGN-BUILD STIPULATED PRICE CONTRACT

PART 1 - GENERAL PROVISIONS

Page 8, add the following to the end of Clause 1.1.6.1 after "the construction documents":

"- Proposal of Successful Proponent including all documents and associated drawings."

PART 2 - OWNER'S RESPONSIBILITIES

GC 2.3 OWNER'S ADVISOR

Page 9, in Clause 2.3.1, delete the words "set forth in the *Contract Documents*" in the second line, and replace with:

"follows, subject to GC. 2.3.3:

2.3.1.1 Review all material aspects of the *Design Services* and the *Work* as the *Design Services* and the *Work* proceed to ensure compliance with this *Contract* and including the *Contract Documents*;

2.3.1.2 Monitor the progress of the *Design Services* and the *Work* and advise the *Owner*; and

2.3.1.3 Communicate in writing any instructions or directions from the *Owner* to the *Design-Builder*."

PART 3 - DESIGN-BUILDER'S RESPONSIBILITIES

GC 3.1 CONTROL OF THE DESIGN SERVICES AND THE WORK

Page 12, in Clause 3.1.10, after the word "Owner" in the second line, insert ", or the Owner's Advisor".

END

Page 12, in Clause 3.1.11, after the word "Owner," in the second line, insert "Owner's Advisor," and after the word "Owner" in the third line, insert "or the Owner's Advisor".

Page 12, in Clause 3.1.14, after the word "Owner" in the first line, insert "or the Owner's Advisor".

GC 3.6 DESIGN SERVICES AND WORK SCHEDULE

Page 13, in Clause 3.6.1.3, after the word "Owner" in the first line, insert "or the Owner's Advisor promptly".

GC 3.11 NON-CONFORMING DESIGN AND DEFECTIVE WORK

Page 14, in Clause 3.11.1, after the word "the Owner" in the first line, insert "or the Owner's Advisor".

GC 5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

Page 17, delete Clause 5.5.3 in its entirety

Page 17, delete Clause 5.5.5 in its entirety

GC 5.6 PROGRESSIVE RELEASE OF HOLDBACK

Page 17, delete Clause 5.6.1 in its entirety

Page 17, delete Clause 5.6.2 in its entirety

Page 17, to GC 5.6.3, replace the words "Notwithstanding the provisions of the preceding paragraphs, and notwithstanding the wording of such certificates, the" in the first line, with the word "The", and delete the words "such subcontract work" in the second line, and replace with the words: "all subcontract work".

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

Page 20 in Clause 6.4.4, after the words "bid closing" in the third line, insert:

"or if further or other inspection, testing or investigation was suggested or recommended, or should reasonably have been recognized to be necessary given the limited or qualified information produced in the request for proposals.

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

Page 21, in Clause 6.6.5, after the word "the Owner" in the first line, insert "and the Owner's Advisor".

PART 10 - GOVERNING REGULATIONS

Page 27, in Clause 10.2.6, after the word "Owner" in the first line, insert "and Owner's Advisor".

PART 11 - INSURANCE AND CONTRACT SECURITY

Page 28, GC 11.1.1.2, after the words "General liability insurance" in the first line insert: "in an amount not less than \$5,000,000".

Page 29, GC 11.1.1.9, delete: "\$1,000,000 per claim and with an aggregate limit of not less than \$2,000,000 within any policy year" and replace with "\$5,000,000".

Page 30, in Clause 12.2.5.2, delete the words "or an alleged lack of or defect in title" in the second line.

1.1 General

- .1 The following section describes general requirements and administrative requirements for the execution of the Work in accordance with the Design-Build Stipulated Price Contract.
- .2 Carry out the Design-Build Work in such a manner that a minimum of inconvenience is caused to the Owner, operator and users of operating facilities adjacent to the Works.

1.2 Codes and Standards

- .1 All codes and standards referenced in this document refer only to the latest edition of the standard available.

1.3 Datum and Setting Out

- .1 All levels shall reference the Canadian Geodetic Datum. Establish site elevations from monuments in the area. Maintain bench marks of a semi-permanent nature for the duration of the Contract.

1.4 Schedule

- .1 As soon as practical, in any case not later than two (2) weeks after Award, submit to the Owner's Advisor for review and approval, an updated schedule showing the order of procedure, significant Contract dates, and method in which the Design-Builder proposes to carry out and complete the Works within time period required by Contract Documents.
- .2 The schedule must show key project milestones, including, but not limited to:
 - .1 Submittal of 85% complete design package;
 - .2 Submittal of 100% complete design package;
 - .3 Two (2) week design compliance review period by the Owner's Advisor and Maritime Electric Company Limited following each design submittal;
 - .4 Mobilization to site and commencement of construction;
 - .5 Anticipated completion date.
- .3 Schedule to be standard "bar" type, showing commencement, duration and completion of activities of all trades and suppliers involved. The schedule is subject to review by the Owner and Owner's Advisor and shall be revised and resubmitted as directed.
- .4 Update schedule monthly and submit updated implementation schedule as required. Where Work has fallen behind the original schedule times, indicate methods proposed to correct such loss of time, to maintain the stated completion time.

1.5 Cost Breakdown

- .1 Before submitting first progress claim, provide a breakdown of Contract Price in detail as directed by the Payment Certifier. After approval by the Payment Certifier, the cost breakdown will be used as basis for progress payment.

1.6 Assistance to the Owner's Advisor

- .1 During the execution of the Contract, provide necessary labour and tools to assist the Owner or Owner's Advisor in measuring, checking, testing, commissioning and examining the work and for the setting out and measurement of the Works, the cost of all such being deemed to be covered by and included in the Contract Price.

1.7 General Site Cleaning

- .1 Maintain all sites free from accumulation of waste material and rubbish and ensure that the cleaning and disposal of any wastes comply with local ordinances and anti-pollution laws. Keep Work, property, road surfaces, etc., in vicinity of the Work and in areas where Design-Builder's trucks will travel, in a clean and orderly condition, free from dirt, litter, dust, snow, ice, rubbish, etc. at all times during the progress of the Work. Dispose of debris and waste materials in accordance with the latest regulations respecting Solid Waste Commission Regulations as issued by the Prince Edward Island Department of the Environment at no additional cost to the Contract.
- .2 Recycle and/or salvage non-hazardous construction and demolition debris where possible.
- .3 On the completion of the Works clear away and remove from the site all construction equipment, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and works clean to the approval of the Owner's Advisor.

1.8 Submittals

- .1 Submit a submittal schedule to the Owner's Advisor within one (1) week after the start of the Contract.
- .2 Copies of all approved shop drawings shall be submitted to the Owner's Advisor within ten (10) working days of their approval by the Design-Builder's Consultant. Submittal of such drawings is to allow the Owner's Advisor to review the progress of the Work and the Design Services.

- .3 Design submittals will be shared with Maritime Electric Company Limited for review and approval prior to the start of construction.

1.9 Quality Control

- .1 Owner and Owner's Advisor shall have access to the Work. Give timely notice requesting inspection if Work is designated for special tests. If Design-Builder 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 Storage, Handling and Protection:
 - .1 Deliver all materials furnished by or to the Design-Builder and distribute at the Site. Load and unload so as to avoid shock or damage or dropping. If, however, any material is damaged, the repair or replacement the material in a manner approved by the Owner's Advisor, at no additional cost to the Contract.
 - .2 Handle and store Products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable. Adequately store materials and equipment intended for the work, until it has been incorporated in the completed project.
 - .3 Store materials and equipment in accordance with the manufacturer's recommendations. Store packaged or bundled products in original and undamaged condition with manufacturer's seals and labels intact. Store products subject to damage from weather in weatherproof enclosures.
 - .4 Replace materials and equipment found to be defective or damaged during handling, delivery, or installation. This includes the furnishing of all materials and labour required for the replacement of installed material and equipment discovered to be defective or damaged prior to the final acceptance of the Work.
- .3 Workmanship:
 - .1 Workmanship must be best quality, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify the Owner and Owner's Advisor if required Work will make it impractical to produce the intended results. Do not employ any unfit person or anyone unskilled in their required duties. Decisions as to quality or fitness of workmanship in cases of dispute rest solely with the Owner, whose decision is final.

1.10 Site Safety

- .1 Observe construction safety measures of Provincial Government, including but not limited to the Occupational Health and Safety Act; Workplace Health, Safety and Compensation Commission; and

Municipal authority provided that in any case of conflict or discrepancy the more stringent requirement shall apply.

- .2 Store volatile waste in closed containers and remove from premises daily.
- .3 Submit to Owner's Advisor prior to commencement of Work printed information detailing means and methods so the following will be carried out:
 - .1 To ensure the health and safety of persons at or near the Work.
 - .2 To ensure the measures and procedures of the regulatory agencies specified are carried out.
 - .3 To ensure every employee, self-employed person and employer performing Work under this contract complies with the regulatory agencies specified.

1.11 Damage and Injury

- .1 Bear costs of repairing damage to the Site, property of others and injuries of persons resulting from the Design-Builder's operation under the Contract.
- .2 Immediately inform the Owner's Advisor of damage or injury to persons, property, services or materials.

1.12 Record Documents

- .1 Accurately and neatly record deviations from Construction Documents caused by site conditions and changes. Record location of final of placement of all components. Identify drawings as "Project Record Copy". Maintain in new condition and make available for inspection on site by Owner's Advisor. On completion of Work and prior to final inspection, submit record documents to Owner's advisor for review. Upon acceptance by the Owner's Advisor, prepare record drawings in AutoCAD format, latest version. Provide three (3) full size prints of record drawings and three (3) copies of the updated design report as well as one (1) USB Drive containing electronic copies of the Record Documents in PDF and AutoCAD format.

Town of Stratford
Community Campus PV Array
Design Build
Contract 222617.01

OWNER'S STATEMENT OF
REQUIREMENTS

Section 01 00 00

Page 5

February 2024

END

PART 1 - GENERAL

1.1 REFERENCES

- .1 The system must be compliant with applicable design guidelines, codes and standards and shall adhere to any and all National Building Code of Canada, Canadian Electrical Code (CEC), other applicable codes and standards, applicable Utility regulations, and any and all CEC technical and installation specifications and guidelines.
- .2 Canadian Standards Association (CSA):
 - .1 CSA C22.1-21, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations, especially Section 64 and Section 84.
 - .2 CSA C22.2 No. 107.1-16 (R2021), Power Conversion Equipment.
 - .3 CSA C22.2 NO. 61730-1:19, Photovoltaic (PV) Module Safety Qualification Part 1: Requirements for Construction.
 - .4 CSA C22.2 NO. 61730-2:19, Photovoltaic (PV) Module Safety Qualification Part 1: Requirements for Testing.
- .3 Institute of Electrical and Electronics Engineers (IEEE):
 - .1 IEEE 1547-2018, Interconnecting Distributed Resources with Electric Power Systems.
- .4 Underwriters Laboratories of Canada Inc. (ULC):
 - .1 ULC/ORD-C1703-2018, Flat Plate Photovoltaic Modules and Panels.
 - .2 UL 1741, Standard for Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Sources.
 - .3 UL 61010-1, UL Standard for Safety Equipment for Measurement, Control and Laboratory Use. Part 1: General Requirements.

1.2 GENERAL

- .1 The design, construction, installation, and commissioning of the on-site solar photovoltaic (PV) system will be carried out by this contractor.
- .2 This Performance Specification delineates the minimum technical and installation specifications required by the Town of Stratford project.
- .3 Ground mount the PV panels.

- .4 This contractor is to assess the proposed site to confirm final location produces optimal performance of the PV system.
- .5 The footprint indicated on the site plan is for bidding purposes. Provide an estimate for items such as conduits, wiring and other accessories between the solar panels and the point of interconnection. If the final location is different from indicated, the cost of these items can be reviewed by the Owner and adjusted as required.
- .6 Provide a 1.8m high chain link galvanized security fence to surround the PV panels, complete with a gate of suitable size for a service vehicle.
- .7 Submit a detailed breakdown for the cost of the various components comprising the solar system including labour, material, testing, commissioning, etc.
- .8 The provision of the proposed PV system is subject to the approval of the Town of Stratford, other funding agencies and authorities having jurisdiction.
- .9 The proposed system shall have an interconnection point at the nearby MECL owned electrical distribution infrastructure. It shall also have a provisional underground conduit(s) including protection and control conduit(s) installed for future interconnection with the adjacent Community Centre building electrical room, and the central connection point of the array. The conduits connecting the adjacent building shall be capped at both ends to protect the conduits until they are needed in the future.

1.3 SUBMITTALS

- .1 Include with the proposal documents, shop drawings and data for the proposed system in accordance with Section 01 00 00. Drawings to include a schematic showing the layout and interconnections specific to this solar PV system. Documents to include, but not be limited to:
 - .1 Site plan showing infrastructure layout and PV array location(s).
 - .2 Riser diagram showing connection to utility, conduits, power and communications wires, combiners, disconnects, inverters, meters, etc.
 - .3 PV System power production calculations and

total system rating.

.4 PV system interconnection diagram showing AC and DC wiring, conduit fills, sizes, and types, wiring sizes and types, voltage drops, combiner box schedule(s), complete with bill of materials.

.5 Layout of PV solar equipment on-site and in Electrical rooms as required, including elevations.

.6 Assembly details including array attachment details, support spacing dimensions, module to module wiring diagrams, DC wire tray and combiner mounting details and grounding details.

.7 Details for all required warning signs.

.8 Product specifications and installation instructions.

.9 A list of recommended spare parts with pricing for the Owner's use in keeping the PV system down time to a minimum.

.2 Submit all of the above details for final review and modifications during the shop drawing review phase.

.3 The Owner will take into consideration the performance, efficiency and suitability of proposed solar photovoltaic systems, as well as the price, when evaluating and selecting the best overall system for the project.

.4 Provide operation and maintenance manuals for the solar PV system.

.5 Essential spare parts: Supply sufficient spare parts for the first 5 years of operation. Provide spare parts in kit form for storage in appropriate quantities at the facility.

1.4 QUALITY
ASSURANCE

.1 Have all electrical work carried out by qualified, licensed electricians or apprentices licensed by the Province of Prince Edward Island. The electrical contractor must have a valid contractor license issued by the Province of Prince Edward Island.

.2 Contractor must have experience installing systems of similar size and complexity.

.3 Installer must maintain a fully equipped service organization capable of furnishing repair service to the equipment.

- .4 Submit certification from the equipment manufacturer indicating that installer is an authorized representative for the equipment manufacturer and is trained on the installations of the specified PV system products.
- .5 Material and equipment shall be new and CSA certified.
- .6 System components shall operate per industry standards.

1.5 WARRANTY

- .1 Provide a minimum warranty of 20 years to 80% of the initial power rating for the PV modules.
- .2 System components (other than PV modules) must be guaranteed against defects in materials, fabrication and execution for a minimum of two years from date of system acceptance, however, a five warranty period is preferred. Provide labour and materials to repair, reprogram, or replace components at no charge to the Owner during the warranty period. Corrective work or system modifications shall be updated on user documentation.

1.6 MAINTENANCE
AGREEMENT

- .1 Annual on-site inspection, including: system testing (operating current of each electrical system), system adjustments and routine maintenance.
- .2 Seasonal cleaning to be completed four times per year.
- .3 Repair or replacement of defective parts.
- .4 Verify and confirm power generation data is being recorded and displayed correctly in the monitoring system
- .5 A maintenance agreement would include a response time of 24 hours for major system failures (emergency service), and 72 hours for minor repairs (routine service). Proposed agreement to include bi-annual site visits for preventative maintenance inspection so that systems are validated prior to the warranty expiration date.
- .6 Regular monitoring, including reporting of problems to customer and dispatch of resources for

expeditious resolution of problems.

- .7 The maintenance agreement shall be carried throughout the entire warranty period.

1.7 TRAINING

- .1 Arrange, pay for, and schedule on-site lectures and demonstrations by manufacturer's certified technician to train designated personnel in the use and maintenance of the solar PV system.
- .2 Training to cover instruction, theory, and expose the trainees to system's features, components, architecture, operations, programming, report generation, communications, and any other pertinent information required for the operations and maintenance of the system.

PART 2 - PRODUCTS

2.1 ELECTRIC POWER REQUIREMENTS

- .1 Power provided must be compatible with the onsite 600V distribution system. If required, a transformer may be used to transform the inverter AC voltage to 600V.
- .2 Power capacity should be measured at the inverter AC output using the PVUSA Test Conditions (PTC), i.e. 1,000 Watts/m² irradiance, 20 degree C ambient temperature and wind speed equivalent of 1 m/s.
- .3 The System must include all the hardware needed for the solar PV, including disconnects, inverters, combiners and all mounting hardware.
- .4 The solar array must be capable of sustaining the maximum load of 100 kW active power at connection to the grid.
- .5 Install systems in accordance with all applicable requirements of local electrical codes and the Canadian Electrical Code (CEC).
- .6 Systems must be designed and installed using CSA or ULC listed components, including mounting systems.
- .7 Inverters must comply with all applicable standards including UL1741, and must be a certified product under CSA 22.2 No. 107.1.

- .8 All system components including wiring, component, wiring, conduits, and connections must be suited for conditions for which they are to be installed.
- .9 Interconnection must comply with Maritime Electric Company Limited (MECL) requirements.
- .10 Have the solar contractor assist the Owner in preparing and submitting appropriate interconnection agreements with MECL. This must be done at no cost or liability to the Owner.
- .11 Ground and bond the system as per applicable CEC sections including Section 10, 64 and 84.

2.2 PV MODULES

- .1 PV solar modules must be manufactured with a minimum of 16% efficiency and demonstrated reliability.
- .2 PV solar modules must meet applicable CSA and ULC standards including the standards listed above.
- .3 System must comply with IEEE 61010-1 CSA, CEC.
- .4 Design for temperature range from -40 to +40 Degrees Celsius.

2.3 METERING

- .1 Supplier will provide revenue grade Interval Data Recording (IDR) meters.
- .2 The system shall include the recording of power generation data and ethernet communications to a dedicated secure web page (preferable onboard controller) to be used by the Town for their internal record keeping. This data does not have to be Revenue Canada Certified.
- .3 Meters must connect to a monitoring/data collection recording solar production through Time of Use (TOU) increments applicable to the local utility standards, with a minimum 15 minute intervals.

2.4 STRUCTURAL REQUIREMENTS

- .1 Design structures, structural elements including array structures and foundations in accordance with the National Building Code of Canada and applicable standards pertaining to the erection of such structures.
 - .1 All structural materials and associated fasteners are to be either hot dipped galvanized,

aluminum, or stainless steel. No on-site welding of HDG material.

- .2 Have structural components, including array structures, designed in a manner commensurate with attaining a minimum 30 year design life. Give particular attention to the prevention of corrosion at the connections between dissimilar metals.
- .3 The structural design should provide for easy and cost effective repair or replacement of the components.
- .4 Provide structural calculations, stamped by a licensed professional structural engineer in good standing with the Association of Professional Engineers of PEI.

PART 3 - EXECUTION

3.1 INSTALLATION

- .1 Install solar PV system to manufacturer's recommendations, CSA, CEC and IEEE standards.

3.2 TESTING

- .1 Provide tests in accordance with 26 05 00 - Electrical General Requirements. Tests shall include:
 - .1 System response, data logging and transmission, and performance.
 - .2 System features and components under normal operation.
 - .3 System shutdown from utility override switches.
 - .4 Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.

3.3 CLEANING

- .1 Remove dirt, debris or soiling from PV solar modules in accordance with Section 01 00 00.
- .2 On completion and verification of performance of installation, remove surplus materials, rubbish, tools and equipment.

END OF SECTION


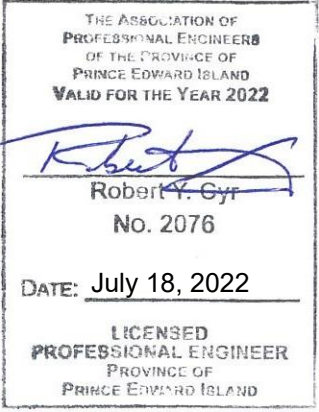
Geotechnical Investigation Report



Geotechnical Investigation Report Community Campus Site Servicing Stratford, PE



222617.00 • July 18, 2022

01	Final	R. Cyr	July 18, 2022	D. McKenney
Issue or Revision		Reviewed By:	Date	Issued By:
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Project No. 222617.00



July 18, 2022

Jeannie Gallant
Town of Stratford
234 Shakespeare Drive
Stratford, PE C1B 2V8

Dear Ms. Gallant:

RE: Geotechnical Investigation – Community Campus Site Servicing

Please find below our geotechnical investigation report for the community campus site servicing in Stratford, Prince Edward Island. This report presents our findings and our geotechnical recommendations for foundation design and general site work.

Yours very truly,

CBCL Limited

Prepared by:
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Project No.: 222617.00

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1 Introduction

CBCL Limited, have conducted a geotechnical investigation for the Community Campus Site Servicing in Stratford, Prince Edward Island. This investigation was conducted at the request of the Town of Stratford, PE. The purpose of this investigation was to evaluate the subsurface conditions throughout the site and to provide geotechnical recommendations for construction and design of the following items:

- ▶ Roadways
- ▶ Solar Arrays
- ▶ Stormwater Detention Ponds
- ▶ Pumping Station

This report presents our findings and our geotechnical recommendations for foundation design and general site work within the areas investigated. The heavily treed area at the south end of the site was not investigated due to access constraints. The subsurface conditions in this area should be investigated at a later date.

2 Site Description and Geology

The site is located at Lots 21-1 and 21-2 between Bunbury Road and Hollis Avenue in Stratford, PE. The site mainly consists of grass covered fields (agricultural land); however, a heavily treed area is located along the southern portion of the site. There is a large change in elevation throughout the site with the terrain generally sloping down to the east.

Surficial geologic mapping indicates the principal soil type in the area is glacial till. Bedrock in the area is mapped as sedimentary rock of the Kildares Cape Formation and Wood Islands Member.

3 Summarized Subsurface Conditions

The field program consisted of twenty-five (25) test pits completed on May 25 and 26, 2022. The test pit locations are shown in Drawing 01 in Appendix A.

The test pits were conducted using an excavator. Representative samples were taken during the field work and the conditions at the test pits were logged in detail. The subsurface conditions encountered at the site are described in detail on the appended Test Pit Records and summarized below in the following paragraphs and Table 1.

The subsurface conditions encountered throughout the site generally consist of the following profile:

- ▶ ROOTMAT
- ▶ REWORKED GLACIAL TILL
- ▶ UNDISTURBED GLACIAL TILL
- ▶ BEDROCK (INFERRED)

Rootmat was encountered throughout the site and was generally observed to be 150 mm thick; however, its thickness ranged between 120 mm and 400 mm throughout the site.

Reworked glacial till was encountered below the rootmat at all test pit locations with the exception of TP-24. The reworked glacial till layer was observed to be up to 1.4 m thick. It generally consisted of a loose silty sand with gravel and occasional organics overlying a loose clayey sand with gravel to firm sandy lean clay with gravel. Several samples of the reworked till were tested for moisture content. Testing revealed the moisture content ranged between 11.8% and 25.2%, with the higher values generally closer to the surface.

Undisturbed glacial till stratum was encountered throughout the site at depths ranging between 0.3 m and 1.6 m. The till stratum generally consisted of very stiff sandy lean clay with gravel to compact clayey sand with gravel. Occasional cobbles and boulders were generally encountered throughout and increasing in frequency and size with depth. Moisture content testing was conducted on multiple samples and a moisture density relationship test (ASTM D698) was conducted on a composite sample. Testing revealed the moisture content ranged between 12.8% and 21.7%, with an average of 15.5%. Moisture density testing revealed an optimum moisture content of 14.3%.

Bedrock (inferred) was encountered throughout the site at depths ranging between 2.0 m and 4.3 m.

Groundwater was observed within a few test pits at depths between 2.6 m and 4.3 m. Groundwater should be expected to fluctuate seasonally, in response to rain events, construction activity, and/or site use.

Table 3.1: Summary of Findings

Location	Coordinates (m) ¹	Elevation (m) ²	Thickness of Rootmat (mm)	Thickness of Reworked Till (m)	Depth to Undisturbed Till (m)	Depth to Inferred Bedrock (m)	Groundwater Depth (m) ³	Depth of Test Pit (m)
TP-01	N 687050.0 E 394062.5	28.6	150	0.4	0.6	2.8	--	2.8
TP-02	N 687054.9 E 394007.3	29.7	150	1.1	1.3	2.9	--	2.9
TP-03	N 686950.9 E 394041.3	31.2	150	1.1	1.3	3.4	--	3.4
TP-04	N 686853.4 E 394094.7	29.7	150	1.4	1.6	2.7	--	2.7
TP-05	N 686744.1 E 394111.0	26.5	150	0.8	1.0	3.4	--	3.4
TP-06	N 686646.9 E 394164.3	21.7	150	0.8	1.0	3.2	--	3.3
TP-07	N 686535.2 E 394163.1	19.2	150	0.6	0.8	2.7	--	2.7
TP-08	N 686424.2 E 394150.2	20.5	150	0.5	0.7	3.6	--	3.6
TP-09	N 686320.2 E 394116.0	23.7	150	0.8	1.0	2.1	--	3.6
TP-10	N 686221.2 E 394163.9	20.0	200	0.6	0.8	2.0	--	3.9
TP-11	N 686113.0 E 394183.3	19.2	200	0.6	0.8	4.0	--	4.0
TP-12	N 686009.7 E 394221.2	17.3	150	0.1	0.3	4.2	--	4.2
TP-13	N 685907.9 E 394179.6	21.7	200	0.5	0.7	3.6	--	3.6
TP-14	N 685782.8 E 394216.4	21.7	150	1.4	1.6	3.3	2.6	3.5
TP-15	N 686267.6 E 394061.7	26.9	200	0.7	0.9	3.7	--	3.7
TP-16	N 686250.4 E 393966.0	32.0	150	0.5	0.7	2.3	--	3.6
TP-17	N 685854.6 E 394175.8	22.9	200	1.2	1.4	3.9	--	3.9
TP-18	N 685852.8 E 394072.4	28.4	150	0.5	0.7	2.3	--	4.5
TP-19	N 685795.9 E 394083.5	28.4	150	0.7	0.9	2.9	--	3.0
TP-20	N 685811.4 E 394182.5	23.1	200	1.3	1.5	4.0	--	4.0
TP-21	N 686567.7 E 394321.6	12.1	120	0.3	0.4	4.3	4.3	4.3
TP-22	N 686426.0 E 394388.1	9.5	300	0.2	0.5	3.3	3.3	3.3
TP-23	N 686215.1 E 394357.2	8.4	200	0.1	0.3	3.4	3.2	3.4
TP-24	N 686184.9 E 394368.8	8.7	400	--	0.4	--	3.3	3.8
TP-25	N 686038.1 E 394294.7	13.3	300	0.5	0.8	4.7	--	4.7

Notes: ¹Coordinate system PEI Grid NAD83 CSRS.

²Geodetic Datum (HTv2).

³Measured during excavation.

4 Discussion and Recommendations

Geotechnical recommendations are presented herein for construction and design of the following items:

- ▶ Roadways
- ▶ Solar Arrays
- ▶ Stormwater Detention Ponds
- ▶ Pumping Station

The treed portion of the site (south side) was not investigated due to access constraints. The subsurface conditions in this area should be investigated at a later date.

Final details of the proposed development are unknown to us at this time. We should be contacted as the design progresses to allow us to review and adjust our recommendations accordingly.

4.1 Earthworks

4.1.1 Surface Water and Erosion Control

Prior to excavations, surface water drainage controls should be provided on the up-gradient side of the site to minimize run-off onto exposed soils. Suitable erosion and sedimentation control measures should be employed. These may include silt fences, check dams in ditches, and granular working pads.

4.1.2 Excavation

Within the foundation areas for the solar arrays and pumping station, the existing rootmat and reworked till should be removed and reinstated with structural fill, as required.

Where the material encountered at footing base elevation consists of glacial till, we recommend a 300 mm thick layer of Granular Class A or approved granular borrow below the footing.

Within the stormwater detention pond area, the existing rootmat and reworked till should be removed and reinstated with structural fill, as required.

Within the roadways, the existing rootmat and upper portion of the reworked till (with occasional roots/rootlets) should be removed and the subgrade proof-rolled with a

10-tonne steel drum roller. Any excessively weak zones (> 25mm ruts) should be replaced with structural fill.

Inferred bedrock was encountered throughout the site at depths between 2.0 m and 4.3 m. Depending on final grades of the infrastructure, excavation into bedrock may be required in areas.

Test pits located within the foundation and detention pond areas should be re-excavated and reinstated with structural fill. Structural fill should be placed and compacted in lifts to design grade, as required.

The on-site soils could become easily disturbed/softened during construction when exposed to wet conditions or significant traffic. A woven geotextile (such as Terratrack 400) and additional granular material is recommended for construction access roads and travel ways throughout the site. Travel over exposed reworked till or undisturbed till should be minimized.

Temporary excavated side slopes in unsaturated conditions should be stable at one horizontal to one vertical (1H:1V). Saturated slopes should be reviewed by geotechnical personnel during construction.

Stockpiled excavated material should be placed at a distance away from the excavations to ensure the stability of the slopes are not compromised. This should be reviewed by geotechnical personnel during construction.

4.1.3 Dewatering of Excavations

The contractor undertaking the earthworks must be prepared to dewater excavations. Footings should not be placed in standing water, slough, or over softened bearing soils.

Discharge from the dewatering activities must be carried out in strict accordance with environmental regulations. Discharge may have to be collected and/or filtered to meet environmental guidelines.

4.1.4 Structural Fill Placement and Compaction

Structural fill required throughout the site should consist of the following:

- ▶ Approved, imported, quarried rockfill and gravel,
- ▶ Approved sand and gravel pit run,
- ▶ Approved borrow, or;
- ▶ Approved on-site soils.

To prevent adfreeze, backfill directly against the exterior of foundations should consist of a well-graded granular material, containing less than 5% fines (silt/clay). Alternatively, a bond break (such as 2 layers of polyethylene) could be placed directly against the foundations within the frost zone. The backfill material should have a maximum particle size of 80 mm.

Reuse of the on-site soils may be permissible in areas; however, overly wet and/or oversized material will have to be removed.

Structural fill should be placed at or near the optimum moisture content (ASTM D698).

The lift thickness used during placement of structural fill must be compatible with the compaction equipment and the material type to ensure the specified density throughout. For preliminary consideration, the lift thickness should not exceed 300 mm for mass filling and 200 mm for backfilling foundations. The maximum particle size should be no larger than $\frac{2}{3}$ of the lift thickness. If the on-site soils are being considered for reuse, special procedures for placement will be required due to soil's clayey nature. We should be contacted if this is the case.

Structural fill should be compacted to the following percentage of maximum standard Proctor dry density (ASTM D698):

▶ Structural fill within building/foundation areas	100%
▶ Structural fill within detention pond	98%
▶ Structural fill within 300 mm of roadway subgrade	98%
▶ Structural fill 300 mm or more below roadway subgrade	95%

Where structural fill is needed below footings, the fill must be extended laterally beyond the edges of the footings to include a 0.3 m bench and the conventional 1H:1V splay.

4.1.5 Roadway Subgrade

The contractor must take precautions to avoid disturbance of the site soils or reinstate the material to the required condition. The condition of the subgrade should be reviewed prior to placement of aggregates.

4.1.6 Slopes

The embankment slopes for the detention pond should not be steeper than 3H:1V for both the inner and outer slopes; however, this should be reviewed once more details are known. The outer slopes of the embankment should be vegetated.

Along the roadway, permanent structural fill slopes should be 2H:1V, or lower. If permanent cut slopes are proposed, we should be contacted.

4.1.7 Winter Construction

Additional effort will be required to conduct earthwork during winter conditions. Winter construction guidelines are attached in Appendix D.

Undertaking earthworks in the winter is not ideal and despite best efforts and good intentions, the quality of earthworks often is compromised.

4.1.8 Observation and Testing

It is recommended that all footing bearing surfaces be observed by an experienced geotechnical engineer prior to placement of concrete. Observation and testing are also recommended during site grading and backfilling operations.

4.2 Foundations

Conventional strip and spread footings and a slab on grade may be considered for the proposed pumping station.

Helical piles were considered for the proposed solar array foundations; however, due to the depth of bedrock in the area and the presence of cobbles and boulders within the till, we would recommend considering the use of spread footings instead.

Recommendations for site preparation are provided in Section 4.1.

4.2.1 Spread/Strip Footings

For strip (continuous) and spread (square) footings founded on undisturbed glacial till or structural fill, the following geotechnical bearing resistances are recommended for design:

▶ Factored Geotechnical Bearing Resistance (ULS):	250 kPa
▶ Geotechnical Bearing Resistance (SLS):	150 kPa

The above noted resistances are based on the following assumptions:

- ▶ Footings are under level ground and are loaded concentrically
- ▶ Strip footings
 - founded a minimum of 1.5 m below grade
 - footing width between 0.6 m and 1.0 m
- ▶ Spread footings
 - founded a minimum of 0.6 m below grade
 - footing width between 1.2 m and 2.5 m

Under service loading, total and differential settlement will be less than 25 mm and 20 mm respectively for the service bearing pressure (SLS) mentioned above.

Geotechnical bearing resistances for other footing sizes or conditions can be provided upon request.

For strip (continuous) and spread (square) founded directly on undisturbed bedrock, the following geotechnical bearing resistance is recommended for design:

- ▶ Factored Geotechnical Bearing Resistance (ULS): 500 kPa
 - The settlement for footings bearing on bedrock would be negligible (<5 mm).

For foundations on bedrock, the use of lean concrete may be considered to provide a level surface for footing construction.

Exterior footings for a heated structure should be founded a minimum of 1.5 m below grade for frost protection. For an unheated structure, footings should be founded a minimum of 1.8 m below grade. To reduce the amount of cover, the use of insulation could be considered.

4.2.2 Pumping Station Basement

A perimeter foundation drainage and underslab drainage system is recommended for the basement level. The system should include clean-outs. A water-proofing system is recommended for the basement walls.

It is recommended that the abutments be designed based on backfill consisting of a granular wedge within a zone bounded by the wall and a line drawn upwards and outwards at 45 degrees from the base of the wall. Drainage from the backfill zone with a positive outlet is recommended.

For basement wall design, the following parameters can be used:

- Total unit weight of soil, $\gamma_T = 22 \text{ kN/m}^3$ (granular backfill, such as crushed rock aggregate subbase)
- Ultimate friction factor for sliding, $\mu = 0.6$ (cast-in-place concrete to bedrock)
- Ultimate friction factor for sliding, $\mu = 0.35$ (cast-in-place concrete to glacial till)
- Angle of internal friction, $\Phi = 36$ degrees (granular backfill, such as crushed rock aggregate subbase)
- At-rest earth pressure coefficient, $K_o = 0.4$ (if laterally restrained)

The wall design should include the influence of sloping backfill, surcharge loads behind the wall, and the effects of compaction equipment.

4.2.3 Slab on Grade

A 150 mm thick layer of Granular Class A is recommended below the floor slab for levelling and support purposes. The aggregate should be compacted to 100% Standard Proctor.

A modulus of subgrade reaction, k , of 50 MPa/m may be used for the slab design. This modulus corresponds to a 300 mm x 300 mm square bearing plate.

4.2.4 Seismic Classification

With the foundation areas prepared as discussed in the sections above, the recommended site classification for seismic site response, as per Table 4.1.8.4.B of NBCC 2020 is Site Class C.

4.3 Pavement Structure

For preliminary consideration, the following pavement structures can be considered for the site; however, this should be reviewed once the anticipated traffic loading is known and the subsurface conditions along the south side of site are determined.

Table 4.1: Preliminary Pavement Structure Thicknesses

Material	Light Duty Pavement ¹	Heavy Duty Pavement
Asphalt Concrete:		
Top Course (Type B)	40 mm	50 mm
Base Course (Type A)	60 mm	75 mm
Granular Base (Granular Class A)	150 mm	250 mm
Granular Subbase (Select Borrow)	300 mm	300 mm
Geotextile	See Note ²	See Note ²

Notes: ¹Cars and light trucks.

²A woven geotextile (such as Terratrack 400) is recommended where the subgrade consists of glacial till (ie. has a high percentage of fines).

Prior to placement of aggregates, it will be critical to review the subgrade. Recommendations for site preparation are provided in Section 4.1.

Adequate drainage (subsurface, perforated drain pipe and/or ditching) should be in place to remove water from within the pavement structure. The drainage system should be such that the pavement structure remains adequately drained. Lack of drainage will cause premature deterioration of the asphalt pavement.

All materials should meet the PEIDTIE specifications. The granular base and subbase should be compacted to 100% of Standard Proctor maximum dry density. Asphalt concrete should be compacted as per the PEIDTIE Specifications.

5 Closure

This report has been prepared for the sole benefit of the Client. All information, documentation or other material contained in, attached to, or forming part of this report reflects CBCL's opinion and best judgment based on the information available to us at the time of preparation. Any use or reliance on this report by the Client in circumstances where there has been a change in site conditions or for any purpose not expressly intended by or delineated in this report shall be the sole responsibility of the Client and CBCL accepts no liability for such use or reliance. Any use or reliance on this report by any third party, without CBCL's prior express written consent, shall be the sole responsibility of that third party. CBCL accepts no liability whatsoever for such use or reliance.

The information and conclusions contained in this report are generally consistent with professional standards for engineering and scientific professionals providing similar services at the same time, in similar locations and under similar circumstances.

A geotechnical field investigation is a limited sampling of a site. Some variation between sampling locations should be expected. The conclusions presented in this report represent the technical judgment of CBCL, based on the data obtained from the work and on CBCL's understanding of the project. The data obtained by CBCL is specific to the time the work was performed at the specific testing and/or sampling locations and can only be extrapolated to an undefined limited area surrounding these locations. The extent of the limited area depends on the soil and groundwater conditions, as well as the history of the site reflecting natural, construction and other activities. Due to the nature of the investigation and the limited data available, CBCL cannot and does not warrant that undiscovered environmental liabilities and/or undetected subsurface conditions may not arise.

If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we require that we be notified immediately to allow for reassessment of the conclusions provided herein. Further, if there are changes to Client's design, we require that we be notified to allow for review and possible changes to our recommendations.

We trust this is the information you require at this time. We are available to discuss the contents of this report at your convenience.



Prepared by:
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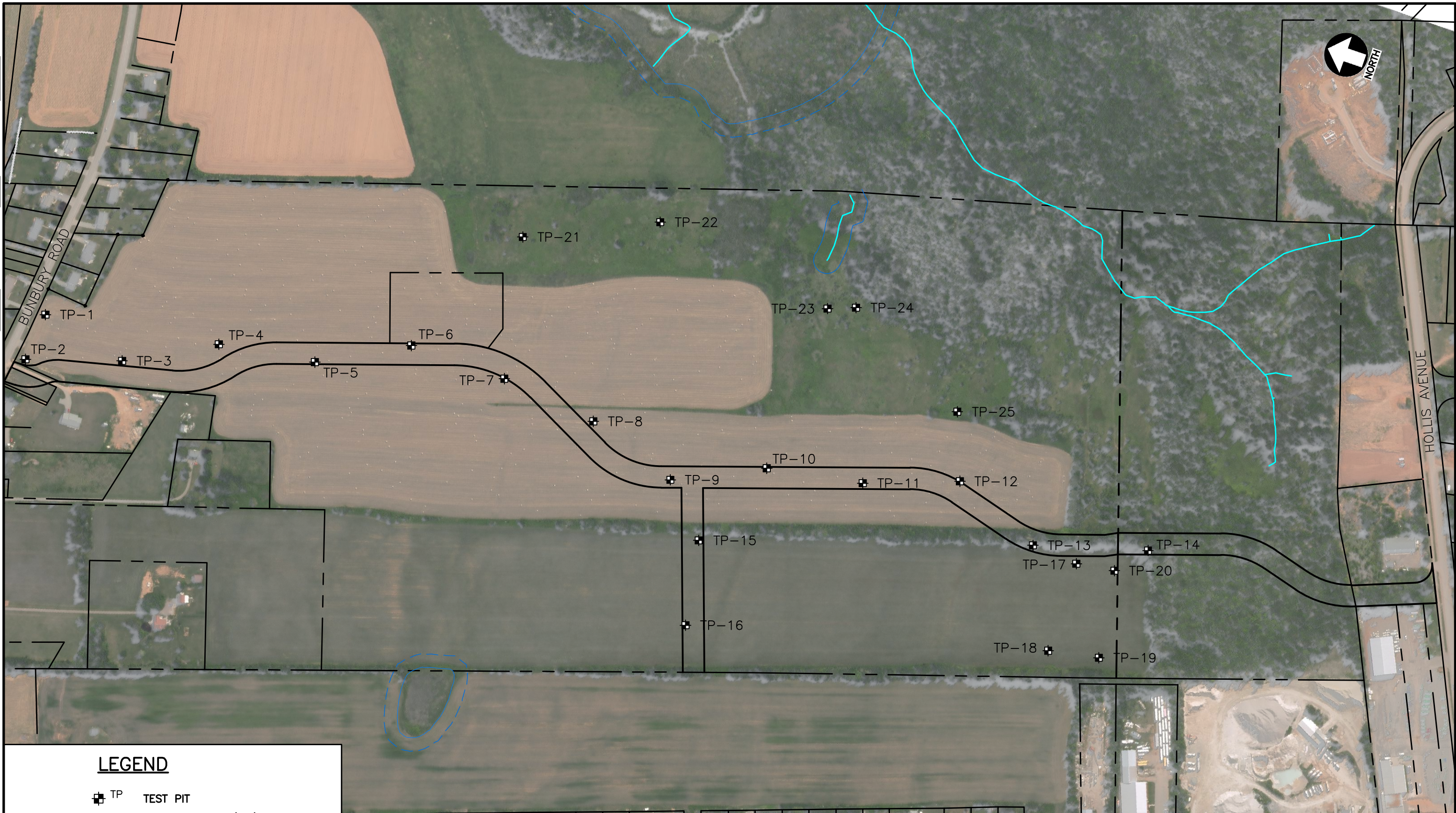


Reviewed by:
Robert Y. Cyr, M.A.Sc., P.Eng.
Senior Technical Specialist

APPENDIX A

Test Pit Location Plan – Drawing 01

DRAWING NAME: Y:\CHARLOTTETOWN\DATA\CBCL_JOB FOLDERS\2022\222617.00 STRATFORD - COMMUNITY CAMPUS SITE SERVICING\44 CAD\01 CIVIL\02 WORKING FILES\02 DESIGN FILES\222617 GEOTECH.DWG LAYOUT NAME: TEST PIT LOCATION SKETCH.PLOT DATE: JULY 13, 2022 9:00:31 AM CAD OPERATOR: AGLINS



LEGEND

- TP TEST PIT
- PROPERTY LINE (EX.)
- PROPERTY LINE (PR.)
- RIGHT OF WAY (PR.)
- PROVINCIAL MAPPED WATERCOURSE (EX.)
- 15m WETLAND BUFFER ZONE
- PROVINCIAL MAPPED WETLAND (EX.)

No.	Description
1	GEOTECHNICAL INVESTIGATION REPORT

Date JULY 2022	Scale 1:4000	Designed TSL	Drawn AHG	Checked DM	Approved TSL	CBCL No. 222617	Contract 222617
 <small>Experience commitment</small> <small>A division of CBCL Limited</small>		STRATFORD COMMUNITY CAMPUS SITE SERVICING				Drawing	
		TEST PIT LOCATION PLAN				01	

APPENDIX B

Symbols and Terms used on Borehole and Test Pit Records

Geotechnical and Materials Engineers

SOIL DESCRIPTION

Terminology describing common soil genesis:

<i>Topsoil</i>	variable mixture of mineral particles and organic matter
<i>Peat</i>	decomposing vegetative matter having fibrous and/or amorphous structure
<i>Till</i>	unstratified glacial deposit which may range from clay to boulders
<i>Fill</i>	any materials below the surface identified as placed by humans (excluding buried services)

Terminology describing soil structure:

<i>Desiccated</i>	having visible signs of weathering by oxidation of clay minerals, shrinkage cracks, etc.
<i>Fissured</i>	having cracks, and hence a blocky structure
<i>Varved</i>	composed of regular alternating layers of silt and clay
<i>Stratified</i>	composed of alternating successions of different soil types, e.g. silt and sand
<i>Layer</i>	>75 mm
<i>Seam</i>	2 mm to 75 mm
<i>Parting</i>	< 2 mm
<i>Well Graded</i>	having wide range in grain sizes and substantial amounts of all intermediate particle sizes
<i>Uniformly Graded</i>	predominantly of one grain size

Terminology describing soils on the basis of grain size and plasticity is based on the ASTM D2488 – Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). The classification excludes particles larger than 76 mm (3 inches). This system provides a group symbol (e.g. SM) and group name (e.g. silty sand) for identification.

Terminology describing materials outside the USCS, (e.g. particles larger than 76 mm, visible organic matter, construction debris) is based upon the proportion of these materials present:

<i>Trace, or occasional</i>	Less than 10%
<i>Some</i>	10-20%
<i>Frequent</i>	Greater than 20%

The standard terminology to describe cohesionless soils includes the compactness as determined by laboratory test or by the Standard Penetration Test ‘N’ – value.

Relative Density	‘N’ Value	Compactness %
<i>Very Loose</i>	<4	<15
<i>Loose</i>	4-10	15-35
<i>Compact</i>	10-30	35-65
<i>Dense</i>	30-50	65-85
<i>Very Dense</i>	>50	>85

The standard terminology to describe cohesive soils includes the consistency, which is based on undrained shear strength as measured by in-situ vane tests, penetrometer tests, unconfined compression tests, or occasionally by standard penetration tests.

Consistency	Undrained Shear Strength (Su)		'N' Value
	Kips/sq.ft.	KPa	
<i>Very Soft</i>	< 0.25	< 12.5	< 2
<i>Soft</i>	0.25 – 0.5	12.5 – 25	2 – 4
<i>Firm</i>	0.5 – 1.0	25 – 50	4 – 8
<i>Stiff</i>	1.0 – 2.0	50 – 100	8 – 15
<i>Very Stiff</i>	2.0 – 4.0	100 – 200	15 – 30
<i>Hard</i>	> 4.0	> 200	> 30

ROCK DESCRIPTION

Rock Quality Designation (RQD)

The classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be due to close shearing, jointing, faulting, or weathering in the rock mass and are not counted. RQD was originally intended to be done on N-size (45 mm) core; however, it can be used on different core sizes if the bulk of the fractures caused by drilling stresses are easily distinguishable from in situ fractures.

RQD	ROCK QUALITY
90 – 100	Excellent, intact, very sound
75 – 90	Good, massive, moderately jointed or sound
50 – 75	Fair, blocky and seamy, fractured
25 – 50	Poor, shattered and very seamy or blocky, severely fractured
0 – 25	Very poor, crushed, very severely fractured

Terminology describing rock mass:

Spacing (mm)	Bedding, Laminations, Bands	Discontinuities
2000 – 6000	<i>Very Thick</i>	<i>Very Wide</i>
600 – 2000	<i>Thick</i>	<i>Wide</i>
200 – 600	<i>Medium</i>	<i>Moderate</i>
60 – 200	<i>Thin</i>	<i>Close</i>
20 – 60	<i>Very Thin</i>	<i>Very Close</i>
< 20	<i>Laminated</i>	<i>Extremely Close</i>
< 6	<i>Thinly Laminated</i>	

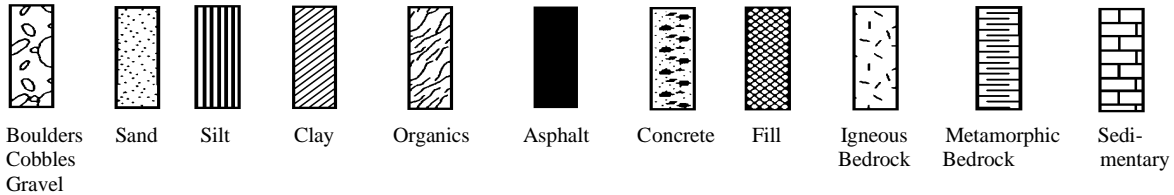
Strength Classification	Uniaxial Compressive Strength (MPa)
<i>Very Weak</i>	1 – 5
<i>Weak</i>	5 – 25
<i>Medium Strong</i>	25 – 50
<i>Strong</i>	50 – 100
<i>Very Strong</i>	100 – 250
<i>Extremely Strong</i>	> 250

Terminology describing weathering:

- Slight* - Weathering limited to the surface of major discontinuities. Typically iron stained.
- Moderate* - Weathering extends throughout rock mass. Rock is not friable.
- High* - Weathering extends throughout rock mass. Rock is friable.

STRATA PLOT

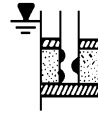
Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols:



WATER LEVEL MEASUREMENT



Borehole or
Standpipe



Piezometer

SAMPLE TYPE AND/OR FIELD TESTS

SS	Split Spoon Sample (obtained by performing the Standard Penetration Test)	AS	Auger Sample
ST	Shelby Tube or Thin Wall Tube	BS	Bulk Sample
PS	Piston sample	WS	Wash Sample
DC	Dynamic Cone Penetration	HQ, NQ, BQ, etc.	Rock Core Samples (obtained with the use of standard size diamond drilling bits)
FSV	Field Shear Vane		

N- VALUE

Numbers in this column are the results of the SPT (Standard Penetration Test): the number of blows of a 140 pound (64kg) hammer falling 30 inches (760 mm), required to drive a 2 inch (50.8 mm) O.D. split spoon sampler one foot (305 mm) into the soil. For split spoon samples where insufficient penetration was achieved and 'N' values cannot be presented, the abbreviation SSR (Split Spoon Refusal) will appear in place of a numerical value.

OTHER TESTS

Symbols in this column indicate that the following laboratory tests have been carried out and the results are presented separately.

S	Sieve analysis	H	Hydrometer analysis
G _s	Specific gravity of soil particles	γ	Unit weight
k	Permeability	C	Consolidation
⌋	Single packer permeability test; test interval from depth shown to bottom of borehole	CD	Consolidated drained triaxial
⌋	Double packer permeability test; Test interval as indicated	CU	Consolidated undrained triaxial with pore pressure measurements
⊙	Falling head permeability test using casing	UU	Unconsolidated undrained triaxial
⊙	Falling head permeability test using well point or piezometer	DS	Direct shear
		Q _u	Unconfined compression
		I _p	Point Load Index (I _p on Borehole Records equals I _p (50); the index corrected to a reference diameter of 50 mm)
		MSV	Laboratory Miniature Shear Vane

APPENDIX C

Test Pit Records



cbcl A division of CBCL Limited

TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 687050.0 m, E 394062.5 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

TP - 01

Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	28.6 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist			BS	1	
2.0		Very stiff reddish brown sandy lean CLAY with gravel (CL) to compact reddish brown clayey SAND with gravel (SC): TILL - some cobbles below 1.4 m - moist	28.0 0.6				
3.0					BS	2	Moisture Content = 12.8%
4.0							
5.0							
6.0							
7.0					BS	3	Moisture Content = 13.9%
8.0							
9.0			25.8 2.8				
10.0		End of Test Pit at 2.8 m - INFERRED BEDROCK SURFACE - groundwater not observed					
11.0							
12.0							
13.0							
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 687054.9 m, E 394007.3 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

TP - 02

Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	29.7 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	29.2 0.5		BS	1	
2.0		Loose reddish brown clayey sand with gravel (SC): REWORKED TILL - occasional rootlets - moist			BS	2	Moisture Content = 13.9%
3.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - occasional to some cobbles - some boulders (up to 1.5 m in diameter) below 1.6 m - moist	28.4 1.3		BS	3	Moisture Content = 14.4%
4.0					BS	4	Moisture Content = 15.8%
5.0							
6.0							
7.0							
8.0							
9.0							
10.0		End of Test Pit at 2.9 m - INFERRED BEDROCK SURFACE - groundwater not observed	26.8 2.9				
11.0							
12.0							
13.0							
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686950.9 m, E 394041.3 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

TP - 03

Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	31.2 0.0				Moisture Content = 11.8%
1.0		Loose brown silty sand (SM) to silty sand with gravel (SM): REWORKED TILL - moist			BS	1	
2.0		Loose reddish brown silty sand with gravel (SM): REWORKED TILL - occasional cobbles - moist			BS	2	
3.0					BS	3	Moisture Content = 16.8%
4.0			29.9 1.3				
5.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - occasional to some cobbles - moist					
6.0					BS	4	
7.0							
8.0							
9.0							
10.0							
11.0			27.8 3.4				
12.0		End of Test Pit at 3.4 m - INFERRED BEDROCK SURFACE - groundwater not observed					
13.0							
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686853.4 m, E 394094.7 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

TP - 04

Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	29.7 0.0				
1.0		Loose silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	29.2 0.5		BS	1	
2.0		Loose reddish brown clayey gravel with sand (GC): REWORKED TILL - some cobbles - moist	28.1 1.6		BS	2	Moisture Content = 13.1%
3.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - some cobbles and boulders (up to 0.9 m in diameter) - moist	27.0 2.7		BS	3	Moisture Content = 14.6%
4.0		End of Test Pit at 2.7 m - INFERRED BEDROCK SURFACE - groundwater not observed					



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686744.1 m, E 394111.0 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

TP - 05

Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	26.5 0.0				
1.0	[Symbol]	Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	26.0 0.5		BS	1	
2.0	[Symbol]	Loose reddish brown clayey sand with gravel (SC): REWORKED TILL - occasional cobbles - moist	25.5 1.0		BS	2	
3.0	[Symbol]	Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - some cobbles - occasional boulders (up to 0.9 m in diameter) below 2.0 m - moist					
4.0	[Symbol]				BS	3	Moisture Content = 15.2%
5.0	[Symbol]						
6.0	[Symbol]						
7.0	[Symbol]						
8.0	[Symbol]						
9.0	[Symbol]				BS	4	Moisture Content = 16.5%
10.0	[Symbol]						
11.0	[Symbol]		23.1 3.4				
12.0		End of Test Pit at 3.4 m - INFERRED BEDROCK SURFACE - groundwater not observed					
13.0							
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686646.9 m, E 394164.3 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

TP - 06

Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE						SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number		
0.0		ROOTMAT - 150 mm thick	21.7 0.0					
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - moist	21.4 0.3		BS	1	Moisture Content = 12.8%	
2.0		Loose reddish brown clayey sand with gravel (SC): REWORKED TILL - occasional cobbles - moist			BS	2		
3.0		Very stiff reddish brown sandy lean CLAY with gravel (CL) to compact reddish brown clayey SAND with gravel (SC): TILL - occasional to some cobbles - occasional boulders (up to 0.9 m in diameter) below 2.0 m - moist	20.7 1.0		BS	3	Moisture Content = 14.8%	
4.0								
5.0								
6.0								
7.0								
8.0								
9.0					BS	4	Moisture Content = 16.5%	
10.0			18.5 3.2					
11.0		INFERRED SANDSTONE BEDROCK						
12.0		End of Test Pit at 3.3 m - groundwater not observed						
13.0								
14.0								
15.0								
16.0								



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686535.2 m, E 394163.1 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

TP - 07

Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	19.2 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - moist	18.9 0.3		BS	1	
2.0		Loose reddish brown clayey sand with gravel (SC): REWORKED TILL - moist	18.4 0.8		BS	2	
3.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - occasional to some cobbles - moist to wet (at depth)			BS	3	Moisture Content = 14.4%
4.0							
5.0							
6.0							
7.0					BS	4	Moisture Content = 15.6%
8.0							
9.0		End of Test Pit at 2.7 m - INFERRED BEDROCK SURFACE - groundwater not observed	16.5 2.7				
10.0							
11.0							
12.0							
13.0							
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686424.2 m, E 394150.2 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	20.5 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	20.2 0.3		BS	1	Moisture Content = 14.8%
2.0		Firm reddish brown sandy lean clay (CL): REWORKED TILL - occasional gravel - moist	19.8 0.7		BS	2	
3.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - occasional to some cobbles - some boulders (up to 1.0 m in diameter) below 2.3 m - moist			BS	3	Moisture Content = 14.1%
4.0					BS	4	Moisture Content = 14.1%
5.0							
6.0							
7.0							
8.0							
9.0							
10.0					BS	5	
11.0							
12.0		End of Test Pit at 3.6 m - INFERRED BEDROCK SURFACE - groundwater not observed	16.9 3.6				
13.0							
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686320.2 m, E 394116.0 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	23.7 0.0				
1.0		Loose brown silty sand (SM): REWORKED TILL - occasional rootlets and gravel - moist	23.4 0.3		BS	1	Moisture Content = 14.0%
2.0		Firm reddish brown sandy lean clay with gravel (CL) to loose reddish brown clayey sand with gravel (SC): REWORKED TILL - occasional cobbles - moist	22.7 1.0		BS	2	
3.0		Very stiff reddish brown sandy lean CLAY (CL): TILL - occasional to some gravel and cobbles - moist					Moisture Content = 16.0%
4.0		INFERRED SANDSTONE BEDROCK	21.6 2.1				
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							
11.0							
12.0			20.1 3.6				
13.0		End of Test Pit at 3.6 m - groundwater not observed					
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686221.2 m, E 394163.9 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 200 mm thick	20.0 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	19.8 0.2		BS	1	
3.0		Very stiff reddish brown sandy lean CLAY (CL) to sandy lean CLAY with gravel (CL): TILL - some cobbles below 1.6 m - moist	19.2 0.8		BS	2	Moisture Content = 13.2%
6.0		INFERRED SANDSTONE BEDROCK	18.0 2.0		BS	3	Moisture Content = 15.2%
13.0		End of Test Pit at 3.9 m - groundwater not observed	16.1 3.9				



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686113.0 m, E 394183.3 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 200 mm thick	19.2 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	19.0 0.2		BS	1	Moisture Content = 18.2%
3.0		Very stiff reddish brown sandy lean CLAY (CL): TILL - some gravel - some cobbles below 1.7 m - moist	18.4 0.8		BS	2	Moisture Content = 17.4%
10.0					BS	3	Moisture Content = 17.1%
13.0		End of Test Pit at 4.0 m - INFERRED BEDROCK SURFACE - groundwater not observed	15.2 4.0				



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686009.7 m, E 394221.2 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	17.3 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	17.0 0.3		BS	1	
2.0		Very stiff reddish brown sandy lean CLAY (CL) to sandy lean CLAY with gravel (CL): TILL - occasional to some cobbles - some boulders (up to 0.6 m in diameter) below 2.0 m - moist					
3.0							
4.0					BS	2	Moisture Content = 16.2%
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							
11.0							
12.0							
13.0							
14.0			13.1 4.2				
15.0		End of Test Pit at 4.2 m - INFERRED BEDROCK SURFACE - groundwater not observed					
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 685907.9 m, E 394179.6 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments		
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number			
0.0		ROOTMAT - 200 mm thick	21.7 0.0						
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	21.5 0.2					BS	1
2.0		Very stiff reddish brown sandy lean CLAY (CL): TILL - occasional to some gravel and cobbles - moist to wet (at depth)	21.0 0.7					BS	2
3.0	End of Test Pit at 3.6 m - INFERRED BEDROCK SURFACE - groundwater not observed		18.1 3.6	BS	3	Moisture Content = 21.7%			
4.0									



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 685782.8 m, E 394216.4 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: 2.6 m

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	21.7 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist			BS	1	
3.0		Firm reddish brown sandy lean clay (CL): REWORKED TILL - occasional gravel - moist	20.8 0.9		BS	2	Moisture Content = 16.5%
6.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - occasional cobbles - moist to wet	20.1 1.6				
8.0				2.6	BS	3	Moisture Content = 15.2%
11.0		INFERRED SANDSTONE BEDROCK	18.4 3.3		BS	4	
12.0		End of Test Pit at 3.5 m - slight groundwater seepage observed at 2.6 m	18.2 3.5				



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686250.4 m, E 393966.0 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 26, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	32.0 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist			BS	1	
2.0			31.3 0.7				
3.0		Very stiff reddish brown sandy lean CLAY (CL): TILL - occasional to some gravel - some cobbles below 1.3 m - moist			BS	2	Moisture Content = 16.7%
4.0							
5.0							
6.0					BS	3	Moisture Content = 15.1%
7.0							
8.0			29.7 2.3				
9.0		INFERRED SANDSTONE BEDROCK					
10.0					BS	4	
11.0							
12.0			28.4 3.6				
13.0		End of Test Pit at 3.6 m - groundwater not observed					
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 685854.6 m, E 394175.8 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 200 mm thick	22.9 0.0				
1.0		Loose brown silty, clayey sand (SM): REWORKED TILL - occasional rootlets - occasional to some gravel - moist	22.7 0.2		BS	1	
2.0		Firm to stiff reddish brown sandy lean clay with gravel (CL) to loose to compact reddish brown clayey sand with gravel (SC): REWORKED TILL - moist	22.3 0.6		BS	2	Moisture Content = 13.1%
3.0		Very stiff reddish brown sandy lean CLAY (CL): TILL - occasional to some gravel and cobbles - moist	21.5 1.4				
4.0		End of Test Pit at 3.9 m - INFERRED BEDROCK SURFACE - groundwater not observed	19.0 3.9				Moisture Content = 15.9%



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 685852.8 m, E 394072.4 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	28.4 0.0				Moisture Content = 15.5%
1.0		Loose brown clayey sand with gravel (SC): REWORKED TILL - occasional rootlets - moist			BS	1	
2.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - occasional to some gravel and cobbles - moist	27.7 0.7				
3.0					BS	2	
4.0							
5.0							
6.0							
7.0							
8.0		INFERRED SANDSTONE BEDROCK	26.1 2.3				
9.0							
10.0							
11.0					BS	3	
12.0							
13.0							
14.0							
15.0		End of Test Pit at 4.5 m - groundwater not observed	23.9 4.5				
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 685795.9 m, E 394083.5 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 150 mm thick	28.4 0.0				
1.0		Loose brown clayey sand (SC): REWORKED TILL - occasional rootlets and gravel - moist			BS	1	Moisture Content = 18.2%
3.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - some cobbles - some boulders (up to 0.6 m in diameter) below 1.5 m - moist	27.5 0.9		BS	2	Moisture Content = 14.1%
7.0					BS	3	Moisture Content = 16.5%
10.0		INFERRED SANDSTONE BEDROCK	25.5 2.9				
10.0		End of Test Pit at 3.0 m - groundwater not observed					



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 685811.4 m, E 394182.5 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 200 mm thick	23.1 0.0				
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets - moist	22.9 0.2		BS	1	
3.0		Firm sandy lean clay with gravel (CL): REWORKED TILL - moist	22.2 0.9		BS	2	Moisture Content = 12.4%
5.0		Very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - some cobbles and boulders (up to 0.9 m in diameter) below 2.4 m - moist	21.6 1.5		BS	3	Moisture Content = 16.1%
10.0							
11.0							
13.0		End of Test Pit at 4.0 m - INFERRED BEDROCK SURFACE - groundwater not observed	19.1 4.0				Moisture Content = 16.7%



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686567.7 m, E 394321.6 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: 4.3 m

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 120 mm thick	12.1 0.0				
1.0		Loose brown clayey sand with gravel (SC): REWORKED TILL - occasional rootlets - moist	11.7 0.4		BS	1	
2.0		Very stiff reddish brown sandy lean CLAY with gravel (CL) to compact reddish brown clayey SAND with gravel (SC): TILL - occasional to some cobbles - moist					
3.0							
4.0							
5.0					BS	2	Moisture Content = 16.2%
6.0							
7.0							
8.0							
9.0							
10.0							
11.0							
12.0					BS	3	Moisture Content = 15.2%
13.0							
14.0			7.8 4.3	▼ —			
15.0		End of Test Pit at 4.3 m - INFERRED BEDROCK SURFACE - slight groundwater seepage observed at 4.3 m					
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686426.0 m, E 394388.1 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: 3.3 m

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Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 300 mm thick	9.5 0.0	▼			
1.0		Loose brown clayey sand (SC): REWORKED TILL - occasional roots - moist	9.2 0.3 9.0 0.5		BS	1	
2.0		Compact reddish brown clayey SAND with gravel (SC): TILL - some cobbles and boulders (up to 1.2 m in diameter) - moist to wet (below 1.8 m)			BS	2	Moisture Content = 13.8%
3.0							
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							
11.0		End of Test Pit at 3.3 m - INFERRED BEDROCK SURFACE - slight groundwater seepage observed at 3.3 m	6.2 3.3	▼			Moisture Content = 15.7%
12.0							
13.0							
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686215.1 m, E 394357.2 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: 3.2 m

TP - 23

Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 200 mm thick	8.4 0.0				
1.0		Loose brown clayey sand (SC): REWORKED TILL - occasional rootlets - moist	8.2 0.2		BS	1	Moisture Content = 18.0%
2.0		Compact reddish brown clayey SAND with gravel (SC) to very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - occasional to some cobbles - some boulders (up to 0.7 m in diameter) below 1.9 m - moist to wet (at depth)			BS	2	Moisture Content = 16.1%
3.0					BS	3	Moisture Content = 14.7%
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							
11.0			5.0 3.4				
12.0		End of Test Pit at 3.4 m - INFERRED BEDROCK SURFACE - moderate groundwater seepage observed at 3.2 m					
13.0							
14.0							
15.0							
16.0							



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686184.9 m, E 394368.8 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: 3.3 m

TP - 24

Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments				
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number					
0.0		ROOTMAT / TOPSOIL - 400 mm thick	8.7 0.0		BS	1	Moisture Content = 14.9%				
1.0			Compact reddish brown clayey SAND with gravel (SC) to very stiff reddish brown sandy lean CLAY with gravel (CL): TILL - some cobbles and boulders (up to 0.8 m in diameter) below 2.0 m - moist to wet (at depth)			8.3 0.4		BS	2		
2.0						1.0			BS	3	Moisture Content = 15.7%
3.0		End of Test Pit at 3.8 m - bedrock not encountered - slight to moderate groundwater seepage observed at 3.3 m	4.9 3.8	BS	3	Moisture Content = 15.7%					
4.0			BS				3	Moisture Content = 15.7%			
5.0									BS	3	Moisture Content = 15.7%
6.0											
7.0	BS	3	Moisture Content = 15.7%								
8.0				BS	3	Moisture Content = 15.7%					
9.0	BS	3	Moisture Content = 15.7%								
10.0				BS	3	Moisture Content = 15.7%					
11.0	BS	3	Moisture Content = 15.7%								
12.0				BS	3	Moisture Content = 15.7%					
13.0	BS	3	Moisture Content = 15.7%								
14.0				BS	3	Moisture Content = 15.7%					
15.0	BS	3	Moisture Content = 15.7%								
16.0				BS	3	Moisture Content = 15.7%					



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TEST PIT RECORD

Project Name: Community Campus Site Servicing

Location: N 686038.1 m, E 394294.7 m

Project No.: 222617.00

Client: Town of Stratford

Water Level: N/A

TP - 25

Sheet: 1 of 1

Date: May 25, 2022

Datum: Geodetic

SUBSURFACE PROFILE					SAMPLE		Comments
Depth	Symbol	Soil and/or Rock Description	Elevation / Depth (m)	Water Level (m)	Type	Number	
0.0		ROOTMAT - 300 mm thick	13.3 0.0				Moisture Content = 25.2%
1.0		Loose brown silty sand with gravel (SM): REWORKED TILL - occasional rootlets and gravel - moist	13.0 0.3		BS	1	
2.0		Very stiff reddish brown sandy lean CLAY with gravel (CL) to compact reddish brown clayey SAND with gravel (SC): TILL - occasional to some cobbles - some boulders (up to 0.6 m in diameter) below 2.5 m - moist	12.5 0.8		BS	2	
3.0							Moisture Content = 14.5%
4.0							
5.0							
6.0							
7.0							Moisture Content = 14.7%
8.0							
9.0							
10.0							Moisture Content = 14.7%
11.0							
12.0							
13.0							
14.0							Moisture Content = 14.7%
15.0							
16.0		End of Test Pit at 4.7 m - INFERRED BEDROCK SURFACE - groundwater not observed	8.6 4.7				

APPENDIX D

Geotechnical Guidelines for Winter Construction

Geotechnical and Materials Engineers

The following are general geotechnical recommendations for earthworks for building areas in winter conditions.

General

- Earthworks conducted during freezing conditions are suspect. Special procedures and precautions must be exercised to minimize the risk of future problems.
- A site meeting should be held at project start-up to discuss the schedules of the various contractors in relation to the following geotechnical recommendations.

Excavation

- The rootmat/topsoil layer and any overlying snow will reduce the frost penetration. Conducting only the excavation work required for each day of work is recommended to minimize freezing of the soil in the foundation areas.
- Excavated material to be used as structural fill should not be stockpiled, but should be placed and compacted immediately after excavation.

Fill Placement

Based on our experience, it is generally impractical to place well-graded gravel, sand, or fine-grained soils in temperatures lower than about -5 degrees Celsius. On very cold days, loose material starts to freeze within about 15 minutes. At temperatures below -5 degrees Celsius, clear gravel or clear rockfill is recommended but subject to design considerations governing the work.

The following provides recommendations for all structural fill types.

- Structural fill placement should be conducted in small areas. Depending on the temperature, this may allow for continuous placement of fill lifts during the work day without the requirement for excavation of frozen material prior to placement of the next lift.
- Material containing snow or ice should not be incorporated in the work. During snow events, fill placement should be stopped. When the earthwork restart, all snow and ice should be removed from the fill surface prior to subsequent fill placement. In order to remove all snow and/or ice after a snow event, some of the underlying fill may have to be removed and wasted.
- For intermediate fill lifts, frost protection (e.g.; straw, insulated tarp, etc) should be provided at the end of the work day, or alternatively, fill that freezes overnight should be removed in the morning. Also, any snow or ice should also be removed. Fill surfaces should be sloped to prevent ponding of water during milder weather.

- The final fill surface, the base of footing excavations and slab subgrade should be protected from freezing. If the final fill surface is exposed to freezing temperatures, heat will be required to thaw the soil. Test pits and temperature readings could be completed to determine if the soil is above freezing. Consideration should also be given to the installation of thermocouples in the fill during placement, as a means of reading temperatures at depth. The areas that were frozen should be proof-rolled.
- The moisture content of fill materials should be approximately 2% below optimum. Fill materials with moisture contents above the optimum should not be used.
- Loose edges of the structural fill lifts should be avoided to reduce frost penetration. Edges of fill lifts should be tapered and compacted.
- Regular checks of the temperature of the fill should be made. The soil temperature should be greater than +2°C to allow for compaction to the specified degree.

Footing Construction

- Footings should not be placed on frozen material.
- Where the footing elevation is within approved finer-grained materials, we recommend over-excavation by at least 6 inches and placement of nominal 1 inch stone or other clean gravel. This will reduce disturbance of the bearing surface.
- Following construction of footings, temporary frost protection must be provided to avoid freezing of the bearing surface and for protection of the concrete during curing.
- Consideration should be given to specifying that the footing depth for interior foundations be 1.2 m below slab subgrade for frost protection during construction; or alternatively, fill could be temporary bermed over interior footings to provide insulation.
- Foundations should be backfilled with a free-draining granular material and drainage provided to prevent adfreeze of foundations, particularly during construction.
- Cast-in-place concrete should be protected during colder weather conditions as per CSA A23.1-2009.

Geotechnical Inspection and Testing

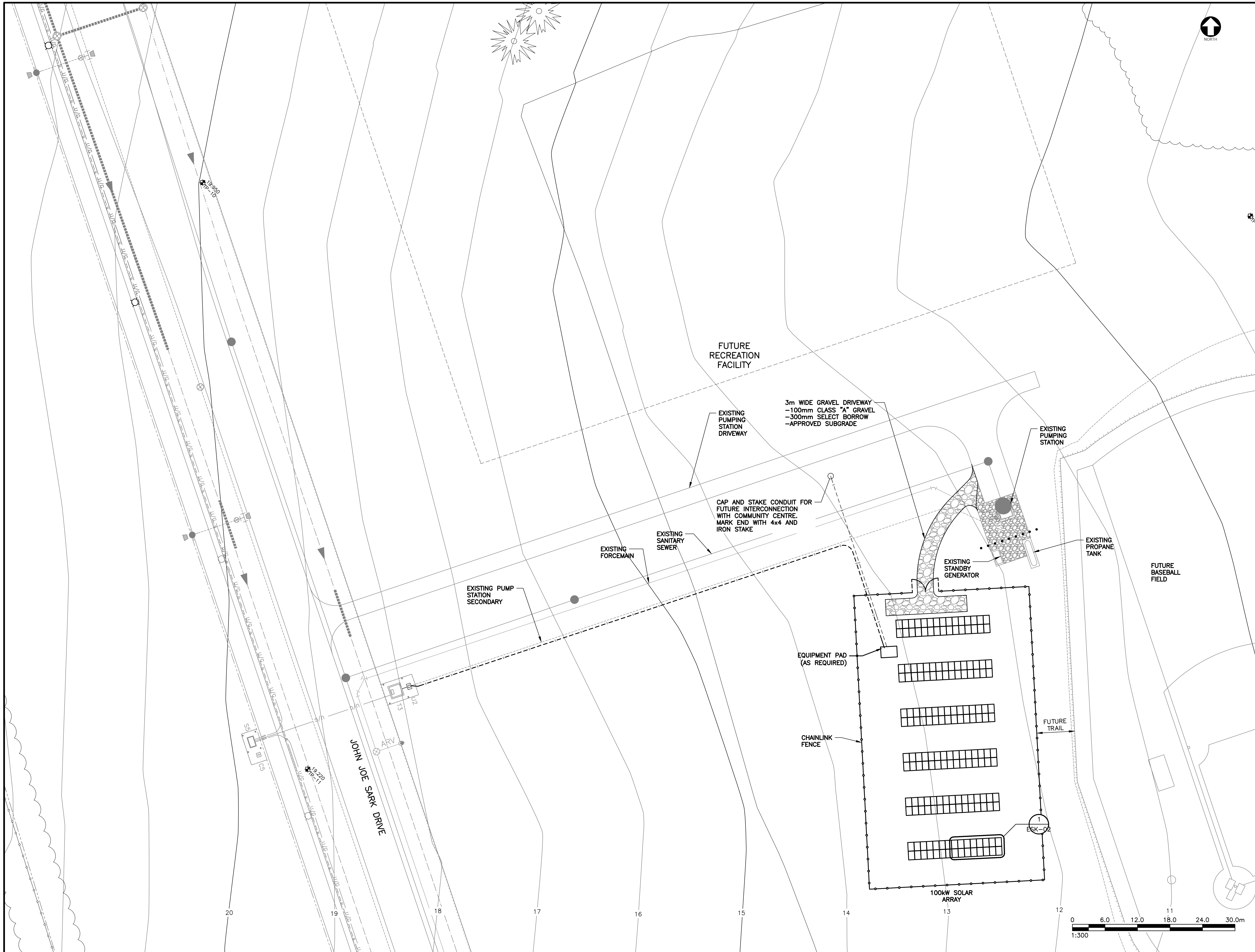
The information herein should be reviewed by geotechnical personnel and customized to the specific geotechnical aspects and design considerations of a site. Full-time inspection and testing by experience geotechnical personnel is particularly important during earthworks in winter conditions and is strongly recommended.



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Preliminary Site Plan



- LEGEND:**
- OVERHEAD LINE
 - U/G MAIN TRENCH
 - U/G SECONDARY
 - PROPERTY LINES
 - POLE
 - GUY & ANCHOR
 - BOLLARD
 - URD/SECONDARY PEDESTAL
 - COMMUNICATIONS PEDESTAL
 - SECTIONALIZING CABINET
 - TRANSFORMER PAD
 - UTILITY POLE MOUNT STREET LIGHT
 - TRAIL LIGHT STANDARD
 - ⊗ METER POST

- NOTES:**
- THIS DRAWING IS INTENDED TO BE USED TO SUPPORT THE BIDDING OF THE 100kW PV SYSTEM AS DEFINED IN THE PROJECT SPECIFICATIONS. FINAL DESIGN OF THE SYSTEM IS BY THE PV CONTRACTOR.
 - THE CONTRACTOR SHALL SUPPLY AND INSTALL THE SPLITTER AS NOTED IN PEDESTAL U2, AND CONNECT EXISTING 600V FEED FOR THE PUMPING STATION.

CONCEPT
DRAWING

NOT FOR
CONSTRUCTION

No.	Description	Date	By
B	ISSUED FOR RFP	FEB 28/24	TSL
A	ISSUED FOR REVIEW	FEB 26/24	MC

Revision or Issue

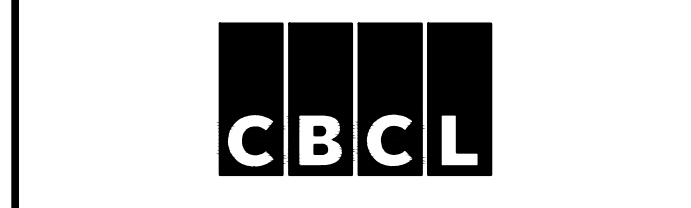


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SITE SERVICING
ELECTRICAL

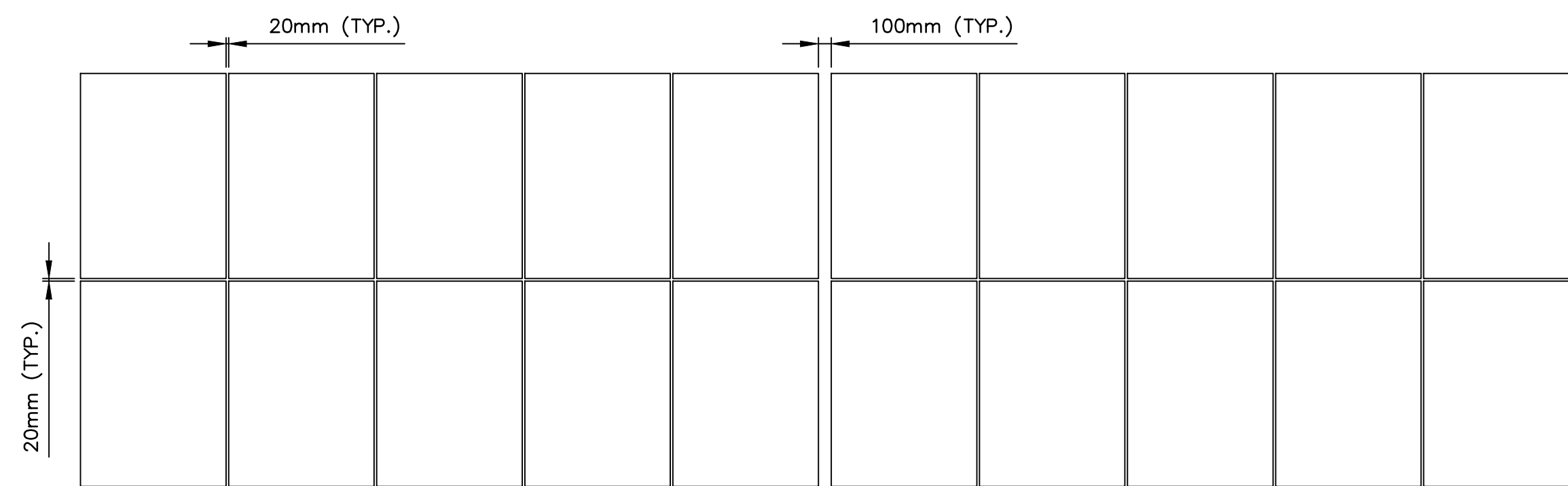
100kW SOLAR ARRAY PRELIM.
SITE LAYOUT



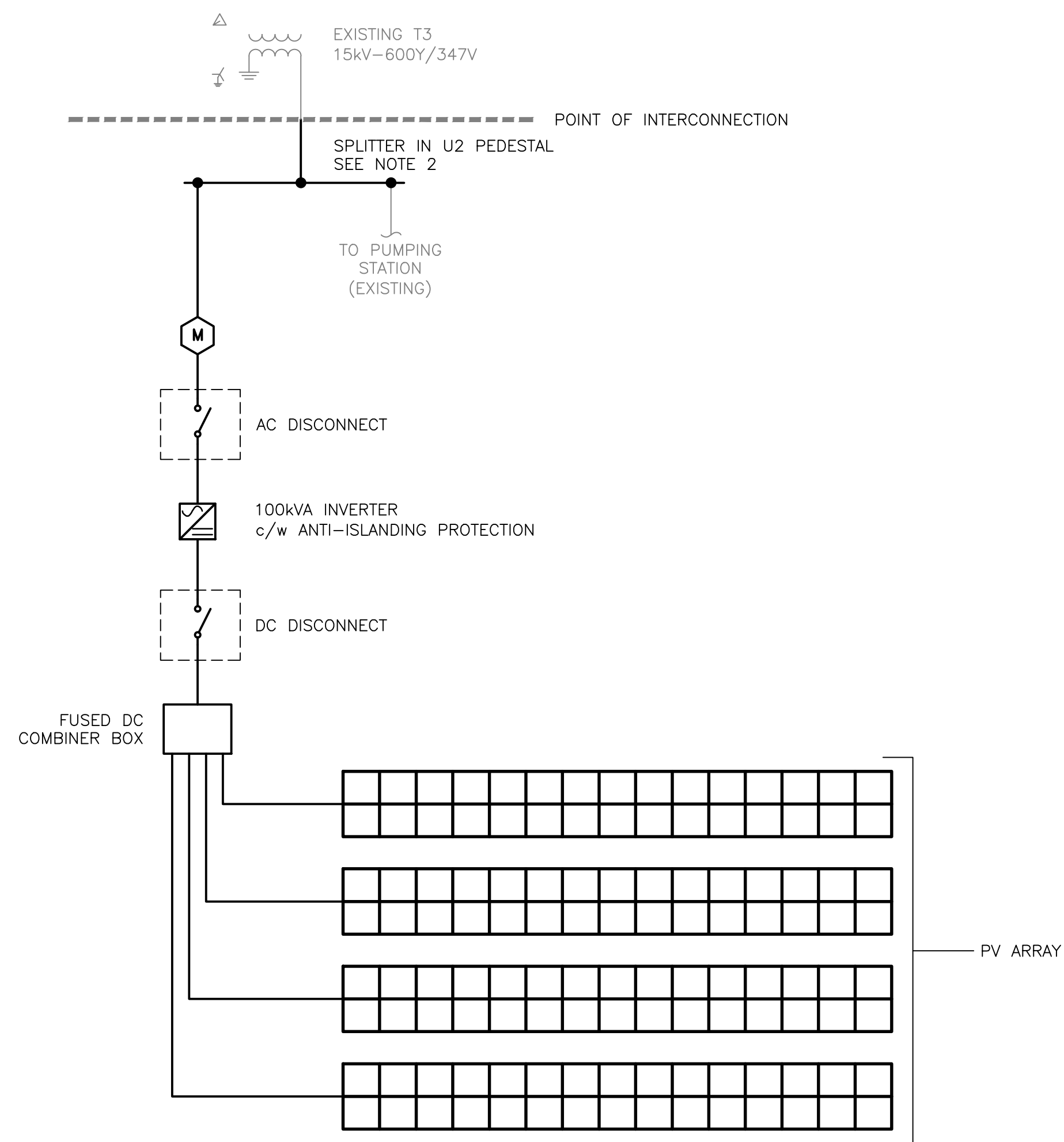
Contract No. 222617.00	Scale AS NOTED
Date NOV 2023	Drawn BJL
Designed MC	Approved LDF
Checked	

Sheet No. 1 of 2
Drawing No.

ESK-01



1 DETAIL -- PV MODULE SPACING
SCALE: 1:40



TYPICAL PV ARRAY SINGLE LINE DIAGRAM
SCALE: N.T.S.

NOTES:

1. THIS DRAWING IS INTENDED TO BE USED TO SUPPORT THE BIDDING OF THE 100KW PV SYSTEM AS DEFINED IN THE PROJECT SPECIFICATIONS. FINAL DESIGN OF THE SYSTEM IS BY THE PV CONTRACTOR.
2. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE SPLITTER AS NOTED IN PEDESTAL U2, AND CONNECT EXISTING 600V FEED FOR THE PUMPING STATION. THE SPLITTER SHALL BE SIZED APPROPRIATELY FOR THE CONNECTION OF THE PUMPING STATION AND PV SYSTEM, AS REQUIRED.

**CONCEPT
DRAWING**

**NOT FOR
CONSTRUCTION**

No.	Description	Date	By
B	ISSUED FOR RFP	FEB 28/24	TSL
A	ISSUED FOR REVIEW	FEB 26/24	MC

Revision or Issue

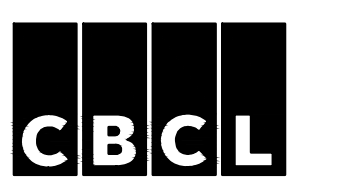


TOWN OF STRATFORD

COMMUNITY CAMPUS

SITE SERVICING
ELECTRICAL

PROPOSED SLD & PV ARRAY
DETAILS



Contract No. 222617.00	Scale AS NOTED
Date NOV 2023	Drawn BJL
Designed MC	Approved LDF
Checked	
Sheet No 2	of 2
Drawing No	

ESK-02