



HALTON REGION SPECIAL NOTICE:

TRANSITION TO THE CCDC 2 (2020) FORM OF CONTRACT AND VENDOR PERFORMANCE MANAGEMENT POLICY

HALTON REGION HAS TRANSITIONED TO THE CCDC 2(2020) FORM OF CONTRACT. PLEASE NOTE THE FOLLOWING:

The Region's contract documents have changed – The Region has adopted the CCDC 2 (2020) Stipulated Price Contract with new Supplementary Conditions, and correspondingly updated its tender documents. The key project-specific details can be found in the Agreement Between Owner and Contractor and the Agreement Term Sheet, located in Appendix 1 of the Supplementary Conditions.

The Region's bonding requirements have changed for projects using the CCDC 2 (2020) Stipulated Price Contract – Bonds will only be required where the tender price is equal to or greater than \$500,000.00. For those projects, the Region now requires Performance Bonds with a coverage limit of 50% of the Contract Price (plus HST), rather than 100%. See the Instructions to Bidders Section 12 for details.

The Region's insurance requirements have changed for projects using the CCDC 2 (2020) Stipulated Price Contract – Insurance requirements can be found in the Supplementary Conditions SC-110 and SC-111, as well as Appendix 3 to the Supplementary Conditions.



**VENDOR PERFORMANCE MANAGEMENT POLICY.
PLEASE NOTE THE FOLLOWING:**

The Region of Halton will be utilizing a Vendor Performance Management Policy as of January 1, 2024 for selected Public Works Construction contracts.

The Region will evaluate the Contractor's performance in accordance with the Policy and provide a written evaluation and record of the Contractor's performance of this Contract.

Please refer to the Supplementary Instructions to Bidders and the Instruction to Bidders in the bid document to see whether the Policy applies to this tender and for further details regarding this new policy.



THE REGIONAL MUNICIPALITY OF HALTON

CONTRACT NO. T-683-24

FOR

**REPLACEMENT OF ROOF AT WOODLANDS
OPERATIONS CENTER,**

1179 BRONTE ROAD, OAKVILLE, ON, L6M 3L1

***** PRE-QUALIFICATION REQUIREMENT *****

**Halton Region will only accept proposal submissions from the following vendors
that were pre-qualified under Request for Prequalification #T-258(A)-23**

Pre-Qualification of General Contractors:

- **2SC Contracting Inc.**
- **Alpeza General Contracting Inc.**
- **Anacond Contracting Inc.**
- **Canada Construction Limited**
- **Chart Construction Management Inc.**
- **CPM Group Inc.**
- **Gen-Pro**
- **Joe Pace & Sons Contracting Inc.**
- **MIR Construction Inc.**
- **Renokrew**
- **Rutherford Contracting Ltd.**
- **West Metro Contracting Inc.**



THE REGIONAL MUNICIPALITY OF HALTON

REQUEST FOR TENDERS

FOR

**REPLACEMENT OF ROOF AT WOODLANDS
OPERATIONS CENTRE, 1179 BRONTE ROAD,
OAKVILLE, ON, L6M 3L1**

REQUEST FOR TENDER # T-683-24

BIDS SHALL BE SUBMITTED VIA THE BIDDING SYSTEM AT
<https://haltonregion.bidsandtenders.ca>

******* ELECTRONIC SUBMISSIONS ONLY *******



Supplementary Instructions to Bidders

Contract No. T-683-24

Replacement of Roof at Woodlands Operations Center,

1179 Bronte Road, Oakville, ON, L6M 3L1

1. Key Bid Dates:

a. **Bid Issue Date: Thursday, April 18th, 2024**

b. **Pre-Bid Meeting and Site Visit:**

Non-Mandatory Site Meeting: Tuesday, April 23rd, 2024, at 9:30 a.m. ET

The non-mandatory site meeting will be held at 1179 Bronte Road, Oakville, ON, L6M 3L1.

There are 3 entry doors facing Bronte Road; attendees are to meet at the middle set of doors. The site meeting will begin promptly at the designated time. Bidders are encouraged to arrive prior to the time indicated above in order to sign in. Refer to section 7 “Pre-Bid Meeting, Site Visit and Site Conditions” of the Instructions to Bidders for further information.

Special notice: Personal Protective Equipment including hard hats, safety boots, safety vest and safety glasses will be required to enter the site and will not be provided by the Region.

c. **Question Deadline Date: Wednesday, May 1st, at 4:00 p.m. ET**

Any questions regarding this bid document are to be submitted in writing through Halton Region’s Public Procurement Website (<https://haltonregion.bidsandtenders.ca>) by using the “Submit a Question” feature. Refer to section 2 “Any Communications” of the Instructions to Bidders for further information.

d. **Bid Closing Date and Closing Time:**

Thursday, May 9th at 2:00 p.m. ET

e. **Irrevocability Period:** Ninety (90) days from the Closing Date

Please note, should the Bidder complete any obligations, including submitting completed documentation, after the Irrevocability Period, the Irrevocability Period shall be extended by the number of days of the delay and the Bidder shall not be entitled to an extension of Contract Time or delay claims as a result of said delay.

2. Key Construction Milestones

- a. **Commence Work:** The successful Bidder shall commence the Work within seven (7) days from the receipt of the anticipated Notice of Award Letter by May 24, 2024.
- b. **Ready-for-Takeover:** The successful Bidder shall achieve Ready-for-Takeover by September 30, 2024.
- c. **Completion:** The successful Bidder shall achieve Completion by October 15, 2024
Please note, in the event of any conflicting or inconsistent provisions between the Agreement Term Sheet and these terms and conditions, the Agreement Term Sheet shall always prevail and take precedence with respect to any such conflicting or inconsistent provisions.

3. Vendor Performance Management Policy

The Vendor Performance Management Policy shall not apply to the successful Bidder's Contract.

4. List of Bid Documents

Below is a list of Bid Documents included with this Request for Tender:

Bid Documents	No. of Pages
Pre-Qualification Cover Page	1
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Tender Cover Page	1
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Division 15 of the Specification – Mechanical – Section 150000	4
Drawings (Cover Page, Drawings A1 - A5)	6
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All other documents issued with this Request for Tender that are not listed above	



INSTRUCTIONS TO BIDDERS

February 2024

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1. DEFINITIONS

“Act” means the Construction Act, R.S.O. 1990, CHAPTER C.30;

“Addendum” or “Addenda” means a change, addition or to respond to questions in relation to the Request for Tenders;

“Agreement” means the executed Agreement between the Region and the Contractor for the performance of the Work, included in Appendix “C” of the Instructions to Bidders;

“Award” means the award of a Contract by the Region to one (1) or more Bidders;

“Bid” means a Bidder submission offered in response to a procurement solicitation;

“Bidder” means a Vendor that submits a Bid;

“Bid Documents” means the documents included in this Request for Tender as listed in the Supplementary Instructions to Bidders, and any Addenda issued;

“Bid Security” means the security submitted by the Bidder with its Bid, which provides financial protection to the Region should the successful Bidder not enter into the Contract;

“Bidding System” or “Public Procurement Website” means the Region’s publicly accessible procurement website for issuing procurement solicitations and/or receiving Bids;

“Closing Date” and “Closing Time” means the deadline for submission of Bids as indicated in the Supplementary Instructions to Bidders;

“Construction” means any construction, reconstruction, demolition, repair or renovation of a building, structure, road or other engineering or architectural work;

“Contract” means 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 Region and one (1) or more Contractors for the supply of Goods, Services and/or Construction, or a combination thereof;

“Contract Documents” consist of those documents listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS;

“Contract Price” means the amount stipulated in Article A-4 of the Agreement – CONTRACT PRICE;

“Contractor” means the successful Bidder in respect of whose Bid an Award is made;

“Designated Sourcing Representative” means the Regional staff in Supply Chain Management responsible for the entire process until a Contract is Awarded by the Region;

“ECA” means the Electronic Commerce Act, 2000, S.O. 2000, c. 17;

“Goods” means material, furniture, merchandise, equipment, stationery and other supplies and goods, including any incidental services;

“HST” means taxes payable under the *Excise Tax Act*, R.S.C. 1985, c.E-15, or any tax that replaces HST;

“Irrevocability Period” means the duration in which the Bid shall remain irrevocable and open to Award by the Owner and is the duration indicated in the Supplementary Instructions to Bidders;

“Letter of Intent” means the letter sent by the Region to a Bidder following the Bid review period, indicating the Region’s intent to Award subject to Senior Management and/or Regional Council approval, the Bidder’s fulfilment of the requirements of the Request for Tender, and formal execution of the Agreement between the Bidder and the Region;

“Notice of Award Letter” means the letter sent by the Region to the successful Bidder confirming the Award of the Contract and will include direction to commence Work;

“Owner”, “Region”, “Halton” and “Halton Region” means The Regional Municipality of Halton;

“Plan Taker” means one who downloads documents associated with the bid opportunity via the Bidding System;

“Product” or “Products” means material, machinery, equipment, and fixtures forming part of the Work, but does not include Construction Equipment;

“Proper Invoice” means a Proper Invoice, submitted by the Contractor, as defined in section 6.1 of the Act and the Region’s Contract Documents;

“Ready-for-Takeover” shall have been attained when the conditions set out in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER have been met, as verified by the Consultant pursuant to paragraph 12.1.4.2 of GC 12.1 – READY-FOR-TAKEOVER;

“Request for Tenders” or “RFT” means a procurement solicitation that includes commercial terms with clearly defined scope of Goods, Services and/or Construction where cost is the primary evaluation criterion when making an Award;

“Schedule of Prices” means the schedule supplied as part of the Request for Tender for the purposes of inputting pricing for the Work, which shall be completed by the Bidder and submitted back to the Region in its entirety through the Bidding System. Any reference in the Contract Documents to Bid Form shall be deemed to refer to Schedule of Prices;

“Services” means a non-physical, intangible Product resulting from a Vendor’s performance that cannot be stored or transported and that comes into existence at the time it is bought or consumed;

“Specifications” means that portion of the Contract Documents, wherever located and whenever issued, consisting of the written requirements and standards for Products, systems, workmanship, quality, and the services necessary for the performance of the Work;

“Supplementary Instructions to Bidders” means amendments to the Instructions to Bidders, issued as a separate document, which describe instructions unique to the Region and/or a particular Project;

“Suspension” means that, for the specified duration of the Suspension, the Suspended Vendor will not be permitted to participate in any procurement solicitations, as a Vendor or subcontractor, including prequalification processes, issued by the Region and “Suspend” and “Suspended” have corresponding meaning;

“Total Bid Price” means the price stipulated in the Schedule of Prices in the Bidding System;

“Vendor” means any legal person or entity providing or interested in providing Goods, Services and/or Construction, including suppliers, contractors, consultants and other service providers;

“Vendor Code of Conduct” means the Region’s Vendor Code of Conduct as available on the Region’s website at www.halton.ca;

“Vendor Performance Management Policy” means the policy outlining the Region’s process for evaluating Vendor performance of Contracts and the consequences resulting from “Unacceptable” performance, as may be amended from time to time;

“Work” has the meaning indicated in the Contract Documents.

2. ANY COMMUNICATIONS

2.1 Any questions regarding this Request for Tenders are to be submitted in writing through Halton Region’s Public Procurement Website (<https://haltonregion.bidsandtenders.ca>) by using the “Submit a Question” link associated with this bid request. Questions or clarification requests received by telephone or e-mail will not be accepted. Questions are to be submitted no later than the date indicated in the Supplementary Instructions to Bidders.

2.2 The Region reserves the right to neither accept nor consider any questions received after 4:00 P.M on the date indicated on the Supplementary Instructions to Bidders. The Region will review all questions received and prepare a response that is made available as an Addendum, if necessary, to all Plan Takers.

- 2.3 It will be the Bidder's responsibility to clarify with the Region any questions arising from this Request for Tenders or any matter they consider unclear in accordance with this section before submitting their Bid. Under no circumstances shall Bidders rely upon any information or instructions from the Region, its employees, or its agents, unless the information or instructions are provided in writing in the form of an Addendum.
- 2.4 A Bidder or its representative(s) will only communicate with the Designated Sourcing Representative for the Bid. A Bidder or its representative(s) shall not communicate with any other Regional staff or elected officials from the time of issuance of this Request for Tenders until the final Award. The Region reserves the right to disqualify any Bidder who contravenes this prohibition.
- 2.5 A Bidder or its representative(s) shall not threaten, harass nor intimidate staff, elected officials or any other supplier from bidding on a Regional solicitation or performing a Regional Contract. The Region reserves the right to disqualify any Bidder who contravenes this prohibition.

3. REGISTERED PLAN TAKER

- 3.1 Bid documents are available online via the Bidding System at <https://haltonregion.bidsandtenders.ca>. A Vendor that subscribes to the Bidding System can login to their account to purchase and download the bid document(s) without the preview watermark. A Vendor that does not subscribe to the Bidding System may choose to purchase a one-time only download of this bid opportunity. Bid documents are only available via the Bidding System and will not be provided in any other format.
- 3.2 All Bidders shall have a Bidding System account and be registered as a Plan Taker for this bid opportunity, which will enable the Bidder to download the bid document without the watermark preview, to receive Addenda/Addendum email notifications, download Addenda and to submit their Bid electronically through the Bidding System. To ensure receipt of the latest information and updates via email regarding this bid, the onus is on the Bidder to create a Bidding System account and register as a Plan Taker for the bid opportunity.
- 3.3 Bidders must be registered as a Plan Taker for this bid opportunity on the Bidding System in order to submit a Bid. Should the Region receive a Bid that is subsequently found to be from a Bidder that is not a registered Plan Taker, the Region reserves the right to remove the Bid from further consideration.

4. ELECTRONIC BID SUBMISSION ONLY

- 4.1 Bids shall be submitted via the Bidding System no later than the Closing Date and Closing Time specified in the Supplementary Instructions to Bidders.
- 4.2 **Only Bids submitted via the Bidding System will be accepted.** Bids submitted by any other method or format will be automatically rejected. It is the sole

- responsibility of each Bidder to make sure that their Bid is delivered and received by the Bidding System by the Closing Date and Closing Time. Bids received after the specified Closing Date and Closing Time will not be accepted by the Bidding System.
- 4.3 There will not be a public Bid opening. When the Bids are opened, the unofficial bid results will be posted on the Bidding System at <https://haltonregion.bidsandtenders.ca>.
- 4.4 Bidders are cautioned that the timing of their Bid submission is based on when the Bid is successfully received by the Bidding System, not when a Bid is submitted by a Bidder, as Bid transmission can be delayed for a number of reasons, including the file transfer size, transmission speed, etc.
- 4.5 The Region shall not be liable for any costs, expenses, loss or damage resulting from any technical difficulty with the Bidding System, including, without limitation, computer system failures of either the Bidder or the Region's Bidding System service provider, a power failure, delays caused by internet/network traffic and/or failure of any computer system element.
- 4.6 For the above reasons, the Region recommends that Bidders allow sufficient time to upload their Bid and attachment(s) (if applicable). The Closing Date and Closing Time shall be determined by the clock used by the Bidding System.
- 4.7 The Region also encourages Bidders to take advantage of the Bidding System feature that allows Bidders to view their uploaded documents prior to submission of their Bid. Bidders are solely responsible for ensuring that they can access the Bidding System and submit their Bid before the Closing Date and Closing Time.
- 4.8 The Bidding System will send a confirmation email to the Bidder advising that their Bid was submitted successfully. If you do not receive a confirmation email, contact technical support at Bids & Tenders via telephone at 1-800-594-4798 or email: support@bidsandtenders.ca.
- 5. OMISSIONS, DISCREPANCIES AND INTERPRETATIONS IN REGION'S DOCUMENT (ADDENDUM)**
- 5.1 Should a Bidder find omissions from or discrepancies in any Contract Documents or be in doubt as to the meaning or any part of the Contract Documents, the Bidder shall immediately notify the Region in writing.
- 5.2 Through Addendum, the Manager, Strategic Sourcing may:
- a) revise, delete, add to or substitute any part of the Bid Documents;
 - b) extend the Closing Date; or
 - c) provide a written explanation or interpretation of this Request for Tenders.

- 5.3 No oral explanation or interpretation by the Region shall modify any of the requirements or provisions of the Bid Documents.
- 5.4 Bidders are advised that Addenda will be posted at <https://haltonregion.bidsandtenders.ca> under the applicable bid call.
- 5.5 The Bidding System will attempt to notify each Plan Taker by email, of the issuance of an Addendum to the Bid Documents. The Bidding System will use the email address supplied by the Plan Taker at the time of purchase of the Bid Documents. The Region will not be responsible for missing or invalid email addresses.
- 5.6 It is the Bidder's responsibility to view and/or download all applicable Addenda prior to submitting a Bid. Addenda form part of the Bid Documents and must be taken into consideration when submitting a Bid.
- 5.7 Bidders shall acknowledge receipt of any Addenda when submitting their Bid through the Bidding System. Bidders shall check a box for each Addendum/Addenda and any applicable attachments that have been issued before a Bidder can submit their Bid.
- 5.8 It is the responsibility of the Bidder to ensure they have received all Addendum/Addenda that have been issued. Bidders should check online at <https://haltonregion.bidsandtenders.ca> prior to submitting their Bid to confirm all Addendum/Addenda have been received.
- 5.9 If a Bidder submits their Bid at any time prior to the Closing Date and Closing Time and an Addendum/Addenda is subsequently issued by the Region after the submission of the Bid, the Bidding System will automatically **WITHDRAW** the Bid submission and change the Bid submission to an **INCOMPLETE STATUS**. A Bid with an incomplete status will **NOT be accepted by the Region**. The withdrawn Bid can be viewed by the Bidder in the **"MY BIDS"** section of the Bidding System. The Bidder is solely responsible to:
- a. Make any required adjustments to their Bid;
 - b. Acknowledge the Addendum/Addenda; and
 - c. Ensure that the re-submitted Bid is successfully received by the Bidding System no later than the Closing Date and Closing Time.

6. WITHDRAWAL OR REVISION OF BIDS

- 6.1 Bidders may edit or withdraw their Bid submission through the Bidding System prior to the Closing Date and Closing Time. If the Bidder wishes to re-submit a Bid, the Bidder is solely responsible to:
- a. Make any required adjustments to their Bid;
 - b. Acknowledge the Addendum/Addenda; and

- c. Ensure the re-submitted Bid is successfully received by the Bidding System no later than the Closing Date and Closing Time.
- 6.2 Requests to withdraw Bids received by the Bidding System will not be considered after the Closing Date and Closing Time.

7. PRE-BID MEETING, SITE VISIT AND SITE CONDITIONS

- 7.1 Bidders are responsible to conduct any site examinations deemed necessary by the Bidder for the proper preparation of a Bid and/or to make themselves aware of all conditions that may affect the work. Nothing in this Request for Tenders shall relieve the Bidders from undertaking all investigation and clarification on all matters related to this Request for Tenders. No allowance will be made for additional costs nor will any claim be considered in connection with conditions or circumstances that could have been reasonably ascertained by the Bidders had reasonable efforts been made prior to the Closing Date and Closing Time.
- 7.2 If a pre-bid meeting and site visit is required, details will be provided in the Supplementary Instructions to Bidders.
- 7.3 General Instructions for pre-bid meetings and site visits:
- 7.3.1 The site meeting will begin promptly at the designated time. Bidders are encouraged to arrive prior to the time indicated in order to sign in.
 - 7.3.2 Attendees will be provided with an overview of the project. It is the responsibility of each Bidder to conduct a sufficient investigation of the site(s) and of the Work and obtain all required information about local conditions to be met with during the Work prior to submitting their Bid. The Bidders shall make their own estimates and measurements of the facilities and difficulties that may be encountered. Bidders may not claim at any time after submission of the Bid that there was any misunderstanding of the terms and conditions of the Contract relating to site conditions evident or apparent during the Bid period.
 - 7.3.3 The Region will not be held responsible for a Bidder's failure to obtain such information in section 7.3.2. The Region assumes no responsibility and will not pay additional costs for any omissions in the bid submission as a result of site-specific conditions that Bidders could have seen if they visited the site(s).
 - 7.3.4 It is the responsibility of the Bidder to verify actual site conditions and measurements. The price submitted is for the completed Work, including all items which may not have been mentioned but are required to complete the scope of Work.
- 7.4 Mandatory Site Meeting Instructions (where applicable):

7.4.1 Where there is a mandatory site meeting(s), Bidders who fail to attend and register their attendance at the mandatory site meeting(s) will be disqualified from submitting a Bid.

7.4.2 At the Region's discretion, a Bidder that arrives late to the mandatory site meeting(s) may be disqualified from submitting a Bid.

7.5 Non-Mandatory Site Meeting Instructions (where applicable):

7.5.1 Where there is a non-mandatory site meeting(s), Bidders are not required to attend the site meeting(s) in order to submit a Bid. However, the Region strongly recommends that Bidders attend the site meeting(s) in order to familiarize themselves with the existing conditions prior to submitting their Bid.

8. SCHEDULE OF PRICES & TOTAL BID PRICE

8.1 Bidders shall complete and submit the Schedule of Prices through the Bidding System.

8.2 The Total Bid Price shall be in Canadian Dollars and shall include the furnishing of all materials, supplies and equipment and the provision of all labour, construction tools and equipment, utility and transportation services necessary to perform and complete all the Work required under the Contract, including all miscellaneous Work, whether specifically included in the Contract Documents or not. Goods and Services rendered will be billed to actual expenses, in accordance with the rates as Bid.

8.3 The Total Bid Price does not include HST.

8.4 It is the intention of the Contract Documents to provide finished Work. Any items omitted therefrom which are clearly necessary for the completion of the Work or its appurtenances shall be considered a portion of the Work though not directly specified and/or shown or called for in the Contract Documents and shall be included in the Total Bid Price.

8.5 Failure to complete any part of the Schedule of Prices or to provide all requested information may result in a Bid being declared non-compliant.

9. KEY CONSTRUCTION MILESTONES

9.1 Refer to the Supplementary Instructions to Bidders for key construction milestones including the commence work date, the Ready-for-Takeover date, and the completion date.

10. ONTARIO HARMONIZED SALES TAX (HST)

- 10.1 The Contractor will be required to provide the Region with its HST registration number and indicate the applicable HST on each progress payment certificate.
- 10.2 Where a change in Canadian Federal or Provincial taxes occurs after a Bid Closing Date, the Region shall adjust progress payment certificates to account for the exact amount of the tax change.

11. BID SECURITY

- 11.1 Bidders shall upload to the Bidding System the following: Bid Security in the amount of no less than **5 (five) percent of the Total Bid Price plus HST** in the following form:
- 11.1.1 A **digital bid bond** in an electronically verifiable and enforceable (e-Bond) format, in the form CCDC 220 – 2002 naming “The Regional Municipality of Halton” as obligee and issued by a surety licensed to conduct surety and insurance business in Canada or in Ontario, in the amount set out in Section 11.1. **The digital bid bond form is included in Appendix “A” to this Instructions to Bidders.**
- 11.1.2 The version submitted by the Bidder must be verifiable by the Region with respect to the totality and wholeness of the bond form, including: the content; all digital signatures; all digital seals; with the surety, or an approved verification service provider of the surety.
- 11.1.3 The version submitted must be viewable, printable and storable in standard electronic file formats compatible with the Region, and in a single file. Allowable formats include pdf.
- 11.1.4 The verification may be conducted by the Region immediately or at any time during the life of the bond and at the discretion of the Region with no requirement for passwords or fees.
- 11.1.5 The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding Item 11.1.2.
- 11.2 A scanned PDF copy of bonds, original certified cheque, bank draft, money order or any other format other than a digital bid bond is not acceptable and shall be rejected.
- 11.3 A digital bid bond failing the verification process will NOT be considered to be valid.
- 11.4 A digital bid bond passing the verification process will be treated as original and authentic.

- 11.5 Bidders shall upload their Bid Security to the Bidding System, labelled as “**Digital Bid Bond**”. All instructions and details for assessing authentication shall be included with the digital bid bond uploaded in the Bidding System.
- 11.6 The digital bid bond will not be returned to the Bidder.
- 11.7 The Bid Security shall be valid and not expire for at least the duration of the Irrevocability Period. In the event the Irrevocability Period is extended in accordance with section 18 of the Instructions to Bidders, the Bidder shall secure from its surety an extension of the Bid Security and provide evidence of same, which may be in the form of a rider to the Bid Security or some other form of written communication from the surety.

12. PERFORMANCE SECURITY, LABOUR & MATERIAL SECURITY

Agreement to Bond

- 12.1 Bidders shall upload to the Bidding System evidence that if awarded the Contract the Bidder will provide the **performance bond** required by the Contract. Such evidence shall be in the following form:
- 12.1.1 Where the Total Bid Price is equal to or greater than \$500,000 a **digital agreement to bond** in an electronically verifiable and enforceable (e-Bond) format issued by a surety licensed to conduct surety and insurance business in Canada or in Ontario for a **performance bond** in the Form 32 Performance Bond under section 85.1 of the Act, in the amount of fifty percent (50%) of the Total Bid Price (plus HST). The agreement to bond shall remain valid and not expire for at least the duration of the Irrevocability Period. In the event the Irrevocability Period is extended in accordance with section 18 of the Instructions to Bidders (the “Extended Irrevocability Period”), the Bidder shall secure from its surety an extension of the agreement to bond and provide evidence of same, which may be in the form of a rider to the agreement to bond or some other form of written communication from the surety. **The digital agreement to bond form is included in Appendix “B” to this Instructions to Bidders.**
- 12.2 Bidders shall upload to the Bidding System evidence that if awarded the Contract the Bidder will provide the **labour & material payment bond** required by the Contract. Such evidence shall be in the following form:
- 12.2.1 Where the Total Bid Price is equal to or greater than \$500,000, a **digital agreement to bond** in an electronically verifiable and enforceable (e-Bond) format issued by a surety licensed to conduct surety and insurance business in Canada or in Ontario for a **labour & material payment bond** in the Form 31 Labour and Material Payment Bond under section 85.1 of the Act, in the amount of fifty percent (50%) of the Total Bid Price (plus HST). The agreement to bond shall remain valid and not expire for at least the duration of the Irrevocability Period. In the event the Irrevocability

Period is extended in accordance with section 18 of the Instructions to Bidders (the “Extended Irrevocability Period”), the Bidder shall secure from its surety an extension of the agreement to bond and provide evidence of same, which may be in the form of a rider to the agreement to bond or some other form of written communication from the surety. **The digital agreement to bond form is included in Appendix “B” to this Instructions to Bidders.**

- 12.3 Bidders shall upload the digital Agreement to Bond described in sections 12.1 and 12.2 of the Instructions to Bidders (collectively the “**Digital Agreement to Bond Performance Security and Labour & Material Security**”) to the Bidding System, labelled as “**Digital Agreement to Bond**”. All instructions and details for assessing authentication shall be included with the digital agreement to bond uploaded in the Bidding System.

Agreement to Bond Requirements

- 12.4 The digital agreement to bond performance security and labour & material security shall be in the form as provided in Appendix “B” and shall include an express acknowledgement from the surety that a digitally signed and sealed performance bond and a digitally signed and sealed labour & material payment bond delivered to the Region by electronic means are:
- 12.4.1 permitted under the ECA;
 - 12.4.2 binding on the surety;
 - 12.4.3 enforceable in accordance with their terms and enforceable in law;
 - 12.4.4 for the purposes of any applicable statutory or common laws, regulations or guidelines, deemed to be originals hand delivered to the Region; and
 - 12.4.5 on the basis of the forgoing, the surety acknowledges and agrees that it would be estopped from and covenant not to challenge the enforceability of the bonds on the basis that each are digitally signed and sealed and delivered to the Region by electronic means.
- 12.5 The version submitted by the Bidder must be verifiable by the Region with respect to the totality and wholeness of the digital agreement to bond performance security and labour & material security form, including: the content; all digital signatures; all digital seals; with the surety, or an approved verification service provider of the surety.
- 12.6 The version submitted must be viewable, printable and storable in standard electronic file formats compatible with the Region, and in a single file. Allowable formats include pdf.
- 12.7 The verification may be conducted by the Region immediately or at any time during the life of the digital agreement to bond performance security and labour & material security and at the discretion of the Region with no requirement for passwords or fees.

- 12.8 The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding Item 12.5.
- 12.9 A scanned PDF copy of an agreement to bond, or any other format other than a digital agreement to bond is not acceptable and shall be rejected.
- 12.10 An agreement to bond failing the verification process will NOT be considered to be valid.
- 12.11 An agreement to bond passing the verification process will be treated as original and authentic.
- 12.12 The digital agreement to bond performance security, labour & material security will not be returned to the Bidder.

Performance and Labour & Material Payment Bonds

- 12.13 Where the Contract Price is equal to or greater than \$500,000, prior to the execution of the Contract, the accepted Bidder will be required to provide a Form 32 Performance Bond, under section 85.1 of the Act, in the amount of fifty percent (50%) of the Total Bid Price (including HST) (“**Performance Bond**”), and a Form 31 Labour and Material Payment Bond under section 85.1 of the Act in the amount of fifty percent (50%) of the Total Bid Price (including HST) (“**Labour & Material Bond**”) to guarantee the faithful performance of the Contract.
- 12.14 The Performance Bond and Labour & Material Payment Bond shall be submitted to the Region in one of the following forms:
- 12.14.1 Certified originals, issued in triplicate-; or
- 12.14.2 An electronically verifiable and enforceable (e-Bond) format issued by a surety licensed to conduct surety and insurance business in Canada or in Ontario, that meets the requirements as outlined in sections 12.16 of the Instructions to Bidders.
- 12.15 The Performance Bond and Labour and Material Payment Bond shall be in the prescribed form under the Act, using the current version of the form. The necessary information will be inputted into the forms after Bid closing and sent to the selected Bidder with the Letter of Intent. Changes to the prescribed forms under the Act will not be accepted.

Digital Performance Bond and Labour and Material Payment Bond Requirements

- 12.16 The Performance Bond and Labour and Material Payment Bond issued in an electronically verifiable and enforceable (e-Bond) format in accordance with Section 12.14.2 shall be delivered by email transmission to the Regional Project Manager and shall satisfy and be subject to the following requirements:

- 12.16.1 The version submitted by the selected Bidder must be verifiable by the Region with respect to the totality and wholeness of the Performance Bond and Labour & Material Payment Bond, including: the content; all digital signatures; all digital seals; with the surety, or an approved verification service provider of the surety.
- 12.16.2 The version submitted by the selected Bidder must be viewable, printable and storable in standard electronic file formats compatible with the Region, and in a single file. Allowable formats include pdf.
- 12.16.3 The verification may be conducted by the Region immediately or at any time during the life of the Performance Bond and Labour & Material Payment Bond and at the discretion of the Region with no requirement for passwords or fees.
- 12.16.4 The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding Section 12.16.1.
- 12.16.5 A scanned PDF copy of Performance Bond and Labour & Material Payment Bond or any other format other than the formats provided for in Sections 12.14.1 and 12.14.2 are not acceptable and shall be rejected.
- 12.16.6 A Performance Bond and Labour & Material Payment Bond failing the verification process will NOT be considered to be valid.
- 12.16.7 A Performance Bond and Labour & Material Payment Bond passing the verification process will be treated as original and authentic.

13. VENDOR CODE OF CONDUCT

- 13.1 The Vendor Code of Conduct, as included in the Bid Documents, sets out the principles applicable to Vendors that wish to establish and maintain a business relationship with the Region.
- 13.2 The Region intends to do business with Bidders that demonstrate solid business integrity that aligns with the Region's core values and high standards of ethical behaviour expected by the Region. The Vendor Code is not to be read in lieu of, but in addition to obligations as set out in any agreements with the Region. Bidders are responsible to familiarize themselves with the Vendor Code of Conduct and comply with it. Bidders are to complete, sign and return the Vendor Code of Conduct Acknowledgement Form with their Bid submission.

14. BID IRREGULARITIES

- 14.1 Irregularities in connection with any Bid shall be resolved in accordance with Regional policies and procedures governing bid irregularities.

15. PRIVILEGE CLAUSE

- 15.1 The Region shall have the right to reject any or all Bids. The Bid with the lowest Total Bid Price will not necessarily be accepted. The Region reserves the right to accept all or part of any Bid.
- 15.2 The Manager, Strategic Sourcing may cancel the Request for Tenders at their sole discretion.
- 15.3 In addition to any other right expressed or implied, the Region reserves the right to:
- a) make public the names of any or all Bidders and members of a Bidder's team;
 - b) check references other than those provided by any Bidder;
 - c) disqualify or invalidate any Bid that contains material misrepresentations or any other materially inaccurate or misleading information;
 - d) make changes, including substantial changes, to this Request for Tenders provided that those changes are issued by way of Addenda;
 - e) if a single Bid is received, reject the Bid of the sole Bidder and cancel this Request for Tenders process or enter into direct negotiations with the sole Bidder.
- 15.4 The Region shall not be responsible for any liabilities, costs, expenses, loss or damage incurred, sustained or suffered by any Bidder by reason of the acceptance or the non-acceptance of the Bid, delay in Awarding the Contract, or cancellation of the Request for Tenders.
- 15.5 The Region, in its sole discretion, may reject a Bid from a Suspended Vendor and/or a Bid that includes a Suspended Vendor as a sub-contractor, in accordance with the Vendor Performance Management Policy.

16. TIED BIDS

- 16.1 In the event that two or more Bidders have exactly the same Total Bid Price, the Region shall have the sole right to select the successful Bid. The Region may, at its sole option, conduct a coin toss in the presence of the two (2) Bidders to select the successful Bid. The Region shall determine the manner and rules that shall govern the coin toss.

17. CLAIMS OR LITIGATION

- 17.1 The Region reserves the right, and in its absolute discretion after considering the criteria outlined in subsection 17.2, to reject a Bid submitted by a Bidder if the Region is engaged in legal action dispute including but not limited to a contractual claim and/or legal action against the Bidder, or, if the Bidder or any officer or director of the Bidder is engaged, either directly or indirectly through a corporation or personally, in a legal action dispute, including but not limited to a contractual claim and/or legal action against the Region, its elected representatives, appointed officers, or employees, in relation to:

- a. any other Contract, Goods or Services;
 - b. any matter arising from the Region's exercise of its powers, duties, or functions.
- 17.2 In determining whether or not to reject a Bid the Region will consider;
- a. whether the litigation is likely to adversely affect the Bidder's ability to work with the Region, its consultants and representatives; or,
 - b. whether the Region's experience with the Bidder indicates that the Region is likely to incur increased staff and legal costs in the administration of the Contract if it is Awarded to the Bidder; or,
 - c. whether the Bidder has been convicted of a criminal act against the Region or one of its local boards or corporations; or,
 - d. whether the Bidder has failed to satisfy an outstanding debt to the Region, including Provincial Offences Act fines, or one of its local boards or corporations; or,
 - e. there are reasonable grounds to believe it would not be in the best interests of the Region to enter into a Contract with the Bidder.

18. EXTENSION OF IRREVOCABILITY PERIOD

- 18.1 In the event the Region is unable to Award the Bid within the Irrevocability Period as set out in the Supplementary Instructions to Bidders, the Region shall request a formal extension in writing from one or more Bidders.
- 18.2 Subject to agreement by the Bidder(s) in writing, the Irrevocability Period shall be extended and the Bid Documents shall be considered automatically amended to reflect the revised Irrevocability Period.

19. CONTRACT EXECUTION

- 19.1 Where the Contract Price is more than \$250,000 (excluding HST), the Agreement to be executed by the parties shall be in the form provided in Appendix "C" to this Instructions to Bidders. This Agreement is a template only; the necessary information will be inserted into the Agreement after Bid closing and provided to the selected Bidder. Where the Contract Price is equal to or less than \$250,000 (excluding HST) the selected Bidder shall execute the Notice of Award. A Letter of Intent and the Contract Documents will be sent to the selected Bidder. The Bidder shall fully execute and return the Contract Documents together with the applicable Bonds (if required), Certificates of Liability Insurance, Workplace Safety and Insurance, New/Change Vendor & Electronic Funds Transfer Application (if required), and any other required documents to the Region within ten (10) calendar days of the date of receipt of the Letter of Intent, failing which the Region reserves the right to retain the Bidder's Bid Security and not Award to the Bidder. The aforementioned documents shall be completed to the satisfaction of the Region with no errors and omissions.

19.2 The Letter of Intent does not constitute Award of the Contract. Award is subject to Senior Management and/or Regional Council approval, the Bidder's fulfilment of the requirements of the Request for Tender, such as the submission of the required documentation as set out in the Letter of Intent, which may include but is not limited to those items referenced in section 19.1, and formal execution of the Agreement or Notice of Award between the Bidder and the Region.

19.3 In the event the Region, in its sole discretion, allows an extension of time for the Bidder to submit the required documentation referenced in section 19.1, the Bidder shall not be entitled to an extension of Contract time or delay claims as a result of the Bidder's delay in submitting completed documentation.

20. VENDOR PERFORMANCE MANAGEMENT POLICY

20.1 Bidders shall refer to the Supplementary Instructions to Bidders to confirm the applicability of the Vendor Performance Management Policy (the "Policy") to the Contract upon Award.

20.2 If the Policy applies to the Awarded Contract:

- a) The Region will evaluate the Contractor's performance in accordance with the Policy and provide a written evaluation and record of the Contractor's performance of this Contract. The Contractor will be provided with regular feedback of its performance of a Contract, to confirm satisfactory or unacceptable performance as applicable, and the consequences of unacceptable performance as outlined in the Policy.
- b) The Policy may be amended from time to time, and the latest version of the Policy shall form part of this Contract.
- c) The Policy and the applicable evaluation form can be accessed on the Region's website at www.halton.ca.

21. SUBCONTRACTORS

21.1 Bidders must ensure they and any subcontractors they retain are in good standing with the Region, in accordance with the Policy. It is the responsibility of Bidders to review the Suspended Vendor List on www.halton.ca prior to submitting a Bid or retaining any subcontractors.

22. ELECTRONIC PAYMENT DEPOSIT

22.1 The Region strongly encourages payment to the Contractor through electronic payment deposit. The successful Bidder(s) is to provide the New/Change Vendor & Electronic Funds Transfer Application Form as part of the documentation required prior to Award. Bidders are not to include the form with their Bid submission.

- 22.2 If during the Contract term, there is any change to the direct deposit information, the Contractor shall submit a new form, which must be authorized by a signing officer, and a person with the ability to bind the corporation. The Region will verify any and all changes to the banking information with the Contractor prior to making any changes.

23. PROPER INVOICE REQUIREMENTS

- 23.1 The Contractor will be required to comply with the prompt payment provisions pursuant to Part I.1 of the Act and the Proper Invoice requirements set out in the Region's Contract Documents.

24. INTERIM ADJUDICATION

- 24.1 The Contractor will be required to comply with the construction dispute interim adjudication provisions pursuant to Part II.1 of the Act and the Region's Contract Documents.

25. INTELLECTUAL PROPERTY

- 25.1 All reports, plans, designs, and other documents to be produced by the Contractor to this Request for Tenders shall, on submission to the Region, become the property of the Region.

26. DIGITAL DRAWINGS

- 26.1 Should a Bidder choose to print any of the drawings supplied by the Region in a PDF format, to preserve the scale of the prints, the Bidder must disable all page scaling options during printing. The Region assumes no responsibility whatsoever for the Bidder's failure to properly print, including the failure to print to the proper scale, any drawings supplied by the Region.
- 26.2 It is the Bidder's sole responsibility to verify that all PDF drawings are printed without PDF scaling enabled by verifying the final PDF prints with the associated drawing scale references in the applicable drawings title block.

27. GREEN PROCUREMENT

Not Applicable

28. ONTARIANS REGULATION 191/11 – INTEGRATED ACCESSIBILITY STANDARDS

- 28.1 Pursuant to Ontario Regulation 191/11 under the Accessibility for Ontarians with Disabilities Act, 2005, the Region is required to incorporate accessibility design, criteria and features when procuring or acquiring goods, services or facilities, except where it is not practicable to do so.

- 28.2 When determining which bid will result in an Award the Region may, in its sole discretion and without limiting any of its other express or implied rights regarding the discretion to make an Award, consider whether the Goods, Services or facilities to be provided incorporate accessibility design, criteria and features.

29. NON-RESIDENT WITHHOLDING TAX

- 29.1 Should the Region make an Award to a non-resident Vendor, the Region shall under the *Income Tax Act*, R.S.C., 1985, c. 1 (5th Supp.), and the *Income Tax Regulations*, C.R.C., c.945, all as amended from time to time, withhold 15% (fifteen percent) from payments of fees, commissions, or other amounts paid to non-resident Vendors, in respect of Services rendered in Canada, in accordance with the above, for Services rendered in Canada. The Region is not required to withhold this amount under subsection 105(1) of the *Regulations*, if the non-resident Vendor obtains a waiver certificate from the Canada Revenue Agency prior to the commencement of the Contract.

30. FREEDOM OF INFORMATION

- 30.1 The information provided in response to this Request for Tenders is collected in accordance with the Region's Purchasing By-law No. 63-23, or as amended, and will be used for all purposes related to awarding the Bid and administering By-law No. 63-23. The Bidder acknowledges that the Region is subject to the *Municipal Freedom of Information and Protection of Privacy Act*, R.S.O 1990, c.M.25, as amended ("MFIPPA") and as a result the contents of any Bid submitted by the Bidder are public and that with the exception of personal information the Bid will be disclosed if the Region receives a request for it under MFIPPA.

APPENDIX "A"

BID BOND

BID BOND

Standard Construction Document

CCDC 220 - 2002

No. _____ Bond Amount \$ _____
_____ as Principal, hereinafter called the Principal, and
_____ a corporation created and existing under the laws
of _____ and duly authorized to transact the business of Suretyship in _____ as Surety, hereinafter
called the Surety, are held and firmly bound unto _____ as
Obligee, hereinafter called the Obligee, in the amount of _____
_____ Dollars (\$ _____) lawful money of Canada, for the payment
of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, the Principal has submitted a written bid to the Obligee, dated _____ day of _____, in the year _____
for _____

The condition of this obligation is such that if the Principal shall have the bid accepted within the time period prescribed in the Obligee's bid
documents, or, if no time period is specified in the Obligee's bid documents, within _____ () days from the closing
date as specified in the Obligee's bid documents, and the Principal enters into a formal contract and gives the specified security, then this obligation
shall be void; otherwise, provided the Obligee takes all reasonable steps to mitigate the amount of such excess costs, the Principal and the Surety will
pay to the Obligee the difference in money between the amount of the bid of the Principal and the amount for which the Obligee legally contracts
with another party to perform the work if the latter amount be in excess of the former.

The Principal and Surety shall not be liable for a greater sum than the Bond Amount.

It is a condition of this bond that any suit or action must be commenced within seven (7) months of the date of this Bond.

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

IN WITNESS WHEREOF, the Principal and the Surety have Signed and Sealed this Bond dated _____ day of _____,
in the year _____.

SIGNED and SEALED _____ Principal
in the presence of _____

ATTORNEY IN FACT _____
Signature
Name of person signing

Signature
Name of person signing
Surety



(CCDC 220 - 2002 has been approved by the Surety Association of Canada)

APPENDIX “B”

AGREEMENT TO BOND

We, the undersigned, hereby agree to become bound as Surety for _____ (hereinafter referred to as the Bidder) for a Performance Bond totalling fifty percent (50%) of the Total Bid Price (including HST) and for a Labour & Material Payment Bond totalling fifty per cent (50%) of the Total Bid Price (including HST) all conforming to the Contract Documents, for the full and due performance of the work shown as described therein and for the payment of all labour and materials and maintenance, if the Bid for the construction of

is accepted by The Regional Municipality of Halton.

It is a condition of this Agreement to Bond that if the above-mentioned Bid is accepted, the undersigned will supply the above-specified bonds within ten (10) days from the day upon which notification of selection of the Bid is given.

This Agreement to Bond shall remain valid for the duration of the Irrevocability Period as set out in the Supplementary Instructions to Bidders.

The surety acknowledges that a digitally signed and sealed Performance Bond and Labour & Material Bond delivered to the Region by electronic means are:

- i. permitted under the *Electronic Commerce Act, 2000*, S.O. 2000, c. 17;
- ii. binding on the surety;
- iii. enforceable in accordance with the surety’s terms and enforceable in law;
- iv. for the purposes of any applicable statutory or common laws, regulations or guidelines, deemed to be originals hand delivered to the Region; and
- v. on the basis of the forgoing, the surety acknowledges and agrees that it would be estopped from and covenants not to challenge the enforceability of the bonds on the basis that each are digitally signed and sealed and delivered to the Region by electronic means.

DATED this ____ day of _____, 20

Name of Surety Company

Signature of Authorized Person Signing for Company

(Company Seal)

Title

NOTE: Surety must be licensed to conduct surety and insurance business in Canada or in Ontario, satisfactory to the Region in its reasonable discretion.

APPENDIX "C"

AGREEMENT BETWEEN OWNER AND CONTRACTOR

AGREEMENT BETWEEN OWNER AND CONTRACTOR
For use when a stipulated price is the basis of payment.

This Agreement made on [] day of [] in the year []
by and between the parties

[]

hereinafter called the "Owner"

and

[]

hereinafter called the "Contractor"

The Owner and the Contractor agree as follows:

ARTICLE A-1 THE WORK

The Contractor shall:

1.1 perform the Work required by the Contract Documents for (insert below the description or title of the Work)

[]

located at (insert below the Place of the Work)

[]

for which the Agreement has been signed by the parties, and for which (insert below the name of the Consultant)

[]

is acting as and is hereinafter called the "Consultant" and

1.2 do and fulfill everything indicated by the Contract Documents, and

1.3 commence the Work by the [] day of [] in the year [] and, subject to adjustment in Contract Time as provided for in the Contract Documents, attain Ready-for-Takeover, by the [] day of [] in the year []

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

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

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

CCDC 2 – 2020

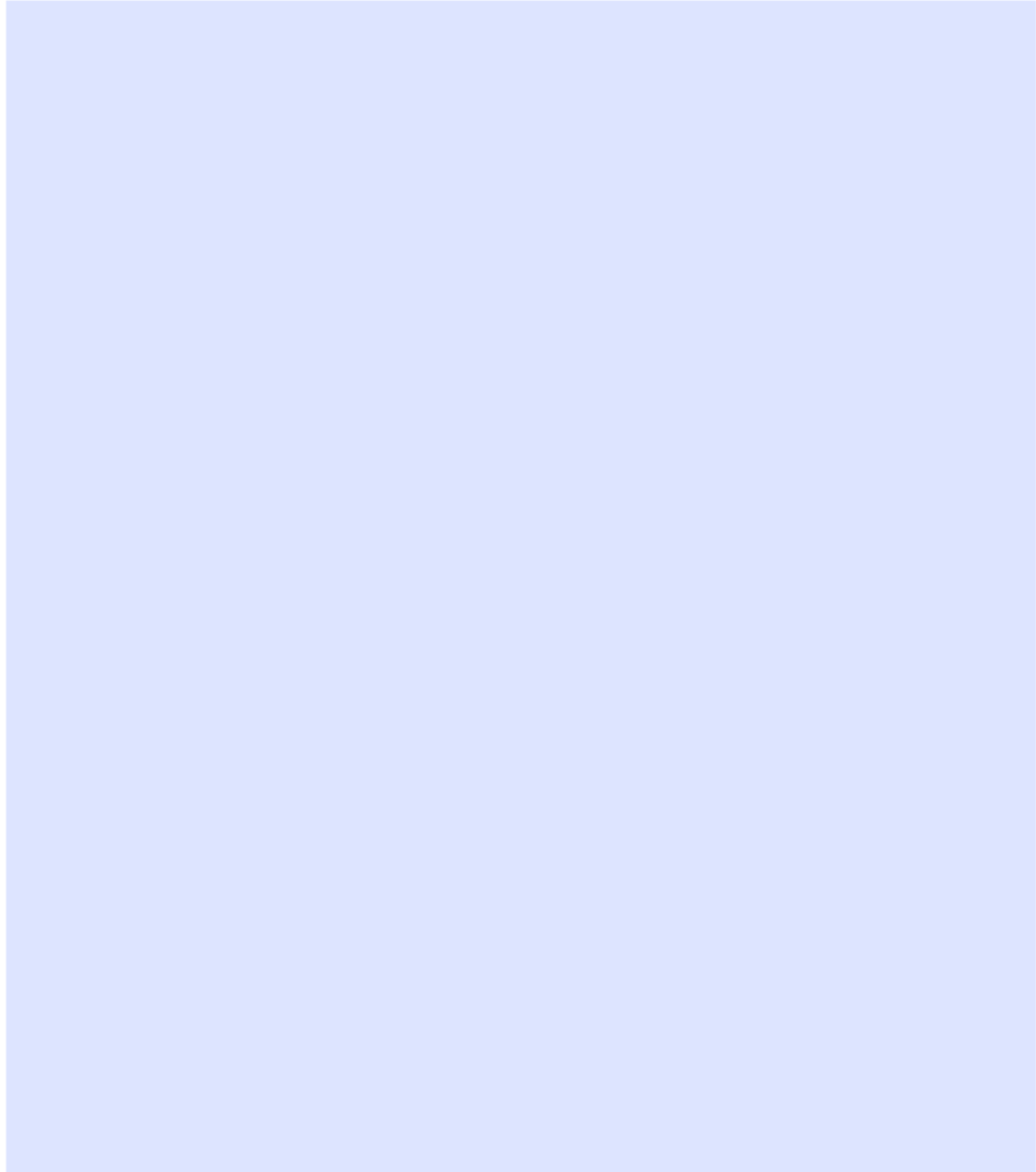
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ARTICLE A-3 CONTRACT DOCUMENTS

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

- Agreement between *Owner* and *Contractor*
- Definitions
- General Conditions

*



* *(Insert here, attaching additional pages if required, a list identifying all other Contract Documents e.g. supplementary conditions; Division 01 of the Specifications – GENERAL REQUIREMENTS; Project information that the Contractor may rely upon; technical Specifications, giving a list of contents with section numbers and titles, number of pages and date; material finishing schedules; Drawings, giving drawing number, title, date, revision date or mark; addenda, giving title, number, date; time schedule)*

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2

ARTICLE A-4 CONTRACT PRICE

- 4.1 The *Contract Price*, which excludes *Value Added Taxes*, is:
 [redacted] /100 dollars \$ [redacted]
- 4.2 *Value Added Taxes* (of [redacted] %) payable by the *Owner* to the *Contractor* are:
 [redacted] /100 dollars \$ [redacted]
- 4.3 Total amount payable by the *Owner* to the *Contractor* for the *Work* is:
 [redacted] /100 dollars \$ [redacted]
- 4.4 These amounts shall be subject to adjustments as provided in the *Contract Documents*.
- 4.5 All amounts are in Canadian funds.

ARTICLE A-5 PAYMENT

- 5.1 Subject to the provisions of the *Contract Documents* and *Payment Legislation*, and in accordance with legislation and statutory regulations respecting holdback percentages, the *Owner* shall:
- 1 make progress payments to the *Contractor* on account of the *Contract Price* when due in the amount certified by the *Consultant* unless otherwise prescribed by *Payment Legislation* together with such *Value Added Taxes* as may be applicable to such payments,
 - 2 upon *Substantial Performance of the Work*, pay to the *Contractor* 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 *Contractor* the unpaid balance of the *Contract Price* when due together with such *Value Added Taxes* as may be applicable to such payment.
- 5.2 Interest
- 1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by adjudication, 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*)
 [redacted]
 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 5.2.1 of this Article on the settlement amount of any claim in dispute that is resolved either pursuant to Part 8 of the *General Conditions – DISPUTE RESOLUTION* or otherwise, from the date 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, or by other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender.
- 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 will 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* will be deemed to have been received on the *Working Day* next following such day.
- 6.4 A *Notice in Writing* sent by any form of electronic communication will 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 will 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 thereof.
- 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.

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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

[Empty box for Witness Name]

Signature line with "SIGNATURE" label and arrow

signature

[Empty box for Witness Name]

name of person signing

OWNER

[Empty box for Owner Name]

name of Owner

Signature line with "SIGNATURE" label and arrow

signature

[Empty box for Owner Name]

name and title of person signing

WITNESS

[Empty box for Witness Name]

Signature line with "SIGNATURE" label and arrow

signature

[Empty box for Witness Name]

name of person signing

CONTRACTOR

[Empty box for Contractor Name]

name of Contractor

Signature line with "SIGNATURE" label and arrow

signature

[Empty box for Contractor Name]

name and title of person signing

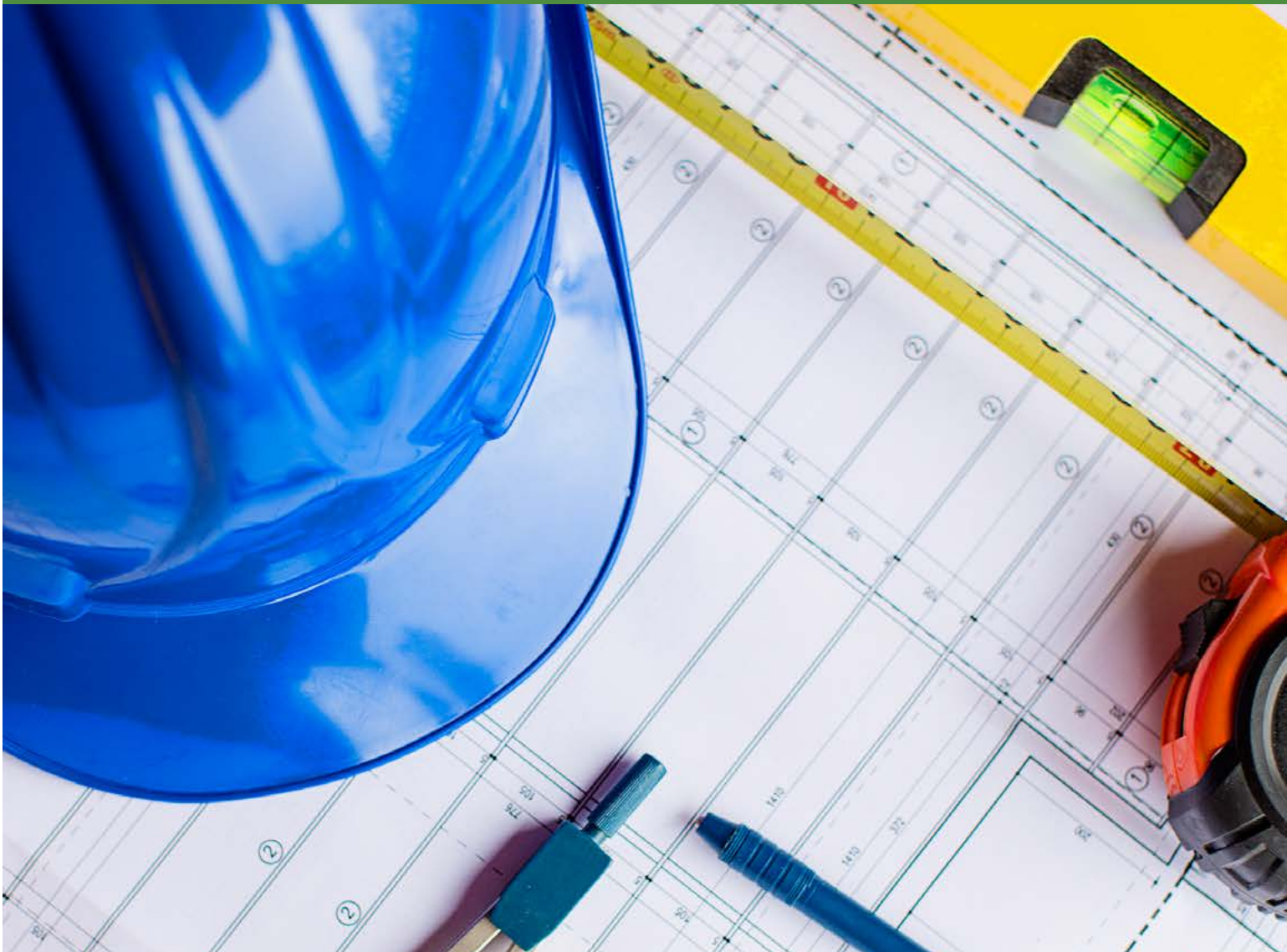
- N.B. Where legal jurisdiction, local practice or Owner or Contractor requirement calls for:
- (a) proof of authority to execute this document, attach such proof of authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign the Agreement for and on behalf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

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APPENDIX “D”

VENDOR CODE OF CONDUCT



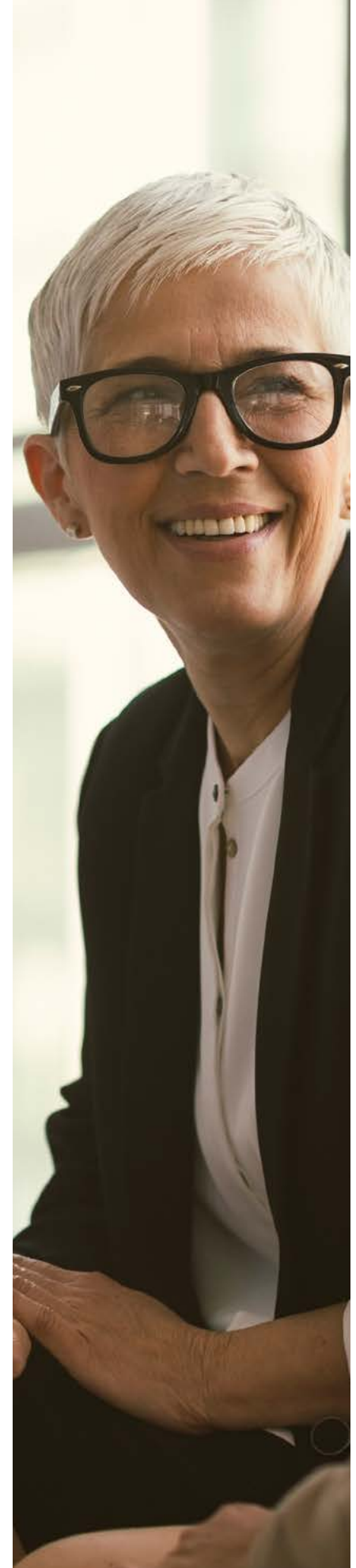
HALTON REGION Vendor Code of Conduct

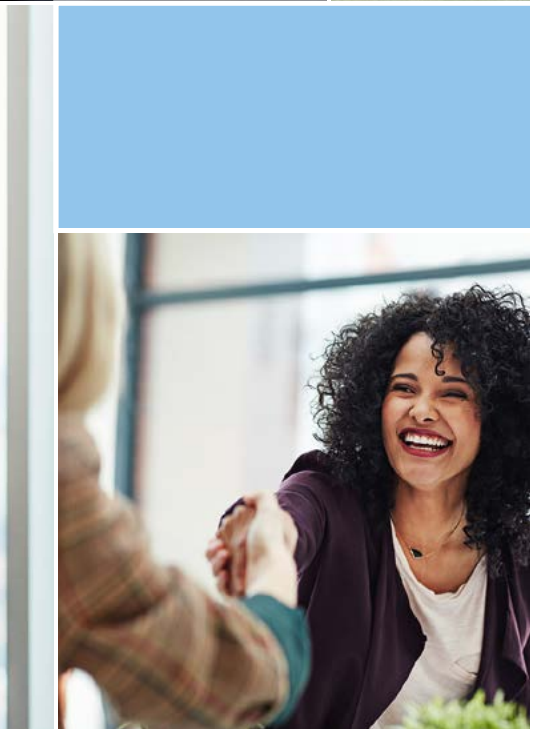
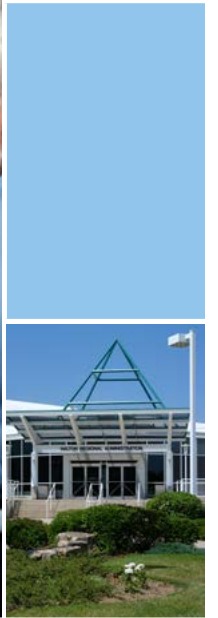




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Introduction and Purpose

The Regional Municipality of Halton (herein after referred to as “The Region”) is committed to purchasing goods and services from responsible Vendors that provide quality goods and services at competitive prices. Vendors, subcontractors, employees, agents, bidders and potential bidders that provide goods and services to the Region (herein after referred to as “Vendors”) are expected to support the Region’s goals and objectives of encouraging competitive bidding, ensuring fairness, accountability and transparency in the procurement process, and obtaining the best possible value in the procurement of goods and services for the Region.

The Region expects Vendors to perform all duties in a competent and impartial manner that can withstand the closest public scrutiny. Vendors are expected to exercise good judgement when doing business with the Region. This Vendor Code of Conduct (herein after referred to as “Vendor Code”) sets out the principles applicable to Vendors that wish to establish and maintain a business relationship with the Region. The Region is confirming its intention to do business with Vendors that demonstrate solid business integrity that aligns with the Region’s core values and high standards of ethical behaviour. Vendors must also inform their employees and any sub-contractors or sub-vendors about this Vendor Code.

The Vendor Code is consistent with Halton Region’s Code of Conduct, which sets out the expectations for Regional staff. The Region’s Code of Conduct is available on the Region’s website.

The Vendor Code should not be read in lieu of, but in addition, to Vendors obligations as set out in any agreements between the Region and a Vendor. In the event of a conflict between this Code and an applicable agreement, the agreement shall govern.



Vendor Responsibilities

Vendors are required to familiarize themselves with this Vendor Code and comply with it as a condition of doing business with the Region. Vendors are expected to adhere to the following core principles of business integrity:

- a) uphold the laws of the Region, Ontario and Canada, and not be a party to their breach, evasion or subversion;
- b) treat all persons honestly and fairly, with proper regard for rights, entitlements, duties and obligations, and at all times act responsibly and diligently in the performance of their duties;
- c) be professional and courteous, and resolve any work-related disagreements in a responsible and expeditious manner;
- d) be accountable and responsible for their decisions and actions, take ownership of problems and initiate corrective actions;
- e) promote the health and safety of others and prevent workplace illness, injury, harassment and violence;
- f) carry out their duties in a fair, impartial and transparent manner;
- g) complete the Acknowledgment Form as set out in Appendix A; and
- h) report on non-compliance or suspected non-compliance of the Vendor Code.

These principles are also consistent with the Halton Region Code of Conduct.

i. Compliance with Laws

Vendors that wish to do business with the Region shall abide by all applicable laws and regulations including Federal, Provincial and Local laws regarding environmental matters, occupational health and safety, labour and employment practices, human rights, accessibility, immigration, product safety, shipping and product labelling. If Vendors become aware of any activities that are not in compliance with all applicable laws and regulations, they must report it immediately as specified in the non-compliance reporting section of this Vendor Code.

Vendors shall disclose:

- 1) any previous convictions of collusion, bribery, fraud or other similar practices prohibited under law for which they have not received a pardon; and
- 2) breach of the Region's Vendor Code or those of any other related Agencies or Corporation(s) of the Region.

Vendors are prohibited from misrepresenting their relevant past experiences and qualifications in relation to any solicitation process and acknowledge that the Region's process of evaluation may include information provided by the Vendor's references as well as records of past performance on previous contracts and services with the Region. The Region reserves its rights if the Vendor fails to make the appropriate disclosures and representations.





ii. Confidentiality and Privacy

Vendors may have access to confidential and/or personal information by reason of their duties and responsibilities with the Region. Confidential information is defined as any information that is proprietary, strategic, technical, business or personal and not available to the public. All Vendors must respect such information and ensure it is safeguarded from unauthorized disclosure or access. Confidential information must be protected in accordance with the Vendor Code of Conduct. Such information must only be used or disclosed in accordance with this Vendor Code of Conduct and the provisions of the *Municipal Freedom of Information and Protection of Privacy Act, 1990* and the *Personal Health Information Protection Act, 2004*.

Disclosure of information means making the information available to others, and should only occur where disclosure is necessary and proper in the discharge of the Region's functions or where the disclosure is required by law. This includes and protects any information that is, and should be considered as, internal information relating to Regional business.

Vendors must not disclose confidential and/or personal information unless specifically and explicitly permitted in the terms of their contract. The duty of a Vendor to maintain the integrity and confidentiality of Regional information continues once that Vendor ceases to be in a contract with the Region.

When discussing business matters, Vendors must consider their surroundings. Conversations in public places should be limited to information that is non-confidential and does not include references that could identify a person or situation.

iii. Information Security

Vendors must use information obtained through their relationship with the Region only for the purposes of the supply relationship. Vendors must store information securely and have in place appropriate information security policies and procedures. Vendors must notify the Region promptly of actual or suspected privacy breaches, security breaches or loss of Regional information.

iv. Social Media

The Region supports the use of online communications to enhance customer service and leverage the Region's brand. Vendors should not communicate on social media platforms on behalf of the Region unless the Vendor is expressly authorized in writing to do so by the Region. When such communication is authorized, it is to be conducted in a manner that is consistent and respectful of Canadian libel laws, *Municipal Freedom of Information and Protection of Privacy Act, 1990* and the Region's practices in regards to confidential information and intellectual property.

All Regional data or information obtained by the Vendor through the delivery of services or goods is to be considered proprietary and confidential. Without the Region's prior consent, Vendors should not communicate to social media platforms identifying the Region as a client and the associated services and goods provided to the Region. Regional consent must be obtained prior to identifying the Region as a client.





Integrity and Public Confidence

i. Conflict of Interest

Public confidence in the Region is put at risk when the conduct of a Vendor involves or appears to involve a conflict between public duty and private interests. Vendors are required to support and advance the interests of the Region and avoid placing themselves in situations where their personal interests actually or potentially conflict with the interests of the Region. Vendors shall disclose to the Region any situation that could result in an actual, apparent or perceived conflict of interest and the Regional employee that has an interest in the Vendor's business (or any other economic or family ties with the Vendor).

Vendors are expected, at minimum, to:

- a) base business decisions strictly on merit and the best interests of the Region in a manner consistent with their contractual obligations with the Region;
- b) avoid any situation that may create a real or perceived conflict of interest;
- c) not take part in, or in any way influence, any Regional decision that might result in a financial or other advantage, whether direct or indirect, as a result of the contractual association with the Region;
- d) not attempt to gain an improper advantage or preferential treatment from Regional employees; and
- e) provide no personal benefit to employees of the Region.

If Vendors become aware of any activities that may be considered a conflict of interest involving the Region, they must report it immediately as specified in the non-compliance reporting section of this Vendor Code.

ii. Business and Personal Relationships

Vendors shall not use or seek to use their association with the Region to receive direct or indirect benefit for themselves or their family members, friends and any other businesses or consultants that they or the Region do business with.

iii. Avoidance of Preferential Treatment

Vendors shall not grant preferential treatment to any Regional staff, their family and friends, or any businesses. Vendors must avoid creating or appear to create an obligation for the purpose of gaining any special consideration.

iv. Gifts and Hospitality

Accepting a gift, hospitality or other benefit from a Vendor could influence an employee's judgment and performance of official duties, or give the appearance of doing so, even if the employee believes the benefit will not affect their objectivity or impartiality. Vendors must not offer, directly or indirectly, any gift, hospitality or other benefits to the Region's staff. Gifts having a monetary value such as cash, gift certificates, loans, services, discounts and ticket(s) to an entertainment event including sporting events, concerts or other such related activities must not be offered. These requirements do not change during traditional gift-giving seasons.

Under no circumstances should a Vendor solicit gifts, hospitality and/or other benefits or transfers of economic value to Region staff. The same is expected of the Region staff—not to solicit gifts or other benefits from Vendors.

All Regional staff are subject to the rules governing the acceptance of gifts outlined in the Purchasing By-law, Section 29, Prohibitions, and the Halton Region Code of Conduct.

Employees may accept common expressions of courtesy that do not cause suspicion about the objectivity and impartiality of the employee, would not compromise the integrity of the Region and:

- a) are of a nominal value not to exceed fifty (\$50);
- b) occur on infrequent and exceptional basis; and
- c) are not ticket(s) to an entertainment event including sporting events, concerts, or other such related activities.

Vendors must not place Regional employees in the difficult position of having to refuse gifts that would place them in conflict with the rules governing the acceptance of gifts outlined in this Vendor Code.



v. Political Activity

No Vendor shall engage in political activity on Regional property while carrying out the requirements of their contract for the Region. If Vendors become aware of any political activities, they must report it immediately as specified in the non-compliance reporting section of this Vendor Code.

vi. Fraud

The Region is committed to the highest standards of corporate accountability, transparency, responsibility and integrity. The Region will protect funds, property, information and other assets owned by or in the care of the Region through the prompt investigation of any alleged fraudulent conduct.

Vendors must not engage in any fraudulent activity. Examples of activities which may be considered fraudulent include, but are not limited to:

- a. forgery or alteration of documents (cheques, purchase orders, time sheets, etc.);
- b. misappropriation of funds, securities, supplies or assets;
- c. authorization or receipt of payment for goods not received, services not performed or hours not worked;
- d. any claim for reimbursement of expenses that were not incurred for the exclusive benefit of the Region;
- e. authorization of unjustified or inflated change order requests to increase profits;
- f. knowingly delivering works, goods or services that do not meet contract specification; and
- g. subcontracting to business entities that are not arm's length without prior consent of the Region.

If Regional Vendors, their employees, associates or other third parties become aware of any activities that may be considered fraudulent, they must report it immediately as specified in the non-compliance reporting section of this Vendor Code.

vii. Theft and Vandalism

The Region's assets must be protected from theft, destruction, vandalism and neglect, and used properly and strictly for the Region's purposes. Vendors' personal use, misuse, misappropriation of/or theft or vandalism of Regional property, resources, equipment, materials and supplies is prohibited.

viii. Anti-Bribery and Anti-Corruption

Vendors are expected to comply with applicable anti-corruption laws, whether domestic or foreign, including but not limited to the *Corruption of Foreign Public Officials Act, 1998* and the Criminal Code, and not engage in any form of corrupt practices including, but not limited to, extortion, fraud, bribery or other unlawful payment or benefit to secure any concession, contract or other favourable treatment.

Vendors should not engage in any conduct that would put the Region at risk of violating anti-bribery laws or regulations. Bribery is the giving or receiving of a “thing” of value to influence the actions of another person or organization.

Types of bribery can include, but are not limited to:

- a) kickback payments that could be received before, during or at the end of a project/contract; and
- b) any financial benefits given with the intent of influencing the recipient which includes such things as gifts (for example, travel or entertainment), loans, credit cards, purchase overpayments, cash, fees and commissions.

ix. Collusive Bidding

Vendors are not to participate in collusive bidding. Groups of bidders might secretly agree to submit complementary high bids to allow pre-selected Vendors to win contracts on a rotating basis, divide contracts by territory or take steps to defeat the competitive process and divide work. Vendors are not to contract with separate business entities that are not arm’s length, submit a bid through non arm’s length entity or reveal confidential information to an arm’s-length or non-arm’s length entity.

If Vendors, their employees, associates or other third parties become aware of any activities that may be considered bribery or collusive bidding, they must report it immediately as specified in the non-compliance reporting section of this Vendor Code.





Workplace Well-being

i. Respectful Workplace

The Region is committed to protecting the health and safety of all Regional employees and Vendors against illness, injury and incidents of violence and harassment. Every Vendor will make every effort to provide and maintain a safe and healthy work environment, as well as maintain a diverse and respectful workplace in which the dignity and self-respect of every person is valued.

Vendors must ensure that their personal conduct within the workplace and elsewhere does not adversely affect:

- a) their ability to perform their official duties;
- b) the ability of other Vendors to perform their duties; or
- c) public confidence in the Region or in the public sector.

ii. Accessibility for People with Disabilities

Vendors are required to have met compliance obligations in the *Accessibility for Ontarians with Disabilities Act, 2005* and Ontario Regulation 191/11-Integrated Accessibility Standards, as applicable.

iii. Employment Practices

Vendors must abide by applicable employment standards, labour, non-discrimination and human rights legislation. Where laws do not prohibit discrimination or where they allow for differential treatment, Vendors are expected to be committed to non-discrimination principles and operate in a way that does not differentiate unfairly.

iv. Impairment at Work

In order to minimize the risk of impaired performance due to substance use, the following are strictly prohibited for all Regional Vendors:

- use, possession, distribution, offering or sale of illegal drugs, illegal drug paraphernalia or un-prescribed drugs (for which a prescription is legally required in Canada) while on Regional business or premises;
- use, possession, distribution, offering or sale of alcoholic beverages or cannabis on Regional premises;
- intentional misuse of prescribed medications, over-the-counter medications or other substances while on Regional business or premises; and
- being unfit for work due to the effects or after-effects of alcohol, illicit or illegal drugs, un-prescribed drugs (for which a prescription is legally required in Canada) or the intentional misuse of medications or other substances.

Vendors are required to report to their Regional supervisor or project authority the use of any medication that may affect their ability to perform their job in a safe manner. Vendors have a responsibility to manage potential impairments during working hours due to the legitimate use of medications in consultation with their personal physician.

If Vendors, their employees, associates or other third parties become aware of any activities that may be considered impaired performance due to substance use, they must report it immediately as specified in the non-compliance reporting section of this Vendor Code.





Non-Compliance Reporting

Vendors must report any practices, behaviours, activities or actions believed to be in contravention or in conflict with this Vendor Code, Halton Region Code of Conduct or any other Regional policy.

The Region will resolve all complaints regarding violations of this Vendor Code to the greatest extent possible in a timely, respectful and confidential manner, and ensure all Vendors are held accountable for their actions.

All Vendors shall be free from reprisal, discipline, harassment or discrimination as a result of reporting, in good faith, a breach or suspected breach of this Vendor Code. If it is determined, however, that a complaint is frivolous, vexatious or malicious in nature, the complainant may be subject to action as outlined in the Penalty for Non-Compliance section of this Vendor Code.

During the investigation and resolution of complaints, all information, including the identity of the complainant and any other Vendors or Vendor staff involved, will remain confidential except where sharing information is otherwise required by law or required to further the investigation.

i. Complaint Resolution Procedure

EARLY RESOLUTION

Vendors who become aware of or have directly experienced an action which is in contravention of this Vendor Code should:

- a) keep a written record of the incidents, dates, time, locations, possible witnesses, any attempted resolutions and behaviours of the Vendor(s) involved; and
- b) report the breach to the Director of Supply Chain Management, who must investigate and attempt to resolve the complaint as expeditiously as possible, except in the case of suspected fraud, which is to be immediately reported to the Chief Internal Auditor as specified in the Formal Complaint Investigation section of this Vendor Code.

The Regional Municipality of Halton

Director of Supply Chain Management
1151 Bronte Road
Oakville ON L6M 3L1
905-825-6000 ext. 7231
Sam.Pringle@halton.ca

If the Director of Supply Chain Management is not able to resolve the complaint to the reporting Vendor's satisfaction, and/or the complaint involves the Director of Supply Chain Management, a complaint shall be filed directly to the Region's Chief Internal Auditor or to the Code of Conduct Help Line.

FORMAL COMPLAINT INVESTIGATION

- a) Complaints must be made in writing and signed by the complainant using a designated form. The form is available on the Region's website.
- b) Complaints must be forwarded to the Chief Internal Auditor, who will initiate an investigation into the complaint within five (5) business days of receipt.

The Regional Municipality of Halton

Chief Internal Auditor
1151 Bronte Road
Oakville ON L6M 3L1
905-825-6000 ext. 7532
Karen.Cinq-Mars@halton.ca

- c) Once the investigation is complete, the investigation findings and recommendations will be reported to the complainant and respondent, as appropriate and as determined by the Chief Internal Auditor.



ii. **Alternative Reporting – Confidential Code of Conduct Help Line**

A Vendor who does not feel comfortable reporting a complaint as outlined above may contact the Region's confidential and anonymous Vendor Code of Conduct Help Line (available 24/7) at:

- Toll-free telephone: 1-833-210-0001
 - Website: www.lighthouse-services.com/haltonvendor
 - Email: reports@lighthouse-services.com (must include Halton Region in the subject line)
- a) All complaints submitted to the Vendor Code of Conduct Help Line will be received by a third party who will relay the complaint, without revealing the caller's identity (if requested), to the Chief Administrative Officer.
 - b) The confidential complaint will be reviewed by the Chief Administrative Officer and the Director of Human Resources within five (5) business days of the initial review.
 - c) Once the investigation is complete, the investigation findings and recommendations will be reported to the complainant and respondent, as appropriate, if their identities are made known.

The Region does not guarantee that an investigation will be conducted for every complaint.

Penalty for Non-Compliance

Any vendor who contravenes the Vendor Code, including any provision of this Vendor Code, may be subject to:

- a) verbal or written warning;
- b) cancellation of business relationship and/or contract;
- c) disqualification from participating in future business opportunities; and/or
- d) such other action or penalty as may be appropriate and permitted by law in the circumstances of the particular contravention.

This Vendor Code may be modified from time to time by the Region at its discretion.



Acknowledgement Form

The attached Vendor Code of Conduct sets forth the principles required by the Regional Municipality of Halton (“the Region”) of all Vendors who supply goods and services to the Region when conducting business with the Region.

By signing this Acknowledgement, the undersigned Vendor agrees to abide by the Vendor Code of Conduct and also agree to ensure its employees, officers, agents, representatives, and subcontractors are also made aware of and comply with it.

ACKNOWLEDGEMENT

I, _____ an authorized representative of _____, hereby acknowledge and agree to abide by the attached Vendor Code of Conduct, and will ensure that the employees, officers, agents, representatives and subcontractors of _____ are aware of and abide by such policies and principles in the process of preparing and submitting bids and proposals for Regional work, provisions of goods and services to the Region, and during the performance of all agreements entered into with the Region for such purposes.

Submitted by:
(Please type/print)

Business Name

Signature of Signing Officer

Street Address

Name and Title (please print)

City/Town

Postal Code

Signature of Contact Person

Telephone Number

Fax Number

Name and Title (please print)

Contact Email Address

Date





CCDC 2

Stipulated Price Contract

2 0 2 0

Name of Project

Apply a CCDC 2 copyright seal here. The application of the seal demonstrates the intention of the party proposing the use of this document that it be an accurate and unamended form of CCDC 2 – 2020 except to the extent that any alterations, additions or modifications are set forth in supplementary conditions.

CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE

CCDC 2 STIPULATED PRICE CONTRACT

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AGREEMENT BETWEEN OWNER AND CONTRACTOR

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

This Agreement made on _____ day of _____ in the year ____ .
by and between the parties

hereinafter called the "Owner"

and

hereinafter called the "Contractor"

The *Owner* and the *Contractor* agree as follows:

ARTICLE A-1 THE WORK

The *Contractor* shall:

1.1 perform the *Work* required by the *Contract Documents* for *(insert below the description or title of the Work)*

located at *(insert below the Place of the Work)*

for which the Agreement has been signed by the parties, and for which *(insert below the name of the Consultant)*

is acting as and is hereinafter called the "*Consultant*" and

1.2 do and fulfill everything indicated by the *Contract Documents*, and

1.3 commence the *Work* by the _____ day of _____ in the year _____ and, subject to adjustment in *Contract Time* as provided for in the *Contract Documents*, attain *Ready-for-Takeover*, by the _____ day of _____ in the year ____ .

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

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

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

ARTICLE A-3 CONTRACT DOCUMENTS

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

- Agreement between *Owner* and *Contractor*
- Definitions
- General Conditions

*

** (Insert here, attaching additional pages if required, a list identifying all other Contract Documents e.g. supplementary conditions; Division 01 of the Specifications – GENERAL REQUIREMENTS; Project information that the Contractor may rely upon; technical Specifications, giving a list of contents with section numbers and titles, number of pages and date; material finishing schedules; Drawings, giving drawing number, title, date, revision date or mark; addenda, giving title, number, date; time schedule)*

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 *Contractor* are:

/100 dollars \$

4.3 Total amount payable by the *Owner* to the *Contractor* for the *Work* is:

/100 dollars \$

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

4.5 All amounts are in Canadian funds.

ARTICLE A-5 PAYMENT

5.1 Subject to the provisions of the *Contract Documents* and *Payment Legislation*, and in accordance with legislation and statutory regulations respecting holdback percentages, the *Owner* shall:

- .1 make progress payments to the *Contractor* on account of the *Contract Price* when due in the amount certified by the *Consultant* unless otherwise prescribed by *Payment Legislation* together with such *Value Added Taxes* as may be applicable to such payments,
- .2 upon *Substantial Performance of the Work*, pay to the *Contractor* 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 *Contractor* the unpaid balance of the *Contract Price* when due together with such *Value Added Taxes* as may be applicable to such payment.

5.2 Interest

- .1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by adjudication, 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 5.2.1 of this Article on the settlement amount of any claim in dispute that is resolved either pursuant to Part 8 of the General Conditions – DISPUTE RESOLUTION or otherwise, from the date 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, or by other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender.

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 will 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* will be deemed to have been received on the *Working Day* next following such day.

6.4 A *Notice in Writing* sent by any form of electronic communication will 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 will 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 thereof.

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.

Note: This contract is protected by copyright. Use of a CCDC 2 document not containing a CCDC 2 copyright seal constitutes an infringement of copyright. Only sign this contract if the document cover page bears a CCDC 2 copyright seal to demonstrate that it is intended by the parties to be an accurate and unamended version of CCDC 2 – 2020 except to the extent that any alterations, additions or modifications are set forth in supplementary conditions.

Owner

*name of Owner**

address

email address

Contractor

*name of Contractor**

address

email address

Consultant

*name of Consultant**

address

email address

** If it is intended that a specific individual must receive the notice, that individual's name shall be indicated.*

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 inapplicable term.
- 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 The *Contract* shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representatives, successors, and 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

signature

name of Owner

name of person signing

signature

name and title of person signing

WITNESS

CONTRACTOR

signature

name of Contractor

name of person signing

signature

name and title of person signing

- N.B. Where legal jurisdiction, local practice or Owner or Contractor 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.*

DEFINITIONS

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

Change Directive

A *Change Directive* is a written instruction prepared by the *Consultant* and signed by the *Owner* directing the *Contractor* to proceed with a change in the *Work* within the general scope of the *Contract Documents* prior to the *Owner* and the *Contractor* agreeing upon adjustments in the *Contract Price* and the *Contract Time*.

Change Order

A *Change Order* is a written amendment to the *Contract* prepared by the *Consultant* and signed by the *Owner* and the *Contractor* stating their agreement upon:

- a change in the *Work*;
- 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 Equipment

Construction Equipment means all 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 engaged by the *Owner* and 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*.

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 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 from commencement of the *Work* to the date of *Ready-for-Takeover* as stipulated in paragraph 1.3 of Article A-1 of the Agreement – THE WORK.

Contractor

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

Drawings

The *Drawings* are the graphic and pictorial portions of the *Contract 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*, where identified in the *Contract Documents*, is a written communication between the parties or between them and the *Consultant* that is transmitted in accordance with the provisions of Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

Owner

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

Other Contractor

Other Contractor means a contractor, other than the *Contractor* or a *Subcontractor*, engaged by the *Owner* for the *Project*.

Payment Legislation

Payment Legislation means such legislation in effect at the *Place of the Work* which governs payment under construction contracts.

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 forming part of the *Work*, but does not include *Construction Equipment*.

Project

The *Project* means the total construction contemplated of which the *Work* may be the whole or a part.

Ready-for-Takeover

Ready-for-Takeover shall have been attained when the conditions set out in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER have been met, as verified by the *Consultant* pursuant to paragraph 12.1.4.2 of GC 12.1 – READY-FOR-TAKEOVER.

Shop Drawings

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

Specifications

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

Subcontractor

A *Subcontractor* is a person or entity having a direct contract with the *Contractor* 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*.

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 *Consultant* 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 *Contractor* to supply *Products*.

Temporary Work

Temporary Work means temporary supports, structures, facilities, services, and other temporary items, excluding *Construction Equipment*, required for the execution of 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 is computed as a percentage of the *Contract Price* 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 *Contractor* by tax legislation.

Work

The *Work* means the total construction and related services required by the *Contract Documents*.

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*.

GENERAL CONDITIONS**PART 1 GENERAL PROVISIONS****GC 1.1 CONTRACT DOCUMENTS**

- 1.1.1 The intent of the *Contract Documents* is to include the labour, *Products* and services necessary for the performance of the *Work* by the *Contractor* in accordance with these documents. It is not intended, however, that the *Contractor* shall supply products or perform work not consistent with, not covered by, or not properly inferable from the *Contract Documents*.
- 1.1.2 The *Contract Documents* are complementary, and what is required by one shall be as binding as if required by all. Performance by the *Contractor* shall be required only to the extent consistent with the *Contract Documents*.
- 1.1.3 The *Contractor* shall review the *Contract Documents* for the purpose of facilitating co-ordination and execution of the *Work* by the *Contractor*.
- 1.1.4 The *Contractor* is not responsible for errors, omissions or inconsistencies in the *Contract Documents*. If there are perceived errors, omissions or inconsistencies discovered by or made known to the *Contractor*, the *Contractor* shall promptly report to the *Consultant* and shall not proceed with the work affected until the *Contractor* has received corrected or additional information from the *Consultant*.
- 1.1.5 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 *Owner* and *Contractor*,
 - the Definitions,
 - Supplementary Conditions,
 - the General Conditions,
 - Division 01 of the *Specifications*,
 - technical *Specifications*,
 - material and finishing schedules,
 - the *Drawings*.
 - .2 *Drawings* of larger scale shall govern over those of smaller scale of the same date.
 - .3 dimensions shown on *Drawings* shall govern over dimensions scaled from *Drawings*.
 - .4 amended or later dated documents shall govern over earlier documents of the same type.
 - .5 noted materials and annotations shall govern over graphic indications.
- 1.1.6 Nothing contained in the *Contract Documents* shall create any contractual relationship between:
- .1 the *Owner* and a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.
 - .2 the *Consultant* and the *Contractor*, a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.
- 1.1.7 Words and abbreviations which have well known technical or trade meanings are used in the *Contract Documents* in accordance with such recognized meanings.
- 1.1.8 References in the *Contract Documents* to the singular shall be considered to include the plural as the context requires.
- 1.1.9 Neither the organization of the *Specifications* nor the arrangement of *Drawings* shall control the *Contractor* in dividing the work among *Subcontractors* and *Suppliers*.
- 1.1.10 *Specifications*, *Drawings*, models, and copies thereof furnished by the *Consultant* are and shall remain the *Consultant's* property, with the exception of the signed *Contract* sets, which shall belong to each party to the *Contract*. All *Specifications*, *Drawings* and models furnished by the *Consultant* are to be used only with respect to the *Work* and are not to be used on other work. These *Specifications*, *Drawings* and models are not to be copied or altered in any manner without the written authorization of the *Consultant*.
- 1.1.11 Physical models furnished by the *Contractor* at the *Owner's* expense are the property of the *Owner*.

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 thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

- 1.3.2 No action or failure to act by the *Owner*, the *Consultant* or the *Contractor* shall constitute a waiver of any right or duty afforded any of them 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 in writing.

GC 1.4 ASSIGNMENT

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

PART 2 ADMINISTRATION OF THE CONTRACT

GC 2.1 AUTHORITY OF THE CONSULTANT

- 2.1.1 The *Consultant* will have authority to act on behalf of the *Owner* only to the extent provided in the *Contract Documents*, unless otherwise modified by written agreement as provided in paragraph 2.1.2.
- 2.1.2 The duties, responsibilities and limitations of authority of the *Consultant* as set forth in the *Contract Documents* shall be modified or extended only with the written consent of the *Owner*, the *Consultant* and the *Contractor*.

GC 2.2 ROLE OF THE CONSULTANT

- 2.2.1 The *Consultant* will provide administration of the *Contract* as described in the *Contract Documents*.
- 2.2.2 The *Consultant* will visit the *Place of the Work* at intervals appropriate to the progress of construction to become familiar with the progress and quality of the work and to determine if the *Work* is proceeding in general conformity with the *Contract Documents*.
- 2.2.3 If the *Owner* and the *Consultant* agree, the *Consultant* will provide at the *Place of the Work*, one or more project representatives to assist in carrying out the *Consultant's* responsibilities. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in writing to the *Contractor*.
- 2.2.4 Based on the *Consultant's* observations and evaluation of the *Contractor's* applications for payment, the *Consultant* will determine the amounts owing to the *Contractor* under the *Contract* and will issue certificates for payment as provided in Article A-5 of the Agreement – PAYMENT, GC 5.3 – PAYMENT and GC 5.5 – FINAL PAYMENT.
- 2.2.5 The *Consultant* will not be responsible for and will not have control, charge or supervision of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs required in connection with the *Work* in accordance with the applicable construction safety legislation, other regulations or general construction practice. The *Consultant* will not be responsible for the *Contractor's* failure to perform the *Work* in accordance with the *Contract Documents*.
- 2.2.6 Except with respect to GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, the *Consultant* will be, in the first instance, the interpreter of the requirements of the *Contract Documents*.
- 2.2.7 Matters in question relating to the performance of the *Work* or the interpretation of the *Contract Documents* shall be initially referred in writing to the *Consultant* by the party raising the question for interpretations and findings and copied to the other party.
- 2.2.8 Interpretations and findings of the *Consultant* shall be consistent with the intent of the *Contract Documents*. In making such interpretations and findings the *Consultant* will not show partiality to either the *Owner* or the *Contractor*.
- 2.2.9 The *Consultant's* interpretations and findings will be given in writing to the parties within a reasonable time.
- 2.2.10 With respect to claims for a change in *Contract Price*, the *Consultant* will make findings as set out in GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.
- 2.2.11 The *Consultant* will have authority to reject work which in the *Consultant's* opinion does not conform to the requirements of the *Contract Documents*. Whenever the *Consultant* considers it necessary or advisable, the *Consultant* will have authority to require inspection or testing of work, whether or not such work is fabricated, installed or completed. However, neither the authority of the *Consultant* to act nor any decision either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the *Consultant* to the *Contractor*, *Subcontractors*, *Suppliers*, or their agents, employees, or other persons performing any of the *Work*.
- 2.2.12 During the progress of the *Work* the *Consultant* will furnish *Supplemental Instructions* to the *Contractor* with reasonable promptness or in accordance with a schedule for such instructions agreed to by the *Consultant* and the *Contractor*.
- 2.2.13 The *Consultant* will review and take appropriate action upon *Shop Drawings*, samples and other submittals by the *Contractor*, in accordance with the *Contract Documents*.

- 2.2.14 The *Consultant* will prepare *Change Orders* and *Change Directives* as provided in GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 2.2.15 The *Consultant* will conduct reviews of the *Work* to determine the date of *Substantial Performance of the Work* and verify that *Ready-for-Takeover* has been attained.
- 2.2.16 All certificates issued by the *Consultant* will be to the best of the *Consultant's* knowledge, information and belief. By issuing any certificate, the *Consultant* does not guarantee the *Work* is correct or complete.
- 2.2.17 The *Consultant* will receive and review written warranties and related documents required by the *Contract* and provided by the *Contractor* and will forward such warranties and documents to the *Owner* for the *Owner's* acceptance.
- 2.2.18 If the *Consultant's* engagement is terminated, the *Owner* shall immediately engage a *Consultant* against whom the *Contractor* makes no reasonable objection and whose duties and responsibilities under the *Contract Documents* will be that of the former *Consultant*.

GC 2.3 REVIEW AND INSPECTION OF THE WORK

- 2.3.1 The *Owner* and the *Consultant* shall have access to the *Work* at all times. The *Contractor* shall provide sufficient, safe and proper facilities at all times for the review of the *Work* by the *Consultant* and the inspection of the *Work* by authorized agencies. If parts of the *Work* are in preparation at locations other than the *Place of the Work*, the *Owner* and the *Consultant* shall be given access to such work whenever it is in progress.
- 2.3.2 If work is designated for tests, inspections or approvals in the *Contract Documents*, by the *Consultant's* instructions, or by the laws or ordinances of the *Place of the Work*, the *Contractor* shall give the *Consultant* reasonable notification of when the work will be ready for review and inspection. The *Contractor* shall arrange for and shall give the *Consultant* reasonable notification of the date and time of inspections by other authorities.
- 2.3.3 The *Contractor* shall furnish promptly to the *Consultant* two copies of certificates and inspection reports relating to the *Work*.
- 2.3.4 If the *Contractor* 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 *Contractor* shall, if so directed, uncover such work, have the inspections or tests satisfactorily completed, and make good covering work at the *Contractor's* expense.
- 2.3.5 The *Consultant* may order any portion or portions of the *Work* to be examined to confirm that such work 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 *Contractor* 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 the cost of examination and restoration.
- 2.3.6 The *Contractor* shall pay the cost of making any test or inspection, including the cost of samples required for such test or inspection, if such test or inspection is designated in the *Contract Documents* to be performed by the *Contractor* or is required by the laws or ordinances applicable to the *Place of the Work*.
- 2.3.7 The *Contractor* shall pay the cost of samples required for any test or inspection to be performed by others if such test or inspection is designated in the *Contract Documents*.

GC 2.4 DEFECTIVE WORK

- 2.4.1 The *Contractor* shall promptly correct defective work that has been rejected by the *Consultant* as failing to conform to the *Contract Documents* whether or not the defective work was incorporated in the *Work* or the defect is the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the *Contractor*.
- 2.4.2 The *Contractor* shall make good promptly *Other Contractors' work* destroyed or damaged by such corrections at the *Contractor's* expense.
- 2.4.3 If in the opinion of the *Consultant* 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 *Contractor* the difference in value between the work as performed and that called for by the *Contract Documents*. If the *Owner* and the *Contractor* do not agree on the difference in value, they shall refer the matter to the *Consultant* for a finding.

PART 3 EXECUTION OF THE WORK

GC 3.1 CONTROL OF THE WORK

- 3.1.1 The *Contractor* shall have total control of the *Work* and shall effectively direct and supervise the *Work* so as to ensure conformity with the *Contract Documents*.

- 3.1.2 The *Contractor* shall be solely responsible for construction means, methods, techniques, sequences, and procedures and for co-ordinating the various parts of the *Work* under the *Contract*.

GC 3.2 CONSTRUCTION BY THE OWNER OR OTHER CONTRACTORS

- 3.2.1 The *Owner* reserves the right to award separate contracts in connection with other parts of the *Project* to *Other Contractors* and to perform work with own forces.
- 3.2.2 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 the *Owner's* own forces with the *Work* of the *Contract*;
 - .2 enter into separate contracts with *Other Contractors* under conditions of contract which are compatible with the conditions of the *Contract*;
 - .3 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 *Contractor* as it affects the *Work*; and
 - .4 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.
- 3.2.3 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Contractor* shall:
- .1 afford the *Owner* and *Other Contractors* reasonable opportunity to store their products and execute their work;
 - .2 co-ordinate and schedule the *Work* with the work of *Other Contractors* or the *Owner's* own forces that are identified in the *Contract Documents*;
 - .3 participate with *Other Contractors* and the *Owner* in reviewing their construction schedules when directed to do so; and
 - .4 report promptly to the *Consultant* 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 *Work*, prior to proceeding with that portion of the *Work*.
- 3.2.4 Where a change 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 *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.
- 3.2.5 Disputes and other matters in question between the *Contractor* and *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 *Contractor* shall be deemed to have consented to arbitration of any dispute with any *Other Contractor* whose contract with the *Owner* contains a similar agreement to arbitrate. In the absence of *Other Contractors* having reciprocal obligations, disputes and other matters in question initiated by the *Contractor* against *Other Contractors* will be considered disputes and other matters in question between the *Contractor* and the *Owner*.
- 3.2.6 Should the *Owner*, the *Consultant*, *Other Contractors*, or anyone employed by them directly or indirectly be responsible for ill-timed work necessitating cutting or remedial work to be performed, the cost of such cutting or remedial work shall be valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

GC 3.3 TEMPORARY WORK

- 3.3.1 The *Contractor* shall have the sole responsibility for the design, erection, operation, maintenance, and removal of *Temporary Work* unless otherwise specified in the *Contract Documents*.
- 3.3.2 The *Contractor* shall engage and pay for registered professional engineering personnel skilled in the appropriate disciplines to perform those functions referred to in paragraph 3.3.1 where required by law or by the *Contract Documents* and in all cases where such *Temporary Work* is of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 3.3.3 Notwithstanding the provisions of GC 3.1 – CONTROL OF THE WORK, paragraphs 3.3.1 and 3.3.2 or provisions to the contrary elsewhere in the *Contract Documents* where such *Contract Documents* include designs for *Temporary Work* or specify a method of construction in whole or in part, such designs or methods of construction shall be considered to be part of the design of the *Work* and the *Contractor* shall not be held responsible for that part of the design or the specified method of construction. The *Contractor* shall, however, be responsible for the execution of such design or specified method of construction in the same manner as for the execution of the *Work*.

GC 3.4 CONSTRUCTION SCHEDULE

3.4.1 The *Contractor* shall:

- .1 prepare and submit to the *Owner* and the *Consultant* prior to the first application for payment, a construction schedule that indicates the timing of the major activities of the *Work* and provides sufficient detail of the critical events and their inter-relationship to demonstrate the *Work* will be performed in conformity with the *Contract Time*;
- .2 monitor the progress of the *Work* relative to the construction schedule and update the schedule on a monthly basis or as stipulated by the *Contract Documents*; and
- .3 advise the *Consultant* of any revisions required to the schedule as the result of extensions of the *Contract Time* as provided in Part 6 of the General Conditions – CHANGES IN THE WORK.

GC 3.5 SUPERVISION

3.5.1 The *Contractor* shall provide all necessary supervision and appoint a competent representative who shall be in attendance at the *Place of the Work* while the *Work* is being performed. The appointed representative shall not be changed except for valid reason.

3.5.2 The appointed representative shall represent the *Contractor* at the *Place of the Work*. Information and instructions provided by the *Consultant* to the *Contractor*'s appointed representative shall be deemed to have been received by the *Contractor*, except with respect to Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

GC 3.6 SUBCONTRACTORS AND SUPPLIERS

3.6.1 The *Contractor* 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 *Subcontractors* and *Suppliers* to require them to perform their work as provided in the *Contract Documents*;
- .2 incorporate the applicable terms and conditions of the *Contract Documents* into all contracts or written agreements with *Subcontractors* and *Suppliers*; and
- .3 be as fully responsible to the *Owner* for acts and omissions of *Subcontractors*, *Suppliers* and any persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the *Contractor*.

3.6.2 The *Contractor* shall indicate in writing, if requested by the *Owner*, those *Subcontractors* or *Suppliers* whose bids have been received by the *Contractor* which the *Contractor* would be prepared to accept for the performance of a portion of the *Work*. Should the *Owner* not object before signing the *Contract*, the *Contractor* shall employ those *Subcontractors* or *Suppliers* so identified by the *Contractor* in writing for the performance of that portion of the *Work* to which their bid applies.

3.6.3 The *Owner* may, for reasonable cause, at any time before the *Owner* has signed the *Contract*, object to the use of a proposed *Subcontractor* or *Supplier* and require the *Contractor* to employ one of the other subcontract bidders.

3.6.4 If the *Owner* requires the *Contractor* to change a proposed *Subcontractor* or *Supplier*, the *Contract Price* and *Contract Time* shall be adjusted by the difference occasioned by such required change.

3.6.5 The *Contractor* shall not be required to employ as a *Subcontractor* or *Supplier*, a person or firm to which the *Contractor* may reasonably object.

3.6.6 The *Owner*, through the *Consultant*, may provide to a *Subcontractor* or *Supplier* information as to the percentage of the *Subcontractor*'s or *Supplier*'s work which has been certified for payment.

GC 3.7 LABOUR AND PRODUCTS

3.7.1 The *Contractor* shall maintain good order and discipline among the *Contractor*'s employees engaged on the *Work* and employ only workers that are skilled in the tasks assigned.

3.7.2 The *Contractor* 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*.

3.7.3 Unless otherwise specified in the *Contract Documents*, *Products* provided shall be new. *Products* which are not specified shall be of a quality consistent with those specified and their use acceptable to the *Consultant*.

GC 3.8 SHOP DRAWINGS

3.8.1 The *Contractor* shall provide *Shop Drawings* as required in the *Contract Documents*.

3.8.2 The *Contractor* shall provide *Shop Drawings* to the *Consultant* to review in accordance with an agreed schedule, or in the absence of an agreed schedule, in orderly sequence and sufficiently in advance so as to cause no delay in the *Work* or in the work of *Other Contractors* or the *Owner*'s own forces.

- 3.8.3 The *Contractor* shall review all *Shop Drawings* before providing them to the *Consultant*. The *Contractor* represents by this review that:
- .1 the *Contractor* has determined and verified all applicable field measurements, field construction conditions, *Product* requirements, catalogue numbers and similar data, or will do so, and
 - .2 the *Contractor* has checked and co-ordinated each *Shop Drawing* with the requirements of the *Work* and of the *Contract Documents*.
- 3.8.4 The *Consultant's* review is for conformity to the design concept and for general arrangement only.
- 3.8.5 At the time of providing *Shop Drawings*, the *Contractor* shall expressly advise the *Consultant* in writing of any deviations in a *Shop Drawing* from the requirements of the *Contract Documents*. The *Consultant* shall indicate the acceptance or rejection of such deviation expressly in writing.
- 3.8.6 The *Consultant's* review shall not relieve the *Contractor* of responsibility for errors or omissions in the *Shop Drawings* or for meeting all requirements of the *Contract Documents*.
- 3.8.7 The *Consultant* will review and return *Shop Drawings* in accordance with the schedule agreed upon, or, in the absence of such schedule, with reasonable promptness so as to cause no delay in the performance of the *Work*.

PART 4 ALLOWANCES

GC 4.1 CASH ALLOWANCES

- 4.1.1 The *Contract Price* includes the cash allowances, if any, stated in the *Contract Documents*. The scope of the *Work* or costs included in such cash allowances shall be as described in the *Contract Documents*.
- 4.1.2 The *Contract Price*, and not the cash allowances, includes the *Contractor's* overhead and profit in connection with such cash allowances.
- 4.1.3 Expenditures under cash allowances shall be authorized by the *Owner* through the *Consultant*.
- 4.1.4 Where the actual cost of the *Work* under any cash allowance exceeds the amount of the allowance, any unexpended amounts from other cash allowances shall be reallocated, at the *Consultant's* direction, to cover the shortfall, and, in that case, there shall be no additional amount added to the *Contract Price* for overhead and profit. Only where the actual cost of the *Work* under all cash allowances exceeds the total amount of all cash allowances shall the *Contractor* be compensated for the excess incurred and substantiated, plus an amount for overhead and profit on the excess only, as set out in the *Contract Documents*.
- 4.1.5 The net amount of any unexpended cash allowances, after providing for any reallocations as contemplated in paragraph 4.1.4, shall be deducted from the *Contract Price* by *Change Order* without any adjustment for the *Contractor's* overhead and profit on such amount.
- 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 *Contractor* and the *Consultant* shall jointly prepare a schedule that shows when the items called for under cash allowances must be ordered to avoid delaying the progress of the *Work*.

GC 4.2 CONTINGENCY ALLOWANCE

- 4.2.1 The *Contract Price* includes the contingency allowance, if any, stated in the *Contract Documents*.
- 4.2.2 The contingency allowance includes the *Contractor'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 *Contractor*, before signing the *Contract*, and promptly from time to time thereafter, furnish to the *Contractor* 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 *Contractor 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 PAYMENT

- 5.2.1 Applications for payment on account as provided in Article A-5 of the Agreement – PAYMENT shall be submitted monthly to the *Owner* and the *Consultant* simultaneously as the *Work* progresses.
- 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 in writing by the parties.
- 5.2.3 The amount claimed shall be for the value, proportionate to the amount of the *Contract*, of *Work* performed and *Products* delivered to the *Place of the Work* as of the last day of the payment period.
- 5.2.4 The *Contractor* shall submit to the *Consultant*, at least 15 calendar days before the first application for payment, a schedule of values for the parts 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 as specified in the *Contract* and supported by such evidence as the *Consultant* may reasonably require.
- 5.2.6 Applications for payment shall be based on the schedule of values accepted by the *Consultant* and shall comply with the provisions of *Payment Legislation*.
- 5.2.7 Each application for payment shall include evidence of compliance with workers' compensation legislation at the *Place of the Work* and after the first payment, a declaration by the *Contractor* as to the distribution made of the amounts previously received using document CCDC 9A 'Statutory Declaration'.
- 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 *Consultant* may reasonably require to establish the value and delivery of the *Products*.

GC 5.3 PAYMENT

- 5.3.1 After receipt by the *Consultant* and the *Owner* of an application for payment submitted by the *Contractor* in accordance with GC 5.2 – APPLICATIONS FOR PAYMENT:
- .1 The *Consultant* will issue to the *Owner* and copy to the *Contractor*, 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 *Consultant* determines to be properly due. If the *Consultant* certifies a different amount, or rejects the application or part thereof, the *Owner* shall promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.
 - .2 The *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement – PAYMENT on or before 28 calendar days after the receipt by the *Owner* and the *Consultant* of the application for payment, and in any event, in compliance with *Payment Legislation*.

GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK

- 5.4.1 The *Consultant* will review the *Work* to certify or verify the validity of the application for *Substantial Performance of the Work* and will promptly, and in any event, no later than 20 calendar days after receipt of the *Contractors* application:
- .1 advise the *Contractor* in writing that the *Work* or the designated portion of the *Work* is not substantially performed and give reasons why, or
 - .2 state the date of *Substantial Performance of the Work* or a designated portion of the *Work* in a certificate and issue a copy of that certificate to each of the *Owner* and the *Contractor*.
- 5.4.2 Where the holdback amount required by the applicable lien legislation has not been placed in a separate lien holdback account, the *Owner* shall, no later than 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 *Contractor*.
- 5.4.3 Subject to the requirements of any *Payment Legislation*, all holdback amount prescribed by the applicable lien legislation for the *Work* shall become due and payable to the *Contractor* no later than 10 *Working Days* following the expiration of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*.
- 5.4.4 The *Contractor* shall submit an application for payment of the lien holdback amount in accordance with GC 5.3 – PAYMENT.
- 5.4.5 Where legislation permits progressive release of the holdback for a portion of the *Work* and the *Consultant* has certified or verified that the part of the *Work* has been performed prior to *Substantial Performance of the Work*, the *Owner* hereby agrees to release, and shall release, such portion to the *Contractor* in accordance with such legislation.

- 5.4.6 Notwithstanding any progressive release of the holdback, the *Contractor* shall ensure that such parts of the *Work* are protected pending the issuance of a final certificate for payment and be responsible for the correction of defects or work not performed regardless of whether or not such was apparent when the holdback was released.

GC 5.5 FINAL PAYMENT

- 5.5.1 When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment.
- 5.5.2 The *Consultant* will, no later than 10 calendar days after the receipt of an application from the *Contractor* for final payment, review the *Work* to verify the validity of the application and when the *Consultant* finds the *Contractor's* application for final payment valid, the *Consultant* will promptly issue a final certificate for payment to the *Owner*, with a copy to the *Contractor*.
- 5.5.3 If the *Consultant* rejects the application or part thereof, the *Owner* will promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.
- 5.5.4 Subject to the provision of paragraph 10.4.1 of GC 10.4 – WORKERS' COMPENSATION, and any 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 *Contractor* as provided in Article A-5 of the Agreement – PAYMENT and in any event, in compliance with *Payment Legislation*.

GC 5.6 DEFERRED WORK

- 5.6.1 If because of climatic or other conditions reasonably beyond the control of the *Contractor*, or if the *Owner* and the *Contractor* agree that, there are items of work that must be deferred, payment in full for that portion of the *Work* which has been performed as certified by the *Consultant* shall not be withheld or delayed by the *Owner* on account thereof, but the *Owner* may withhold, until the remaining portion of the *Work* is finished, only such an amount that the *Consultant* determines is sufficient and reasonable to cover the cost of performing such deferred *Work*.

GC 5.7 NON-CONFORMING WORK

- 5.7.1 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 *Work* or *Products* which are not in accordance with the requirements of the *Contract Documents*.

PART 6 CHANGES IN THE WORK

GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

- 6.1.1 The *Owner*, through the *Consultant*, without invalidating the *Contract*, may make:
- .1 changes in the *Work* consisting of additions, deletions or other revisions to the *Work* by *Change Order* or *Change Directive*, and
 - .2 changes to the *Contract Time* for the *Work*, or any part thereof, by *Change Order*.
- 6.1.2 The *Contractor* shall not perform a change in the *Work* without a *Change Order* or a *Change Directive*.

GC 6.2 CHANGE ORDER

- 6.2.1 When a change in the *Work* is proposed or required, the *Consultant* will provide the *Contractor* with a written description of the proposed change in the *Work*. The *Contractor* shall promptly present to the *Consultant*, in a form that can be reasonably evaluated, 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 in the *Work*.
- 6.2.2 When the *Owner* and the *Contractor* 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 work performed as the result of a *Change Order* shall be included in the applications for progress payment.

GC 6.3 CHANGE DIRECTIVE

- 6.3.1 If the *Owner* requires the *Contractor* to proceed with a change in the *Work* prior to the *Owner* and the *Contractor* agreeing upon the corresponding adjustment in *Contract Price* and *Contract Time*, the *Owner*, through the *Consultant*, shall issue a *Change Directive*.
- 6.3.2 A *Change Directive* shall only be used to direct a change in the *Work* 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 *Contractor* shall proceed promptly with the change in the *Work*.
- 6.3.5 For the purpose of valuing *Change Directives*, changes in the *Work* 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 *Contractor'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 *Contractor's* cost, the *Contract Price* shall be increased by the amount of the net increase in the *Contractor's* cost, plus the *Contractor's* percentage fee on such net increase.
 - 2 If the change results in a net decrease in the *Contractor's* cost, the *Contract Price* shall be decreased by the amount of the net decrease in the *Contractor's* cost, without adjustment for the *Contractor's* percentage fee.
 - 3 The *Contractor's* fee shall be as specified in the *Contract Documents* or as otherwise agreed by the parties.
- 6.3.7 The cost of performing the work attributable to the *Change Directive* shall be limited to the actual cost of the following in as much as it contributes directly to the implementation of the *Change Directive*:

Labour

- 1 rates that are listed in the schedule or as agreed by the *Owner* and the *Contractor* including wages, benefits, compensation, contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan for:
 - (1) trade labour in the direct employ of the *Contractor*;
 - (2) the *Contractor's* personnel when stationed at the field office;
 - (3) the *Contractor's* personnel engaged at shops or on the road, in expediting the production or transportation of materials or equipment; and
 - (4) the *Contractor's* office personnel engaged in a technical capacity, or other personnel identified in Article A-3 of the Agreement – CONTRACT DOCUMENTS for the time spent in the performance of the *Work*;

Products, Construction Equipment and Temporary Work

- 2 cost of all *Products* including cost of transportation thereof;
- 3 in the absence of agreed rates, cost less salvage value of *Construction Equipment, Temporary Work* and tools, exclusive of hand tools under \$1,000 owned by the *Contractor*;
- 4 rental cost of *Construction Equipment, Temporary Work* and tools, exclusive of hand tools under \$1,000;
- 5 cost of all equipment and services required for the *Contractor's* field office;

Subcontract

- 6 subcontract amounts of Subcontractor with pricing mechanism approved by the *Owner*;

Others

- 7 travel and subsistence expenses of the *Contractor's* personnel described in paragraph 6.3.7.1;
- 8 deposits lost provided that they are not caused by negligent acts or omissions of the *Contractor*;
- 9 cost of quality assurance such as independent inspection and testing services;
- 10 charges levied by authorities having jurisdiction at the *Place of the Work*;
- 11 royalties, patent license fees, and damages for infringement of patents and cost of defending suits therefor subject always to the *Contractor's* obligations to indemnify the *Owner* as provided in paragraph 10.3.1 of GC 10.3 – PATENT FEES;
- 12 premium for all contract securities and insurance for which the *Contractor* is required, by the *Contract Documents*, to provide, maintain and pay in relation to the performance of the *Work*;
- 13 losses and expenses sustained by the *Contractor* for matters which are the subject of insurance under the policies prescribed in GC 11.1 – INSURANCE when such losses and expenses are not recoverable because the amounts are in excess of collectible amounts or within the deductible amounts;
- 14 taxes and duties, other than *Value Added Taxes*, income, capital, or property taxes, relating to the *Work* for which the *Contractor* is liable;
- 15 charges for voice and data communications, courier services, expressage, transmittal and reproduction of documents, and petty cash items;
- 16 cost for removal and disposal of waste products and debris;
- 17 legal costs, incurred by the *Contractor*, in relation to the performance of the *Work* provided that they are not:
 - (1) relating to a dispute between the *Owner* and the *Contractor* unless such costs are part of a settlement or awarded by arbitration or court,
 - (2) the result of the negligent acts or omissions of the *Contractor*, or
 - (3) the result of a breach of this *Contract* by the *Contractor*;
- 18 cost of auditing when requested by the *Owner*; and
- 19 cost of *Project* specific information technology in accordance with the method determined by the parties.

- 6.3.8 Notwithstanding any 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 *Contractor* to exercise reasonable care and diligence in the *Contractor's* attention to the *Work*. Any cost due to failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor's* performance of the *Work* attributable to the *Change Directive* shall be borne by the *Contractor*.
- 6.3.9 The *Contractor* 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 *Consultant* with copies thereof.
- 6.3.10 For the purpose of valuing *Change Directives*, the *Owner* shall be afforded reasonable access to all of the *Contractor's* pertinent documents related to the cost of performing the *Work* attributable to the *Change Directive*.
- 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 eligible to be included in progress payments.
- 6.3.12 If the *Owner* and the *Contractor* do not agree on the proposed adjustment in the *Contract Time* attributable to the change in the *Work*, or the method of determining it, the adjustment shall be referred to the *Consultant* for a finding.
- 6.3.13 When the *Owner* and the *Contractor* 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 *Contractor* discover conditions at the *Place of the Work* which are:
- .1 subsurface or otherwise concealed physical conditions which existed before the commencement of the *Work* and 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 *Consultant* will promptly investigate such conditions and make a finding. If the finding is that the conditions differ materially and this would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Owner*, through the *Consultant*, shall issue appropriate instructions for a change in the *Work* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.
- 6.4.3 If the *Consultant* finds 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 *Consultant* will promptly inform the *Owner* and the *Contractor* in writing.
- 6.4.4 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, GC 9.3 – ARTIFACTS AND FOSSILS and GC 9.5 – MOULD.

GC 6.5 DELAYS

- 6.5.1 If the *Contractor* is delayed in the performance of the *Work* by the *Owner*, the *Consultant*, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the *Contract Documents*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.
- 6.5.2 If the *Contractor* is delayed in the performance of 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 *Contractor* or any person employed or engaged by the *Contractor* directly or indirectly, resulting in the failure of the *Contractor* to attain *Ready-for-Takeover* by the date stipulated in Article A-1 of the Agreement – THE WORK, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.
- 6.5.3 If the *Contractor* is delayed in the performance of 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 *Contractor* is a member or to which the *Contractor* is otherwise bound),
 - .2 fire, unusual delay by common carriers or unavoidable casualties,
 - .3 abnormally adverse weather conditions, or

- 4 any cause beyond the *Contractor's* control other than one resulting from a default or breach of *Contract* by the *Contractor*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as the result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for costs incurred by such delays unless such delays result from actions by the *Owner*, the *Consultant* or anyone employed or engaged by them 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 *Consultant* not 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 If no schedule is made under paragraph 2.2.12 of GC 2.2 – ROLE OF THE CONSULTANT, then no request for extension shall be made because of failure of the *Consultant* to furnish instructions until 10 *Working Days* after demand for such instructions has been made.

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

- 6.6.1 If the *Contractor* intends to make a claim for an increase to the *Contract Price*, or if the *Owner* intends to make a claim against the *Contractor* 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 and to the *Consultant*.
- 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 *Consultant* a detailed account of the amount claimed and the grounds upon which the claim is based and the *Consultant* will make a finding upon such claim.
- 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 such intervals as the *Consultant* may reasonably require, 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 The *Consultant's* findings, with respect to a claim made by either party, will be given by *Notice in Writing* to both parties within 30 *Working Days* after receipt of the claim by the *Consultant*, or within such other time period as may be agreed by the parties.
- 6.6.6 If such finding is not acceptable to either party, the claim shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION.

PART 7 DEFAULT NOTICE

GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT

- 7.1.1 If the *Contractor* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Contractor's* insolvency, or if a receiver is appointed because of the *Contractor's* insolvency, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, terminate the *Contractor's* right to continue with the *Work*, by giving the *Contractor* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.1.2 If the *Contractor* neglects to perform the *Work* properly or otherwise fails to comply with the requirements of the *Contract* to a substantial degree and if the *Consultant* has given a written statement to the *Owner* and *Contractor* which provides the detail of such neglect to perform the *Work* properly or such failure 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 *Contractor Notice in Writing*, containing particulars of the default including references to applicable provisions of the *Contract*, that the *Contractor* is in default of the *Contractor's* contractual obligations and instruct the *Contractor* to correct the default in the 5 *Working Days* immediately following the receipt of such *Notice in Writing*.
- 7.1.3 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 *Contractor* shall be in compliance with the *Owner's* instructions if the *Contractor*:
- .1 commences the correction of the default within the specified time,
 - .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.

- 7.1.4 If the *Contractor* 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 by giving *Notice in Writing*:
- .1 correct such default and deduct the cost thereof from any payment then or thereafter due the *Contractor* for the *Work* provided the *Consultant* has certified such cost to the *Owner* and the *Contractor*, or
 - .2 terminate the *Contractor*'s right to continue with the *Work* in whole or in part or terminate the *Contract*.
- 7.1.5 If the *Owner* terminates the *Contractor*'s right to continue with the *Work* as provided in paragraphs 7.1.1 and 7.1.4, the *Owner* shall be entitled to:
- .1 take possession of the *Work* and *Products* at the *Place of the Work*; subject to the rights of third parties, utilize the *Construction Equipment* at the *Place of the Work*; finish the *Work* by whatever method the *Owner* may consider expedient, but without undue delay or expense,
 - .2 withhold further payment to the *Contractor* until a final certificate for payment is issued,
 - .3 charge the *Contractor* the amount by which the full cost of finishing the *Work* as certified by the *Consultant*, including compensation to the *Consultant* for the *Consultant*'s additional services and a reasonable allowance as determined by the *Consultant* to cover the cost of corrections to work performed by the *Contractor* that may be required under GC 12.3 – WARRANTY, exceeds the unpaid balance of the *Contract Price*; however, if such cost of finishing the *Work* is less than the unpaid balance of the *Contract Price*, the *Owner* shall pay the *Contractor* the difference, and
 - .4 on expiry of the warranty period, charge the *Contractor* the amount by which the cost of corrections to the *Contractor*'s work under GC 12.3 – WARRANTY exceeds the allowance provided for such corrections, or if the cost of such corrections is less than the allowance, pay the *Contractor* the difference.
- 7.1.6 The *Contractor*'s obligation under the *Contract* as to quality, correction and warranty of the work performed by the *Contractor* up to the time of termination shall continue in force after such termination of the *Contract*.

GC 7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT

- 7.2.1 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 *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.2.2 If the *Work* is suspended or otherwise delayed for a period of 20 *Working Days* or more 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 *Contractor* or of anyone directly or indirectly employed or engaged by the *Contractor*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* *Notice in Writing* to that effect.
- 7.2.3 The *Contractor* may give *Notice in Writing* to the *Owner*, with a copy to the *Consultant*, that the *Owner* is in default of the *Owner*'s contractual obligations if:
- .1 the *Owner* fails to furnish, when so requested by the *Contractor*, reasonable evidence that financial arrangements have been made to fulfill the *Owner*'s obligations under the *Contract*,
 - .2 the *Consultant* fails to issue a certificate as provided in Part 5 of the General Conditions – PAYMENT,
 - .3 the *Owner* fails to pay the *Contractor* when due the amounts certified by the *Consultant* or awarded by adjudication, arbitration or court, or
 - .4 the *Owner* fails to comply with the requirements of the *Contract* to a substantial degree and the *Consultant*, except for GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, gives a written statement to the *Owner* and the *Contractor* that provides detail of such failure to comply with the requirements of the *Contract* to a substantial degree.
- 7.2.4 The *Contractor*'s *Notice in Writing* to the *Owner* provided under paragraph 7.2.3 shall advise that if the default is not corrected within 5 *Working Days* following the receipt of the *Notice in Writing*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, suspend the *Work* or terminate the *Contract*.
- 7.2.5 If the *Contractor* terminates the *Contract* by giving a *Notice in Writing* to the *Owner* under the conditions set out above, the *Contractor* shall be entitled to be paid for all work performed including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the termination of the *Contract*.

PART 8 DISPUTE RESOLUTION

GC 8.1 AUTHORITY OF THE CONSULTANT

- 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, which are not resolved

in the first instance by findings of the *Consultant* as provided in GC 2.2 – ROLE OF THE CONSULTANT, shall be settled in accordance with the requirements of Part 8 of the General Conditions – DISPUTE RESOLUTION.

- 8.1.2 If a dispute arises under the *Contract* in respect of a matter in which the *Consultant* has no authority under the *Contract* to make a finding, the procedures set out in paragraph 8.1.3 and paragraphs 8.3.3 to 8.3.8 of GC 8.3 – NEGOTIATION, MEDIATION AND ARBITRATION, and in GC 8.4 – RETENTION OF RIGHTS apply to that dispute with the necessary changes to detail as may be required.
- 8.1.3 If a dispute is not resolved promptly, the *Consultant* will give such instructions as in the *Consultant's* opinion are necessary for the proper performance of the *Work* and 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 *Contractor* costs incurred by the *Contractor* in carrying out such instructions which the *Contractor* was required to do beyond what the *Contract Documents* correctly understood and interpreted would have required, including costs resulting from interruption of the *Work*.

GC 8.2 ADJUDICATION

- 8.2.1 Nothing in this *Contract* shall be deemed to affect the rights of the parties to resolve any dispute by adjudication as may be prescribed by applicable legislation.

GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

- 8.3.1 In accordance with the rules for mediation as provided in CCDC 40 ‘Rules for Mediation and Arbitration of Construction Industry Disputes’ in effect at the time of bid closing, the parties shall 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.
- 8.3.2 A party shall be conclusively deemed to have accepted a finding of the *Consultant* under GC 2.2 – ROLE OF THE CONSULTANT and to have expressly waived and released the other party from any claims in respect of the particular matter dealt with in that finding unless, within 15 *Working Days* after receipt of that finding, the party sends a *Notice in Writing* of dispute to the other party and to the *Consultant*, which contains the particulars of the matter in dispute and the relevant provisions of the *Contract Documents*. 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 this response and any relevant provisions of the *Contract Documents*.
- 8.3.3 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.
- 8.3.4 After a period of 10 *Working Days* following receipt of a responding party’s *Notice in Writing* of reply under paragraph 8.3.2, 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 as provided in CCDC 40 in effect at the time of bid closing.
- 8.3.5 If the dispute has not been resolved at the mediation or within such further period as is agreed by the parties, the Project Mediator will terminate the mediated negotiations by giving *Notice in Writing* to the *Owner*, the *Contractor* and the *Consultant*.
- 8.3.6 By giving a *Notice in Writing* to the other party and the *Consultant*, not later than 10 *Working Days* after the date of termination of the mediated negotiations under paragraph 8.3.5, either party may refer the dispute to be finally resolved by arbitration under the rules of arbitration as provided in CCDC 40 in effect at the time of bid closing. The arbitration shall be conducted in the jurisdiction of the *Place of the Work*.
- 8.3.7 On expiration of the 10 *Working Days*, the arbitration agreement under paragraph 8.3.6 is not binding on the parties and, if a *Notice in Writing* is not given under paragraph 8.3.6 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.
- 8.3.8 If neither party, by *Notice in Writing*, given within 10 *Working Days* of the date of *Notice in Writing* requesting arbitration in paragraph 8.3.6, requires that a dispute be arbitrated immediately, all disputes referred to arbitration as provided in paragraph 8.3.6 shall be:
- .1 held in abeyance until:
 - (1) *Ready-for-Takeover*,
 - (2) the *Contract* has been terminated, or
 - (3) the *Contractor* has abandoned the *Work*,
 whichever is earlier; and

- .2 consolidated into a single arbitration under the rules governing the arbitration under paragraph 8.3.6.

GC 8.4 RETENTION OF RIGHTS

- 8.4.1 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 8.1.3 of GC 8.1 – AUTHORITY OF THE CONSULTANT.
- 8.4.2 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 8.3.6 of GC 8.3 – NEGOTIATION, MEDIATION AND ARBITRATION to proceed by way of arbitration to adjudicate the merits of the claim upon which such a lien is based.

PART 9 PROTECTION OF PERSONS AND PROPERTY

GC 9.1 PROTECTION OF WORK AND PROPERTY

- 9.1.1 The *Contractor* shall protect the *Work*, the *Owner's* property and property adjacent to the *Place of the Work* from damage which may arise as the result of the *Contractor's* operations under the *Contract*, and shall be responsible for such damage, except damage which occurs as the result of:
- .1 errors or omissions in the *Contract Documents*; or
 - .2 acts or omissions by the *Owner*, the *Consultant*, *Other Contractors*, or their agents and employees.
- 9.1.2 Before commencing any work, the *Contractor* shall determine the location of all underground utilities and structures indicated in the *Contract Documents* or that are reasonably apparent in an inspection of the *Place of the Work*.
- 9.1.3 Should the *Contractor* in the performance of the *Contract* damage the *Work*, the *Owner's* property or property adjacent to the *Place of the Work*, the *Contractor* shall be responsible for making good such damage at the *Contractor's* expense.
- 9.1.4 Should damage occur to the *Work* or the *Owner's* property for which the *Contractor* is not responsible, as provided in paragraph 9.1.1, the *Contractor* 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

- 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 *Contractor* commencing the *Work*, the *Owner* shall,
- .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 *Consultant* and the *Contractor* 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 *Contractor* 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 any toxic or hazardous substance which was present at the *Place of the Work* prior to the *Contractor* commencing the *Work*.
- 9.2.5 If the *Contractor*
- .1 encounters toxic or hazardous substances at the *Place of the Work*, or
 - .2 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 *Contractor* or anyone for whom the *Contractor* 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 *Contractor* shall
 - .3 take all reasonable steps, including stopping the *Work*, to ensure that no person's exposure to any toxic or hazardous substance exceeds any applicable time weighted levels prescribed by applicable legislation at the *Place of the Work*, and
 - .4 immediately report the circumstances to the *Consultant* and the *Owner* in writing.

- 9.2.6 If the *Owner* and the *Contractor* do not agree on the existence, significance of, or whether the toxic or hazardous substances were brought onto the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.
- 9.2.7 If the *Owner* and the *Contractor* 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 *Contractor* or anyone for whom the *Contractor* 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 *Contractor* for the costs of all steps taken pursuant to paragraph 9.2.5;
 - .3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in 9.2.6 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay; and
 - .4 indemnify the *Contractor* as required by GC 13.1 – INDEMNIFICATION.
- 9.2.8 If the *Owner* and the *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Contractor* shall promptly at the *Contractor'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;
 - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.2.6; and
 - .4 indemnify the *Owner* as required by GC 13.1 – 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 by GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.

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 or Work* shall, as between the *Owner* and the *Contractor*, be deemed to be the absolute property of the *Owner*.
- 9.3.2 The *Contractor* shall take all reasonable precautions to prevent removal or damage to discoveries as identified in paragraph 9.3.1, and shall advise the *Consultant* upon discovery of such items.
- 9.3.3 The *Consultant* will investigate the impact on the *Work* of the discoveries identified in paragraph 9.3.1. If conditions are found that would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Owner*, through the *Consultant*, shall issue appropriate instructions for a change in the *Work* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.

GC 9.4 CONSTRUCTION SAFETY

- 9.4.1 The *Contractor* shall be responsible for establishing, initiating, maintaining, and supervising all health and safety precautions and programs in connection with the performance of the *Work* in accordance with the applicable health and safety legislation.
- 9.4.2 The *Owner* and the *Contractor* shall comply with all health and safety precautions and programs established at the *Place of the Work*.
- 9.4.3 The *Owner* and the *Contractor* shall comply with the rules, regulations and practices required by the applicable health and safety legislation.
- 9.4.4 The *Owner* shall cause the *Consultant*, *Other Contractors* and the *Owner's* own forces to comply with all health and safety precautions and programs established by the *Contractor* at the *Place of the Work*.
- 9.4.5 Nothing in this *Contract* shall affect the determination of liability under the applicable health and safety legislation.

GC 9.5 MOULD

- 9.5.1 If the *Contractor* or the *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,
 - .2 the *Contractor* 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, and

- .3 if the *Owner* and the *Contractor* 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 determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.
- 9.5.2 If the *Owner* and the *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was caused by the *Contractor's* operations under the *Contract*, the *Contractor* shall promptly, at the *Contractor's* own expense:
- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould,
 - .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,
 - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.5.1.3, and
 - .4 indemnify the *Owner* as required by GC 13.1 – INDEMNIFICATION.
- 9.5.3 If the *Owner* and the *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was not caused by the *Contractor'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,
 - .2 reimburse the *Contractor* 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,
 - .3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in paragraph 9.5.1.3 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay, and
 - .4 indemnify the *Contractor* as required by GC 13.1 – INDEMNIFICATION.
- 9.5.4 If either party does not accept the expert's finding under paragraph 9.5.1.3, 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 9.5.2 or 9.5.3, it being understood that by so doing neither party will jeopardize any claim the party may have to be reimbursed as provided by GC 9.5 – MOULD.

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 bid closing except for *Value Added Taxes* payable by the *Owner* to the *Contractor* as stipulated in Article A-4 of the Agreement – CONTRACT PRICE.
- 10.1.2 Any increase or decrease in costs to the *Contractor* due to changes in taxes and duties after the time of the bid closing shall increase or decrease the *Contract Price* accordingly.

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

- 10.2.1 The laws of the *Place of the Work* shall govern the *Work*.
- 10.2.2 The *Owner* shall obtain and pay for development approvals, building permit, permanent easements, rights of servitude, and all other necessary approvals and permits, except for the permits and fees referred to in paragraph 10.2.3 or for which the *Contract Documents* specify as the responsibility of the *Contractor*.
- 10.2.3 The *Contractor* shall be responsible for the procurement of permits, licences, inspections, and certificates, which are necessary for the performance of the *Work* and customarily obtained by contractors in the jurisdiction of the *Place of the Work* after the issuance of the building permit. The *Contract Price* includes the cost of these permits, licences, inspections, and certificates, and their procurement.
- 10.2.4 The *Contractor* shall give the required notices and comply with the laws, ordinances, rules, regulations, or codes which are or become in force during the performance of the *Work* and which relate to the *Work*, to the preservation of the public health, and to construction safety.
- 10.2.5 The *Contractor* shall not be responsible for verifying that the *Contract Documents* are in compliance with the applicable laws, ordinances, rules, regulations, or codes relating to the *Work*. If the *Contract Documents* are at variance therewith, or if, subsequent to the time of bid closing, changes are made to the applicable laws, ordinances, rules, regulations, or codes which require modification to the *Contract Documents*, the *Contractor* shall advise the *Consultant* in writing requesting direction immediately upon such variance or change becoming known. The *Consultant* will issue the changes required to the *Contract Documents* 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 *Contractor* fails to advise the *Consultant* in writing; 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 *Contractor* 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 bid closing, changes are made to applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction which affect the cost of 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 *Contractor* shall pay the royalties and patent licence fees required for the performance of the *Contract*. The *Contractor* shall hold the *Owner* harmless from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor*'s performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention by the *Contractor* or anyone for whose acts the *Contractor* may be liable.
- 10.3.2 The *Owner* shall hold the *Contractor* harmless against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor*'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 physical model, plan or design of which was supplied to the *Contractor* as part of the *Contract*.

GC 10.4 WORKERS' COMPENSATION

- 10.4.1 Prior to commencing the *Work*, and again with the *Contractor*'s applications for payment, the *Contractor* shall provide evidence of compliance with workers' compensation legislation at the *Place of the Work*.

PART 11 INSURANCE

GC 11.1 INSURANCE

- 11.1.1 Without restricting the generality of GC 13.1 – INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the requirements of which are specified in CCDC 41 'CCDC Insurance Requirements' in effect at the time of bid closing except as hereinafter provided:
1. General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner* and the *Consultant* as insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Ready-for-Takeover*. Liability coverage shall be provided for completed operations hazards from the date of *Ready-for-Takeover* on an ongoing basis for a period of 6 years following *Ready-for-Takeover*.
 2. Automobile Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
 3. Unmanned aerial vehicle aircraft, manned aircraft or watercraft Liability Insurance when owned or non-owned manned or unmanned aircraft or watercraft are used directly or indirectly in the performance of the *Work*.
 4. "Broad form" property insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The "Broad form" 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 *Ready-for-Takeover*;
 - (2) on the commencement of use or occupancy of any part or section of the *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*; and
 - (3) when left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.
 5. Boiler and machinery insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. 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 *Ready-for-Takeover*.
 6. The "Broad form" 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 *Contractor* as their respective interests may appear. In the event of loss or damage:
 - (1) the *Contractor* 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 *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except

that the *Contractor* shall be entitled to such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*;

- (2) the *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount 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. In addition the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor's* interest in the restoration of the *Work*; and
- (3) to the *Work* arising from the work of the *Owner*, the *Owner's* own forces or *Other Contractors*, the *Owner* shall, in accordance with the *Owner's* obligations under the provisions relating to construction by the *Owner* or *Other Contractors*, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as in accordance with the progress payment provisions.

- .7 *Contractors' Equipment Insurance* from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
- .8 *Contractors' Pollution Liability Insurance* from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.

- 11.1.2 Prior to commencement of the *Work* and upon the placement, renewal, amendment, or extension of all or any part of the insurance, the *Contractor* shall promptly provide the *Owner* with confirmation of coverage and, if required, a certified true copy of the policies certified by an authorized representative of the insurer together with copies of any amending endorsements applicable to the *Work*.
- 11.1.3 The parties shall pay their share of the deductible amounts in direct proportion to their responsibility in regards to any loss for which the above policies are required to pay, except where such amounts may be excluded by the terms of the *Contract*.
- 11.1.4 If the *Contractor* 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 to the *Contractor* and the *Consultant*. The *Contractor* shall pay the cost thereof to the *Owner* on demand or the *Owner* may deduct the cost from the amount which is due or may become due to the *Contractor*.
- 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 is published, which specifies reduced insurance requirements, the parties shall address such reduction, prior to the *Contractor'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 is published, which specifies increased insurance requirements, the *Owner* may request the increased coverage from the *Contractor* 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 the revision of CCDC 41.

PART 12 OWNER TAKEOVER

GC 12.1 READY-FOR-TAKEOVER

- 12.1.1 The prerequisites to attaining *Ready-for-Takeover* of the *Work* are limited to the following:
 - .1 The *Consultant* has certified or verified the *Substantial Performance of the Work*.
 - .2 Evidence of compliance with the requirements for occupancy or occupancy permit as prescribed by the authorities having jurisdiction.
 - .3 Final cleaning and waste removal at the time of applying for *Ready-for-Takeover*, as required by the *Contract Documents*.
 - .4 The delivery to the *Owner* of such operations and maintenance documents reasonably necessary for immediate operation and maintenance, as required by the *Contract Documents*.
 - .5 Make available a copy of the as-built drawings completed to date on site.
 - .6 Startup, testing required for immediate occupancy, as required by the *Contract Documents*.
 - .7 Ability to secure access to the *Work* has been provided to the *Owner*, if required by the *Contract Documents*.
 - .8 Demonstration and training, as required by the *Contract Documents*, is scheduled by the *Contractor* acting reasonably.
- 12.1.2 If any prerequisites set forth in paragraphs 12.1.1.3 to 12.1.1.6 must be deferred because of conditions reasonably beyond the control of the *Contractor*, or by agreement between the *Owner* and the *Contractor* to do so, *Ready-for-Takeover* shall not be delayed.
- 12.1.3 When the *Contractor* considers that the *Work* is *Ready-for-Takeover*, the *Contractor* shall deliver to the *Consultant* and to the *Owner* a comprehensive list of items to be completed or corrected, together with a written application for *Ready-for-Takeover* for review. Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.
- 12.1.4 The *Consultant* will review the *Work* to verify the validity of the application and will promptly, and in any event, no later than 10 calendar days after receipt of the *Contractor's* list and application:

- .1 advise the *Contractor* in writing that the *Work* is not *Ready-for-Takeover* and give reasons why, or
- .2 confirm the date of *Ready-for-Takeover* in writing to each of the *Owner* and the *Contractor*.

12.1.5 Immediately following the confirmation of the date of *Ready-for-Takeover*, the *Contractor*, in consultation with the *Consultant*, shall establish a reasonable date for finishing the *Work*.

12.1.6 The provision of GC 12.1 – READY-FOR-TAKEOVER shall be subject to GC 12.2 – EARLY OCCUPANCY BY THE OWNER.

GC 12.2 EARLY OCCUPANCY BY THE OWNER

12.2.1 The *Owner* may take occupancy of a part or the entirety of the *Work* before *Ready-for-Takeover* has been attained only as agreed by the *Contractor* which agreement shall not be unreasonably withheld.

12.2.2 The *Owner* shall not occupy a part or the entirety of the *Work* without prior approval by authorities having jurisdiction.

12.2.3 If the *Owner* takes occupancy of a part of the *Work* before *Ready-for-Takeover* has been attained:

- .1 The part of the *Work* which is occupied shall be deemed to have been taken over by the *Owner* as from the date on which it is occupied.
- .2 The *Contractor* shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the *Owner*.
- .3 The warranty period specified in paragraph 12.3.1 of GC 12.3 – WARRANTY for that part of the *Work* shall start from the date on which it is occupied.

12.2.4 If the *Owner* takes occupancy of the entirety of the *Work* before all the prerequisites are met as described in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER, the *Work* shall, subject to the requirements of the applicable lien legislation, be deemed to achieve *Ready-for-Takeover*. This shall not relieve the *Contractor*'s responsibility to complete the *Work* in a timely manner.

GC 12.3 WARRANTY

12.3.1 Except for extended warranties as described in paragraph 12.3.6, the warranty period under the *Contract* is one year from the date when *Ready-for-Takeover* has been attained.

12.3.2 The *Contractor* shall be responsible for the proper performance of the *Work* to the extent that the design and *Contract Documents* permit such performance.

12.3.3 The *Owner*, through the *Consultant*, shall promptly give the *Contractor Notice in Writing* of observed defects and deficiencies which occur during the one year warranty period.

12.3.4 Subject to paragraph 12.3.2, the *Contractor* shall correct promptly, at the *Contractor*'s expense, defects or deficiencies in the *Work* which appear prior to and during the one year warranty period.

12.3.5 The *Contractor* shall correct or pay for damage resulting from corrections made under the requirements of paragraph 12.3.4.

12.3.6 Any extended warranties required beyond the one year warranty period as described in paragraph 12.3.1, shall be as specified in the *Contract Documents*. Extended warranties shall be issued by the warrantor to the benefit of the *Owner*. The *Contractor*'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.

PART 13 INDEMNIFICATION AND WAIVER

GC 13.1 INDEMNIFICATION

13.1.1 Without restricting the parties' obligation to indemnify respecting toxic and hazardous substances, patent fees and defect in title claims all as described in paragraphs 13.1.4 and 13.1.5, the *Owner* and the *Contractor* shall each indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings 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) the negligent acts or omissions of the party from whom indemnification is sought or anyone for whose negligent acts or omissions that party is liable, or
 - (2) a failure of the party to the *Contract* from whom indemnification is sought to fulfill its terms or conditions; and
- .2 made by *Notice in Writing* within a period of 6 years from the *Ready-for-Takeover* date 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*.

- 13.1.2 The obligation of either party to indemnify as set forth in paragraph 13.1.1 shall be limited as follows:
- .1 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is to be provided by either party pursuant to GC 11.1 – INSURANCE, the minimum liability insurance limit for one occurrence, of the applicable insurance policy, as referred to in CCDC 41 in effect at the time of bid closing.
 - .2 In respect to losses suffered by the *Owner* and the *Contractor* 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 – CONTRACT PRICE or \$2,000,000, but in no event shall the sum be greater than \$20,000,000.
 - .3 In respect to indemnification by a party against the other with respect to losses suffered by them, such obligation shall be restricted to direct loss and damage, and neither party shall have any liability to the other for indirect, consequential, punitive or exemplary damages.
 - .4 In respect to indemnification respecting claims by third parties, the obligation to indemnify is without limit.
- 13.1.3 The obligation of either party to indemnify the other as set forth in paragraphs 13.1.1 and 13.1.2 shall be inclusive of interest and all legal costs.
- 13.1.4 The *Owner* and the *Contractor* shall indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of their obligations described in GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.
- 13.1.5 The *Owner* shall indemnify and hold harmless the *Contractor* from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings:
- .1 as described in paragraph 10.3.2 of GC 10.3 – PATENT FEES, and
 - .2 arising out of the *Contractor*'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*.
- 13.1.6 In respect to any claim for indemnity or to be held harmless by the *Owner* or the *Contractor*:
- .1 *Notice in Writing* of such claim shall be given within a reasonable time after the facts upon which such claim is based become 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 13.2 WAIVER OF CLAIMS

- 13.2.1 Subject to any lien legislation applicable to the *Place of the Work*, the *Contractor* waives and releases the *Owner* from all claims which the *Contractor* has or reasonably ought to have knowledge of that could be advanced by the *Contractor* against the *Owner* under the *Contract*, 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 *Ready-for-Takeover* date, except as follows:
- .1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* no later than 5 calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work* or 20 calendar days following the *Ready-for-Takeover* date, whichever is later;
 - .2 indemnification for claims advanced against the *Contractor* by third parties for which a right of indemnification may be asserted by the *Contractor* against the *Owner* pursuant to the provisions of this *Contract*;
 - .3 claims respecting toxic and hazardous substances, patent fees and defect in title matters for which a right of indemnity could be asserted by the *Contractor* pursuant to the provisions of paragraphs 13.1.4 or 13.1.5 of GC 13.1 – INDEMNIFICATION; and
 - .4 claims resulting from acts or omissions which occur after the *Ready-for-Takeover* date.
- 13.2.2 The *Contractor* waives and releases the *Owner* from all claims resulting from acts or omissions which occurred after the *Ready-for-Takeover* date except for:
- .1 indemnification respecting third party claims, and claims respecting toxic and hazardous substances, patent fees and defect in title matters, all as referred in paragraphs 13.2.1.2 and 13.2.1.3; and
 - .2 claims for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* within 395 calendar days following the *Ready-for-Takeover* date.
- 13.2.3 Subject to any lien legislation applicable to the *Place of the Work*, the *Owner* waives and releases the *Contractor* from all claims which the *Owner* has or reasonably ought to have knowledge of that could be advanced by the *Owner* against the *Contractor* under the *Contract*, 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 *Ready-for-Takeover* date, except as follows:
- .1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* no later than 20 calendar days following the *Ready-for-Takeover* date;

- .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 *Contractor* pursuant to the provisions of this *Contract*;
 - .3 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor* pursuant to the provisions of paragraph 13.1.4 of GC 13.1 – INDEMNIFICATION;
 - .4 damages arising from the *Contractor*'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 12.3 – WARRANTY; and
 - .6 claims arising from acts or omissions which occur after the *Ready-for-Takeover* date.
- 13.2.4 Respecting claims arising upon substantial defects and deficiencies in the *Work*, as referenced in paragraph 13.2.3.4, and notwithstanding paragraph 13.2.3.5, the *Owner* waives and releases the *Contractor* from all claims except claims for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* within a period of six years from the *Ready-for-Takeover* date, provided that 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, the time within which any such claim may be brought shall be such shorter period as may be prescribed by any limitation statute of the Province or Territory of the *Place of the Work*.
- 13.2.5 The *Owner* waives and releases the *Contractor* from all claims arising from acts or omissions which occur after the *Ready-for-Takeover* date, except for:
- .1 indemnification for claims advanced against the *Owner* by third parties, as referenced in paragraph 13.2.3.2;
 - .2 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor*, as referenced in paragraph 13.2.3.3;
 - .3 claims arising under GC 12.3 – WARRANTY; and
 - .4 claims for which *Notice in Writing* has been received by the *Contractor* from the *Owner* within 395 calendar days following the *Ready-for-Takeover* date.
- 13.2.6 “*Notice in Writing* of claim” as provided for in GC 13.2 – WAIVER OF CLAIMS to preserve a claim or right of action which would otherwise, by the provisions of GC 13.2 – WAIVER OF CLAIMS, be deemed to be waived, must include the following:
- .1 a clear and unequivocal statement of an intention to claim;
 - .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.
- 13.2.7 A claim for lien asserted under the lien legislation prevailing at the *Place of the Work* shall qualify as notice of claim for the purposes of this *Contract*.
- 13.2.8 The party giving the *Notice in Writing* of claim as provided for in GC 13.2 – WAIVER OF CLAIMS shall submit within a reasonable time a detailed account of the amount claimed.
- 13.2.9 Where the event or series of events giving rise to a claim made under paragraphs 13.2.1 or 13.2.3 has a continuing effect, the detailed account submitted under paragraph 13.2.8 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 such claim 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.
- 13.2.10 Nothing in GC 13.2 – WAIVER OF CLAIMS shall be deemed to affect the rights of the parties under any lien legislation or limitations legislation prevailing at the *Place of the Work*.

SUPPLEMENTARY CONDITIONS
STANDARD CONSTRUCTION DOCUMENT – CCDC 2 – 2020

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AGREEMENT BETWEEN OWNER AND CONTRACTOR

ARTICLE A-1 THE WORK

SC-1 Delete paragraph 1.3 of Article A-1 and replace it with the following:

“commence the *Work* by the date stipulated by the *Owner* in the *Notice of Award* and, subject to adjustment in *Contract Time* as provided for in the *Contract Documents*, attain *Ready-for-Takeover* and *Completion* in accordance with the *Agreement Term Sheet*.”

SC-2 Add the following new paragraphs 1.4 and 1.5 to Article A-1:

“1.4 The *Contractor* shall diligently perform and complete the *Work* in accordance with the *Standard of Care*, all *Applicable Laws* and all terms and conditions of the *Contract Documents*, including the *Construction Schedule*.

1.5 The *Contractor* represents that in entering into the *Contract* with the *Owner* for the performance of the *Work*, it has either in accordance with the *Standard of Care* inspected the *Place of the Work* and reviewed for itself all information provided by the *Owner*, the character of the *Work* to be done, and all local conditions, including the position of all registered easements, pole lines, conduits, watermains, sewers and other underground and overground utilities and structures, or that, not having so inspected and reviewed, the *Contractor* has assumed and does hereby assume all risk of conditions now existing or arising in the course of the *Work* that might or could make the *Work*, or any items thereof, more expensive in character, or more onerous to fulfil than was contemplated or known as of the *Effective Date*. For certainty, the *Contractor* shall not be liable for conditions which would not have been ascertainable by a diligent review of the *Place of the Work*, all information provided by the *Owner*, the character of the *Work* to be done, and all local conditions in accordance with the *Standard of Care* prior to the *Effective Date*.”

ARTICLE A-4 CONTRACT PRICE

SC-3 Add new paragraphs 4.6 and 4.7 to Article A-4 as follows:

“4.6 To secure performance of the *Contractor*’s warranty obligations the *Owner* shall retain from each *Proper Invoice* an amount equal to the percentage of the total amount claimed for payment in such *Proper Invoice* (exclusive of *Value Added Taxes*) as stipulated in the *Agreement Term Sheet* (the “**Warranty Security**”).

4.7 For the purposes of paragraph 6.5.7, if the *Contractor* fails to achieve *Ready-for-Takeover* by the *Ready-for-Takeover Date* then the *Contractor* shall be liable to the *Owner* for liquidated damages in the amount per day stipulated in the *Agreement Term Sheet* for each day or part day of delay until *Ready-for-Takeover* is achieved.”

ARTICLE A-5 PAYMENT

SC-4 Delete paragraphs 5.1 and 5.2 of Article A-5 in its entirety and replace it with the following:

“5.1 Subject to the provisions of the *Contract Documents* and *Payment Legislation*, including in accordance with statutory regulations respecting holdback percentages, the *Owner* shall:

- .1 make progress payments to the *Contractor* on account of the *Contract Price* (excluding the *Warranty Security*) when due together with such *Value Added Taxes* as may be applicable to such payments,
- .2 upon *Substantial Performance of the Work*, pay to the *Contractor* the unpaid balance of the holdback amount when due together with such *Value Added Taxes* as may be applicable to such payment,
- .3 upon *Completion*, pay to the *Contractor* the unpaid balance of the *Contract Price* (excluding the *Warranty Security* and any unauthorized cash allowances, contingencies and provisional items) when due together with such *Value Added Taxes* as may be applicable to such payment, and
- .4 upon the issuance of the *Proper Invoice* for payment of the *Warranty Security* (less any deductions to such security applied in accordance with this *Contract*) following satisfaction of all requirements set out in paragraph 12.3.8, pay the *Warranty Security* when due together with such *Value Added Taxes* as may be applicable to such payment.

For certainty, all payments made by the *Owner* pursuant to subparagraphs 5.1.1, 5.1.2 and 5.1.3 shall be exclusive of the *Warranty Security*, which amount shall be paid as a milestone payment in accordance with subparagraph 5.1.4.

5.2 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by adjudication, arbitration or court, interest shall also become due and payable at the rates stipulated in the *Payment Legislation*.”

ARTICLE A-6 RECEIPT AND ADDRESSES FOR NOTICES IN WRITING

SC-5 Delete paragraph 6.5 of Article A-6 in its entirety and replace it with the following:

“6.5 Contact information for a party may be changed by *Notice in Writing* to the other party setting out the new contact information in accordance with this Article A-6.”

ARTICLE A-9 RELATIONSHIP OF THE PARTIES**ARTICLE A-10 PANDEMIC****ARTICLE A-11 INTERPRETATION AND OTHER MATTERS**

SC-6 Add new Articles A-9, A-10 and A-11 as follows:

“ARTICLE A-9 RELATIONSHIP OF THE PARTIES

- 9.1 The *Contractor* shall be an independent contractor in performing its obligations under the *Contract*. The *Contract* does not create any agency, partnership, joint venture, fiduciary or other relationship of the *Contractor* with the *Owner* other than the relationship of independent contractor.
- 9.2 No inspection, review, comment, approval, verification, confirmation, certification, acknowledgement or audit pursuant to the provisions of the *Contract* by any *Owner Personnel*, nor any failure of any of them to do so, shall relieve the *Contractor* from performing or fulfilling any of its obligations under the *Contract* or be construed as an acceptance of the *Work* or any part thereof.”

ARTICLE A-10 PANDEMIC

- 10.1 The parties acknowledge and agree that as of the *Effective Date*:
- .1 the *Pandemic* is on-going and, as a result, *Governmental Authorities*, including the Government of Canada, the Province of Ontario, The Regional Municipality of Halton and the *Municipality*, have implemented *Governmental Responses*; and
 - .2 it is uncertain how long the *Pandemic* and the related *Governmental Responses* will continue and whether there may be a resurgence of *COVID-19* resulting in a *Pandemic Change in Law*.
- 10.2 Except as expressly provided in this *Contract*, each party shall be solely responsible for costs and expenses incurred in performance of its obligations under the *Contract* related to or arising from the *Pandemic* and compliance with *Governmental Responses*, including in respect of the contraction by or infection of *Contractor Personnel* and *Owner Personnel*, as applicable, with *COVID-19* and neither party assumes responsibility whatsoever with respect to any such loss suffered by the other.
- 10.3 In addition to any *Governmental Responses*, the *Contractor* shall comply with any other *Pandemic*-related protocols and guidelines pertaining to the *Work* or *Place of the Work* that may be communicated to the *Contractor* by the *Owner* in writing.

- 10.4 Notwithstanding any other term of this Contract, the *Owner* and *Contractor* acknowledge and agree that under no circumstance shall any *Contractor Personnel* be obligated to provide or disclose the personal information of any *Contractor Personnel* to the *Owner* or any other third party.
- 10.5 The *Contractor* expressly acknowledges and agrees that the *Contract Price* and *Contract Time* account for and are inclusive of all costs and impacts to the *Work* resultant or arising from *COVID-19*, any *Governmental Response* and the *Pandemic* to the extent such costs and impacts were known as of the *Effective Date*. For certainty, the *Contractor* acknowledges and agrees that the following impacts of *COVID-19*, the *Pandemic* and *Governmental Responses* to performance of the *Work* were known as of the *Effective Date* and, accordingly, are fully accounted for in the *Contract Price* and *Contract Time*:
- .1 the best practices recommended by the Ontario Ministry of Labour for construction site health and safety during the *Pandemic* in effect at the date of the *Contract*;
 - .2 the need to implement physical distancing;
 - .3 the obligation to monitor workers, personnel and visitors to the *Place of the Work* for illness or *COVID-19* symptoms;
 - .4 the potential for loss of *Contractor Personnel* due to illness, *COVID-19* symptoms or exposure to Persons with same;
 - .5 the need to implement procedures for timely reporting (including to the *Owner*) of any illness or *COVID-19* symptoms experienced by workers, personnel or visitors to the *Place of the Work*;
 - .6 the provision of necessary tools, equipment or personal protective equipment to all persons at the *Place of the Work*, including all *Contractor Personnel* and authorized visitors to the *Place of the Work*;
 - .7 the need to install any temporary facilities or structures (such as wash stations); and
 - .8 the need to implement appropriate sanitation and cleaning at the *Place of the Work* and in performance of the *Work*.

- 10.6 The *Owner* reserves the right, in its sole discretion and by *Notice in Writing*, to delay commencement or suspend performance of the *Work*, as applicable, for such time as is reasonably necessary to mitigate or prevent risks to public health and safety resultant from *COVID-19* and the *Pandemic*. Performance of the *Work* by the *Contractor* shall be resumed upon the *Owner*'s provision of fifteen (15) days' written notice to the *Contractor*. The *Contract Time* shall be extended for such reasonable time as agreed by the *Owner* and *Contractor* and any reasonable costs related to the *Work* and directly incurred by the *Contractor* during any such period of delay shall be reimbursed by the *Owner*, except to the extent required or caused by the negligence or breach of this *Contract* by any *Contractor Personnel*. The extension of time shall not be less than the time lost as a result of such delay, unless the *Contractor* agrees to a shorter extension. The parties' agreement regarding such adjustment to the *Contract Time* and reimbursement of reasonable costs shall be set out in a *Change Order*. Otherwise, any dispute in this regard shall be resolved in accordance with PART 8 – DISPUTE RESOLUTION.
- 10.7 Notwithstanding any other provision in the *Contract*, if the *Contractor* is delayed in performing or unable to perform the *Work* as a result of a *Pandemic Change in Law*, then, except to the extent caused by the negligence or breach of this *Contract* by any *Contractor Personnel*, the *Contract Time* shall be extended for such reasonable time as agreed by the *Owner* and *Contractor*. The extension of time shall not be less than the time lost as a result of the *Pandemic Change in Law*, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for any costs incurred as a result of such delays, save and except as expressly provided for in paragraph 10.8 of this Article A-10.
- 10.8 The *Contractor* shall be entitled to payment for the following direct costs it reasonably incurs as a direct result of a *Pandemic Change in Law* provided that such costs have been approved in advance and in writing by the *Owner* and were not required or caused by the negligence or breach of this *Contract* by any *Contractor Personnel*:
- .1 the *Contractor* being required to purchase, use or provide additional safety-related supplies, including personal protective equipment, in connection with its performance of the *Work*;
 - .2 the *Contractor* being required to install additional temporary facilities or structures, including hand washing stations; and
 - .3 the costs incurred by the *Contractor* to reasonably mitigate the effect of any delay to performance of the *Work* resultant from a *Pandemic Change in Law*.
- 10.9 Notwithstanding any other term of this *Contract*:

- .1 the *Contractor* shall not be entitled to any extension of *Contract Time* or to any compensation in respect of any *Pandemic Change in Law* or delay referred to in this Article A-10 to the extent such delay or costs resulted from the *Contractor's* failure to take reasonable steps to mitigate the effect of the delay or *Pandemic Change in Law*, as applicable;
 - .2 in no event shall the *Owner* be liable for any costs or damages incurred by the *Contractor* as a result of any *Pandemic Change in Law* or delay referred to in this Article A-10 except as expressly stipulated in this *Contract*, including no liability for: (i) any costs associated with increased labour or material costs; (ii) any costs associated with supply chain impacts or delays; or (iii) any *Consequential Damages*;
 - .3 there will be no unjust enrichment from a *Pandemic Change in Law*.
- 10.10 In all cases where the *Contractor* considers itself entitled to an extension of the *Contract Time* or compensation as a result of *COVID-19*, the *Pandemic* or a *Pandemic Change in Law*, the *Contractor* shall provide the *Owner* with *Notice in Writing* within five (5) *Working Days* of the date on which the *Contractor* knew that it was so impacted. The *Contractor* shall keep detailed records of all resultant additional costs and schedule impacts and shall provide such records to the *Owner*, including with such *Notice in Writing* to the extent available at such time. Additionally, the *Contractor* shall seek the *Owner's* approval in writing in advance of taking any measures to mitigate the impact of *COVID-19*, the *Pandemic* or a *Pandemic Change in Law*.”

ARTICLE A-11 - INTERPRETATION AND OTHER MATTERS

- 11.1 In the *Contract Documents* the word “including” means “including without limitation”, and the word “includes” means “includes without limitation”.
- 11.2 If any provision of the *Contract* is determined to be invalid, illegal or unenforceable in whole or in part, such invalidity, illegality or unenforceability will only apply to such provision or part, as the case may be, and any other part and all other provisions of the *Contract* shall remain in full force and effect. Furthermore, the parties shall endeavour to agree on a provision which reflects insofar as reasonably possible the commercial intentions of the invalid, illegal or unenforceable provision or part.
- 11.3 Each party shall from time to time execute and deliver all such further documents and instruments and do all acts and things as the other party may reasonably require to effectively carry out, better evidence or perfect the full intent and meaning of the *Contract*.
- 11.4 The provisions of the *Contract* which by their nature are continuing shall survive termination of the *Contract*.”

DEFINITIONS

SC-7 Amend the definition of ***Consultant*** by adding the following to the end:

“Notwithstanding the foregoing, where the *Owner* has not engaged a person or entity to act as the “*Consultant*” such that no person or entity is so identified in the Agreement, the *Owner* shall be deemed to be the *Consultant* under the *Contract*.”

SC-8 Amend the definition of ***Contract Price*** by adding the following to the end:

“For certainty, the *Contract Price* is inclusive of the *Warranty Security*.”

SC-9 Delete the definition of ***Contract Time*** and replace it with the following:

Contract Time

The *Contract Time* is the time from commencement of the *Work* to the date of *Completion*, including the *Ready-for-Takeover Date* and *Completion Date*.”

SC-10 Amend the definition of ***Other Contractor*** by adding the following to the end after the word “*Project*”:

“or for other work at the *Place of the Work*”

SC-11 Amend the definition of ***Payment Legislation*** by adding the following to the end:

“For certainty, where the *Place of the Work* is in Ontario *Payment Legislation* means the *Construction Act*.”

SC-12 Add the following new definitions:

Abnormally Adverse Weather Condition

Abnormally Adverse Weather Condition means an extreme and unusual climatic condition characterized by wind speed, air temperature, precipitation, or snow fall that is less than or greater than (as applicable) one and a half (1.5) standard deviations from the mean condition determined from the official weather records of Environment and Climate Change Canada (or its successor) for the 10-year period immediately preceding the date of the abnormally adverse weather event.

Addenda

Addenda means any additions or changes to the tender documents issued by the Owner for the *Work* prior to the time of bid closing, if any.

Agreement Term Sheet

Agreement Term Sheet means the terms, such as dates and values that form part of the Contract as stipulated in Appendix 1 to the Supplementary Conditions – Agreement Term Sheet.

Affiliate

Affiliate means, with respect to a *Person*, or *Person* who directly or indirectly controls, is controlled by, or is under direct or indirect common control with, such *Person*, and includes any *Person* in like relation to an *Affiliate*. A *Person* shall be deemed to “control” another *Person* if such *Person* possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of such other *Person*, whether through the ownership of voting securities, by contract or otherwise; and the term “controlled” shall have a similar meaning. Without limiting the foregoing, any reference to an *Affiliate* of the *Owner* shall include any *Owner Entity*.

Applicable Law

Applicable Law means: (a) all laws, constitutions, treaties, statutes, codes, ordinances, orders, decrees, rules, regulations and by-laws which are or become in force during the performance of the *Work* and which relate to the *Project* or the *Work*, including the *Construction Act*, the *Environmental Protection Act*, the *OHSA* and the *WSIA*; (b) all judgments, orders, writs, injunctions, decisions, awards and directives of any *Governmental Authority* applicable to the *Project* or the *Work*; and (c) all policies, standards, guidelines, notices and protocols of any *Governmental Authority* applicable to the *Project* or the *Work*. For greater certainty, *Applicable Law* includes any restrictive covenants registered on title to the *Place of the Work*, the terms and conditions of any permit, authorization, certificate or approval issued by a *Governmental Authority* for the *Project* or the *Work*, and the terms and conditions of any official plan, zoning by-law, development agreement or site plan agreement related to the *Project* or the *Work*.

Arbitration Act

Arbitration Act means the *Arbitration Act*, 1991, SO 1991, c. 17, as amended from time to time, or its successor legislation, and includes all regulations enacted thereunder.

Background Reports

Background Reports means all reports, information and other documentation prepared by *Owner*, *Consultant*, and third parties referenced in the *Contract Documents* and made available to the Contractor regarding conditions at the *Place of the Work* and/or for performance of the *Work*.

Claims

Claims means any and all claims, liabilities, expenses, demands, losses, damages, actions, costs (including legal costs), interest, fines, suits, or proceedings of every nature and kind whatsoever.

Completion

Completion means when the price of completion of the *Work*, including correction of any known defects, is not more than the lesser of (i) one (1%) percent of the *Contract Price*; and (ii) \$5,000, as certified by the *Consultant* in accordance with this *Contract* and the *Payment Legislation*.

Completion Date

Completion Date means the date set out for achievement of *Completion* in the *Agreement Term Sheet*, as such date may be adjusted in accordance with the *Contract*.

Confidential Information

Confidential Information means this *Contract* and all information or material of the *Owner Entities* that is of a proprietary or confidential nature, whether it is identified as proprietary or confidential or not and whether in written, documentary, graphic, oral, electronic, computer readable and/or any other form whatsoever. *Confidential Information* includes:

- .1 any information concerning or related to this *Contract* or the business or affairs of any *Owner Entities*;
- .2 the prior and future discussions between *Contractor Personnel* and *Owner Entities* regarding any business transactions between them;
- .3 information concerning intellectual property, financial information, budgets, engineering and technical reports and information, environmental reports, *Project* design information, marketing plans and sales information, know-how, cost, *Deliverables*, architectural information, contractual arrangements including, terms of agreements with *Owner Entities*, all proprietary business information or personal information; and
- .4 information in any way derived by or generated by or which comes to the knowledge of the *Contractor Personnel* from such *Confidential Information*.

The following shall not be considered to be *Confidential Information*:

- .5 information that is or becomes publicly known through no wrongful act of the *Contractor* or *Contractor Personnel*;
- .6 information that the *Contractor* obtains from a third party that has the right to disclose it;
- .7 information that the *Contractor* can establish, by documentary evidence, was already known by the *Contractor* at the time of the initial disclosure of the *Confidential Information* by the *Owner* or *Consultant*; and
- .8 information that the *Contractor* can establish, by documentary evidence, was independently developed by or on behalf of the *Contractor* without reference to the *Confidential Information*.

Consequential Damages

Consequential Damages means (i) any consequential, incidental, special, punitive, exemplary or indirect damages, and (ii) damages of any kind, however caused or characterized, for loss of actual or anticipated revenue or profits, business interruption, loss of reputation, loss of use, loss of business opportunity, increased capital or operating costs, or increased financing costs.

Construction Act

Construction Act means the *Construction Act*, RSO 1990, c. C.30, as amended from time to time, or its successor legislation, and includes all regulations enacted thereunder.

Contractor IP

Contractor IP means all designs, processes, ideas, concepts, products, recommendations, suggestions, know-how, technical expertise, methods and all *Intellectual Property Rights* owned or developed by the *Contractor Personnel*.

Construction Schedule

The *Construction Schedule* means the schedule provided by the *Contractor* and approved by the *Consultant* pursuant to subparagraph 3.4.1.1.

Contractor Personnel

Contractor Personnel means the *Contractor* and all *Subcontractors* and *Suppliers* and any other *Persons* engaged by them to perform or supply any part of the *Work* or the *Contractor's* obligations under this *Contract*, including any employees, partners, officers, directors, agents, subcontractors, subconsultants, and other *Persons* for whom they are responsible at law.

COVID-19

COVID-19 means the SARS-CoV-2 novel coronavirus that causes the disease known as COVID-19 and includes any mutation or variant of such coronavirus.

Deliverables

Deliverables means all plans, sketches, designs, drawings, graphic representations, *Submittals*, specifications, notes, data, samples, materials, studies, reports, computer models, scale models, mock-ups, samples, reproducible and other documents and electronic data collected, developed or produced by the *Contractor Personnel* in performance of the *Work*, including all *Intellectual Property Rights* relating thereto, if any.

Effective Date

Effective Date means the date of this *Contract* as identified on the first page of the *Agreement*.

Environmental Consultant

Environmental Consultant means the professional consultant retained by the *Owner* that meets the qualifications of a “qualified person” as defined under the *Soil Regulations*.

Environmental Protection Act

Environmental Protection Act means the *Environmental Protection Act*, RSO 1990, c. E.19, as may be amended from time to time, or its successor legislation, and includes all regulations enacted thereunder.

Excess Soil

Excess Soil shall have the meaning given in the Soils Regulations.

Force Majeure Event

Force Majeure Event means any cause or event (other than bankruptcy, insolvency or lack of funds) which prevents performance by the *Contractor* of any of its obligations under the *Contract* in whole or in part and which further meets each of the following criteria: (a) the cause or event and its effects are beyond the *Contractor*'s reasonable control; (b) the *Contractor* could not reasonably have prevented, overcome, mitigated or removed the cause or event and its effects by commercially reasonable efforts and due diligence; and (c) the cause or event and its effects do not result from (i) the *Contractor*'s bankruptcy, insolvency, lack of funds or impecuniosity, (ii) act, omission or negligence of any *Contractor Personnel*, or (iii) breach of the *Contractor*'s obligations under this *Contract*. For certainty, a *Force Majeure Event* shall in no circumstance include (i) *COVID-19*, the *Pandemic* or a *Pandemic Change in Law* (including a *Governmental Response*), (ii) climatic or weather conditions other than *Abnormally Adverse Weather Conditions*, or (iii) economic, financial or market conditions or events.

Governmental Authority

Governmental Authority means (a) any federal, provincial, county, municipal, local or other governmental or public department, court, minister, governor-in-council, cabinet, commission, board, bureau, agency, commissioner, tribunal or instrumentality, (b) any subdivision or authority of any of the foregoing, and (c) any quasi-governmental or private body exercising any regulatory authority under or for the account of any of the foregoing. For certainty, *Governmental Authority* includes The Regional Municipality of Halton and the Municipality.

Governmental Response

Governmental Response means legislative amendments, controls, orders, requests and requirements imposed by *Governmental Authorities* in respect of or in response to *COVID-19* or the *Pandemic*. For certainty, *Governmental Response* includes a *Pandemic Change in Law* and the best practices recommended by the Ontario Ministry of Labour for construction site health and safety during the *Pandemic*.

Intellectual Property Rights

Intellectual Property Rights means all intellectual property rights (including rights in the nature of any copyright, trade mark, trade secret, service mark, design, drawing, patent, know-how, secret process and other similar proprietary rights, whether or not registered) and the rights to the registration of those rights and all rights or forms of protection of a similar nature or having equivalent or similar effect to any of these rights (and every renewal or extension of those rights) conferred under statute or common law or equity in any country.

MFIPPA

MFIPPA means the *Municipal Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. M.56, as amended from time to time, or its successor legislation, and includes all regulations enacted thereunder.

Municipality

Municipality means the lower-tier municipality of the *Place of the Work*.

Net Actual Cost

Net Actual Cost means the total cost of all labour and materials identified in paragraph 6.3.7, excluding *Value Added Taxes*, but including all other eligible taxes, and is the amount prior to the application of any mark-up or additional payment rate when determining the cost of the subject work.

Notice of Award

Notice of Award means *Notice in Writing* issued by the *Owner* to the *Contractor* directing them to commence performance of the *Work*.

OHSA

OHSA means the *Occupational Health and Safety Act*, R.S.O. 1990, c. O.1, as amended from time to time, or its successor legislation, and includes all regulations enacted thereunder.

Overhead

Overhead includes: (i) costs for all items in Division 01 of the *Specifications*; (ii) all site and head office overheads of all *Contractor Personnel*; (iii) financing costs; (iv) the salaries of superintendents, engineers, timekeepers, accountants, clerks, watch persons and all other site supervision staff above foreperson employed directly for the subject *Work*; (v) coordination with other trades affected; (vi) use of temporary offices, sheds and other general temporary site support facilities and all utilities used therein; and (vii) licences and permits other than those specific to a particular item of the *Work*. For certainty, *Overhead* includes all costs not expressly included in valuation of a change in paragraph 6.3.7.

Owner's Agent

Owner's Agent means the person or entity identified as such in the *Agreement Term Sheet*, if any.

Owner Entities

Owner Entities means the *Owner*, the *Owner's Agent* and the *Municipality*, including any employees, partners, officers, directors, agents, Members of Regional Council, and other Persons for whom they are responsible at law.

Owner Personnel

Owner Personnel means the *Owner*, the *Owner's Agent*, the *Consultant*, all *Other Contractors* and any other *Persons* engaged by them in respect of the *Work*, the *Project* or the *Owner's* obligations under this *Contract*, including any employees, partners, officers, directors, agents, subcontractors, subconsultants, and other *Persons* for whom they are responsible at law.

Pandemic

Pandemic means the *COVID-19* pandemic declared by the World Health Organization to be a pandemic on March 11, 2020, and shall include such continuing or resurgent effects of *COVID-19* upon public health as may persist notwithstanding that it may no longer constitute a declared pandemic or other public health emergency as of the *Effective Date*.

Pandemic Change in Law

Pandemic Change in Law means any change, amendment, modification, repeal or replacement in *Applicable Law* or a *Governmental Response* that: (i) came into effect after the *Effective Date*; (ii) is directly resultant from or related to the *Pandemic* or the occurrence, control or spread of *COVID-19*; and (iii) directly affects performance of the *Work*, including the *Contract Time* or the *Contract Price*. For certainty, a *Pandemic Change in Law* includes any obligation to delay commencement or suspend performance of the *Work* due to a *Governmental Response* coming into effect after the *Effective Date*.

Person

Person includes an individual, a corporation, a partnership, a trust, an unincorporated organization, a *Governmental Authority*, and the executors, administrators or other legal representatives of an individual in such capacity.

Phase of the Work

Phase of the Work has the meaning given in paragraph 5.4.7.

Proper Invoice

Proper Invoice means an application for payment that includes each of the elements listed in Appendix 2 to the Supplementary Conditions – Proper Invoice Requirements.

Ready-for-Takeover Date

Ready-for-Takeover Date means the date set out for achievement of *Ready-for-Takeover* in the *Agreement Term Sheet*, as such date may be adjusted in accordance with the *Contract*.

Soil Regulations

Soil Regulations means Ontario Regulation 406/19 – On-Site and Excess Soil Management as made under the *Environmental Protection Act*, as may be amended from time to time, or its successor regulation.

Submittals

Submittals are documents or items required by the *Contract Documents* to be provided by the *Contractor*, including *Shop Drawings*, samples, models, mock-ups, as-built drawings and operation and maintenance manuals.

Standard of Care

Standard of Care means the standard of care, competence, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar work and services for a project of similar size, scope, complexity, quality and prestige as the Project and in the same or similar locality as the Project.

Warranty Period

Warranty Period has the meaning given in paragraph 12.3.1.

Warranty Security

Warranty Security has the meaning given in paragraph 4.6 of Article A-4.

WSIA

WSIA means the *Workplace Safety and Insurance Act, 1997*, S.O. 1997, c. 16, Sched. A, as amended from time to time, or its successor legislation, and shall include all regulations enacted thereunder.

WSIB

WSIB means the Workplace Safety & Insurance Board of Ontario, which operates under the authority of the *WSIA*.”

GENERAL CONDITIONS**GC 1.1 CONTRACT DOCUMENTS**

SC-13 Delete paragraphs 1.1.3 and 1.1.4 in their entirety and replace them with the following:

“1.1.3 The *Contractor* shall in accordance with the *Standard of Care* review the *Contract Documents* for the purpose of facilitating co-ordination and execution of the *Work* by the *Contractor*. The *Contractor* shall report promptly to the *Consultant* any ambiguities, design issues or other matters requiring clarification made known to the *Contractor* or that the *Contractor* may discover from such a review.

1.1.4 Except for its obligation to review the *Contract Documents* and report the result pursuant to paragraph 1.1.3, the *Contractor* is not responsible for ambiguities, design issues or other matters requiring clarification in the *Contract Documents* and does not assume any responsibility to the *Owner* or to the *Consultant* for the accuracy of the *Contract Documents*. Without limiting the foregoing, the *Contractor* shall not be liable for any damages or costs resulting from any ambiguities, design issues or other matters requiring clarification in the *Contract Documents* which the *Contractor* could not reasonably have discovered from such a review in accordance with the *Standard of Care*. If the *Contractor* does discover any ambiguities, design issues or other matters requiring clarification in the *Contract Documents*, the *Contractor* shall notify the *Owner* and *Consultant* in writing and not proceed with the work affected until the *Contractor* has received modified or additional information from the *Consultant* or *Owner* in writing. The impacts of any ambiguities, design issues or other matters requiring clarification in the *Contract Documents*, including to the *Contract Price* and *Contract Time*, shall be addressed by the parties in accordance with Part 6 – CHANGES.”

SC-14 Delete subparagraph 1.1.5.1 in its entirety and replace it with the following:

“.1 the order of priority of documents, from highest to lowest, shall be:

- Appendix 1 to the Supplementary Conditions – *Agreement Term Sheet*
- *Addenda*
- the Agreement between *Owner* and *Contractor*, as amended by the Supplementary Conditions
- the Definitions, as amended by the Supplementary Conditions
- the General Conditions, as amended by the Supplementary Conditions
- Appendix 2 to the Supplementary Conditions – Proper Invoice Requirements
- Appendix 3 to the Supplementary Conditions – Insurance
- Division 01 of the *Specifications*
- technical *Specifications*
- material and finishing schedules
- the *Drawings*
- *Background Reports*”

SC-15 Add the following to the end of subparagraph 1.1.6.2 after the words “the *Work*”:

“, except to the extent the *Consultant* is indemnified as a third party beneficiary as provided in subparagraphs 9.2.7.4 and 9.5.3.4 and in paragraph 13.1.1.”

SC-16 Add new paragraph 1.1.12 as follows:

“1.1.2 The parties acknowledge and agree that this *Contract* represents the entire agreement between the parties in respect of the *Work* and the *Project* and no document shall form part of the *Contract Document* unless expressly identified in Article A-3. For certainty, no letter of intent, purchase order or work order issued by the *Owner* in respect of any of the *Contract*, the *Work* or the *Project* shall form part of the *Contract Documents* and no terms or conditions therein, if any, shall be of any force and effect.”

GC 1.4 ASSIGNMENT

SC-17 Delete paragraph 1.4.1 in its entirety and replace it with the following:

“1.4.1 The *Contractor* shall not assign, transfer or novate all or any part of the *Contract* without the written consent of the *Owner*, which consent may be withheld in the *Owner*'s sole and absolute discretion. The *Owner* may assign, transfer or novate all or a portion of this *Contract* or any right, benefit or interest in all or any portion of this *Contract*, to any *Affiliate* or to any purchaser of all or part of the *Place of the Work* or *Project* in its sole discretion. The *Owner* shall otherwise not assign, transfer or novate all or any portion of the *Contract* without the written consent of the *Contractor*, which consent shall not be unreasonably withheld.”

GC 2.2 ROLE OF THE CONSULTANT

SC-18 Delete the second sentence in paragraph 2.2.3 in its entirety and replace it with the following:

“The duties, responsibilities and limitations of authority of such project representatives shall be those of the *Consultant* as described in the *Contract Documents*.”

SC-19 In the first line of paragraph 2.2.6, delete the words “Except with respect to GC 5.1 – Financing Information Required by the *Owner*,”.

SC-20 In paragraph 2.2.8:

(1) in both the first and second sentences add the words “, written statements” after the word “interpretations”; and

(2) add the following to the end:

“The *Owner* and the *Contractor* shall waive any claims against the *Consultant* arising out of its making of any interpretations, written statements or findings in accordance with paragraphs 2.2.6, 2.2.7, 2.2.8, and 7.1.2, but only to the extent that any such interpretations, written statements, and findings are made by the *Consultant* in an unbiased manner and in accordance with the *Consultant*'s professional standard of care at law.”

SC-21 In paragraph 2.2.18 delete the word “immediately” and add the following to the end “Notwithstanding the foregoing, while the *Owner* will consider any reasonable objections of the *Contractor*, the *Owner* shall have absolute discretion in its appointment of a new *Consultant*.”

GC 2.3 REVIEW AND INSPECTION OF THE WORK

SC-22 In the second sentence of paragraph 2.3.1 add the words “and the *Owner*” immediately following the words “the *Consultant*”.

GC 2.4 DEFECTIVE WORK

SC-23 Delete paragraph 2.4.1 in its entirety and replace it with the following:

“2.4.1 The *Contractor* shall promptly correct at its expense and in a manner acceptable to the *Owner* and *Consultant* defective work that has been rejected by the *Consultant* or *Owner* as failing to conform to the *Contract Documents* whether or not specifically identified by the *Consultant* or *Owner* and whether or not the defective work was incorporated in the *Work* or the defect is the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the *Contractor*. The *Contractor* shall prioritize the correction of any defective work which, in the sole discretion of the *Owner*, adversely affects the day-to-day operations of the *Owner*, including as required by paragraph 12.3.4, and shall otherwise prioritize the correction of defective work as required so as not to interfere with, or derogate from, the *Construction Schedule*. Subject to paragraph 2.4.3 and without prejudice to any other right or remedy under this *Contract* or at law and without affecting the warranty period, if the *Contractor* fails to correct such defective work within a reasonable amount of time as determined by the *Consultant*, the *Owner* may have such defective work corrected by its own forces or *Other Contractors* at the *Contractor*’s expense. Any testing (including retesting by the *Owner*) to ensure that the defective work has been corrected and complies with the *Contract Documents* shall also be carried out at the *Contractor*’s expense. The *Contractor* shall not be entitled to any adjustment of the *Contract Time* for correction of defective work and the *Owner* may deduct any expenses incurred pursuant to this paragraph 2.4.1 from any amounts due and owing to the *Contractor* under this *Contract*.”

GC 2.5 OWNER’S AGENT

SC-24 Add new GC 2.5 – OWNER’S AGENT as follows:

“GC 2.5 OWNER’S AGENT

2.5.1 The *Owner’s Agent* shall have the authority to exercise all rights and obligations of the *Owner* under this *Contract*.

- 2.5.2 Subject to any notified limitations in authority, the *Contractor* may rely upon any written instructions or directions provided by the *Owner's Agent*. Neither the authority of the *Owner's Agent* to act, nor any decision to exercise or not exercise such authority, shall give rise to any duty or responsibility of the *Owner's Agent* to any *Contractor Personnel*.”

GC 3.1 CONTROL OF THE WORK

SC-25 Add new paragraphs 3.1.3 to 3.1.6 as follows:

- “3.1.3 Prior to commencing individual fabrication and construction activities, the *Contractor* shall verify, at the *Place of the Work*, all relevant measurements and levels necessary for proper and complete fabrication, assembly and installation of the *Work* and shall further carefully compare such field measurements and conditions with the requirements of the *Contract Documents*. Where such verification is not possible prior to fabrication or construction within the *Contract Time*, or dimensions are not included or contradictions exist, or exact locations are not apparent, the *Contractor* shall immediately notify the *Consultant* in writing and obtain written instructions from the *Consultant* before proceeding with any part of the affected work.
- 3.1.4 To the extent applicable, the *Contractor* shall in consultation with the *Owner* schedule, coordinate and perform the *Work* as required to prevent or, where prevention is not possible, to minimize, any impacts to the *Owner's* continuing business operations.
- 3.1.5 The *Contractor* and its *Subcontractors* shall attend meetings with respect to the *Work* as may be directed by the *Consultant* or *Owner*. The *Contractor* shall not claim any extra compensation for attendance at these meetings. The *Contractor* and its *Subcontractors* shall provide competent representatives to attend such meetings who are authorized to make undertakings on their behalves.
- 3.1.6 Prior to commencement of the *Work* the *Contractor* shall provide to the *Owner* certificates of insurance evidencing coverage as required by this *Contract*, a clearance certificate from the *WSIB* stating that all amounts owed to date have been paid in full.”

GC 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS

SC-26 In paragraph 3.2.1 add the words “or for other work at the *Place of the Work*” after the words “the *Project*”.

SC-27 Delete subparagraph 3.2.2.1 in its entirety and replace it with the following:

- “.1 cause such *Other Contractors* and *Owner’s* own forces to comply with the instructions of the *Contractor* relating to coordination and scheduling of the activities and work of such *Other Contractors* and the *Owner’s* own forces at the *Place of the Work* with the *Work of the Contract*.”

GC 3.4 CONSTRUCTION SCHEDULE

SC-28 Delete paragraph 3.4.1 in its entirety and replace it with the following:

“3.4.1 The *Contractor* shall:

- .1 prepare and submit to the *Owner* and the *Consultant* ten (10) *Working Days* after receipt of the *Notice of Award* a construction schedule that meets all requirements of the *Contract Documents* and that indicates the timing of the major activities of the *Work* and provides sufficient detail of the critical events and their interrelationship to demonstrate the *Work* will be performed in conformity with the *Contract Time*. Upon the *Consultant’s* acceptance of such schedule in writing, in consultation with the *Owner*, it shall become the *Construction Schedule*;
- .2 make the native form of the *Construction Schedule* available to the *Owner* and *Consultant* upon request;
- .3 complete the *Work* in accordance with the *Construction Schedule* and provide the expertise and resources, including manpower and *Construction Equipment*, as necessary to maintain progress under the *Construction Schedule*;
- .4 monitor the progress of the *Work* on a bi-weekly basis relative to the *Construction Schedule* and advise the *Consultant* and the *Owner* bi-weekly in writing of any variation from or slippage in performance of the *Work* in accordance with the *Construction Schedule*, together with a detailed explanation of any delays and a plan to mitigate the delay;
- .5 advise the *Consultant* of any revisions required to the *Construction Schedule* as the result of extensions of the *Contract Time* as provided in Article A-10 and Part 6 – CHANGES IN THE WORK;

- .6 update and submit to the *Consultant* and *Owner* an electronic copy of an updated *Construction Schedule* on a monthly basis and upon request by the *Consultant* or *Owner*, which submission shall include a comparison of the updated *Construction Schedule* to the accepted *Construction Schedule*, a summary of actual and forecast progress of the *Work* relative to the *Construction Schedule*, and a description of the basis of and logic for any changes made to the *Construction Schedule* in conformance to requirements of the *Contract Documents*; and
- .7 subject to Article A-10 and Part 6 – CHANGES IN THE WORK, provide overtime work without adjustment to the *Contract Price* if such work is deemed necessary to mitigate delay and/or recoup lost time in order to meet the *Construction Schedule*.”

SC-29 Add new paragraph 3.4.2 as follows:

“3.4.2 At the time of commencement of the *Work*, the *Contractor* shall prepare for the review and acceptance of the *Owner* and the *Consultant* a schedule indicating the times within the *Construction Schedule* that *Products* specified to be purchased by the *Owner* and installed or connected by the *Contractor* are required to be delivered to the *Place of the Work* to allow for performance of the *Work* within the *Contract Time* and avoid delaying the progress of the *Work*.”

GC 3.6 SUBCONTRACTORS AND SUPPLIERS

SC-30 Add the following to paragraph 3.6.2:

“The *Contractor* agrees not to change any such *Subcontractors* without the prior written consent of the *Owner*, such consent not to be unreasonably withheld.”

SC-31 Add the following new paragraph 3.6.7 to 3.6.8:

“3.6.7 Ten (10) *Working Days* after receipt of the *Notice of Award* the *Contractor* shall submit to the *Owner* a list of all *Subcontractors* proposed to perform the *Work* and the names of all senior staff of the *Contractor* that will perform, supervise and coordinate the *Work*.

3.6.8 Notwithstanding any other term in this *Contract*, under no circumstance shall the *Contractor* employ as a *Subcontractor* or *Supplier* any *Person* identified on the *Owner’s* list of suspended subcontractors and suppliers which list is available online here: [<https://www.halton.ca/The-Region/Finance-and-Transparency/Doing-Business-with-the-Region>]. The *Contractor* shall not be entitled to adjustment of the *Contract Price* or *Contract Time* where it is required to change a proposed *Subcontractor* or *Supplier* due to their inclusion on such list. The *Contractor* shall also prohibit its *Subcontractors* and *Suppliers* from employing for the *Project* any such *Persons*.”

GC 3.7 LABOUR AND PRODUCTS

SC-32 Add the following to the end of paragraph 3.7.1:

“The *Contractor* represents that it has sufficient skilled employees to replace, subject to the *Owner*’s approval, acting reasonably, its designated supervisor and project manager in the event of death, incapacity, removal or resignation.”

SC-33 Add paragraphs 3.7.4 to 3.7.9 as follows:

“3.7.4 Ten (10) *Working Days* after receipt of the *Notice of Award* the *Contractor* shall submit to the *Owner* and *Consultant* an itemized list of *Suppliers* and manufacturers for *Products* that are to be supplied for the *Work* as specified in the *Contract Documents*. The *Contractor* shall provide the specification section reference, description of the *Product*, manufacturer, *Supplier* and any other information requested by the *Owner* or *Consultant*. Upon acceptance of such list by the *Owner* the *Contractor* agrees to use the *Products* specified in such approved itemized list.

3.7.5 All products and materials existing at the *Place of the Work* as of the *Effective Date* shall remain the property of the *Owner*. All *Products* to be incorporated in the *Work* shall become the property of the *Owner* at the earlier of: (i) incorporation of the *Product* into the *Work*; and (ii) payment in whole or in part for the *Product* by the *Owner*. Notwithstanding transfer of title and ownership to the *Owner*, the *Contractor* shall remain responsible for any loss or damage to *Products* until *Ready-for-Takeover* has been achieved.

3.7.6 All *Products* which are specified in the *Contract Documents* by their proprietary names or by part or catalogue numbers, are to form the basis for the specifications of such *Products*. No substitute for any such *Products* may be used without the *Consultant*’s written approval, acting reasonably. Substitutes for *Products* specified in the *Contract Documents* or approved by the *Owner* pursuant to paragraph 3.7.4 will be permitted only when: (i) request for the substitution is submitted in sufficient time to permit proper investigation and written approval by the *Consultant*, acting reasonably; and (ii) the specified *Product* has been discontinued, is unavailable or, due to such *Product*’s delivery being on the critical path it cannot be delivered within the time required for performance of the *Work* within the *Contract Time*. When requesting approval for the use of substitutes, the *Contractor* shall include in its submission sufficient details regarding the subject *Product*’s discontinuance, availability or impact on the critical path, as applicable, together with a description of any effect (increase or decrease) that the substitution may have on the *Contract Price* and, if applicable, written approval from all *Governmental Authorities*. No adjustment to the *Contract Time* shall result from the use of substitutes by the *Contractor*.

- 3.7.7 Where the *Contractor* is of the reasonable opinion that advanced payment for a *Product* is required to secure such *Product*'s timely supply and delivery to the *Place of the Work* in compliance with the *Construction Schedule* and *Contract Time*, the *Contractor* may seek consent from the *Owner* to include application for payment for such *Product* in a *Proper Invoice* prior to its incorporation into the *Work* by *Notice in Writing* to the *Owner* and *Consultant*, which *Notice in Writing* shall include a description of the circumstances giving rise to the need for such advanced payment and identifying whether the stockpiling or storage of such *Products* at the *Place of the Work* will be required pursuant to paragraph 3.7.8. With any *Proper Invoice* seeking advanced payment (as approved by the *Owner* pursuant to this paragraph 3.7.7), the *Contractor* shall include a receipt with proof of payment for the *Product* or such other documentation as reasonably required by the *Owner* to confirm payment by the *Contractor* for such *Product*. The *Owner* may approve or refuse any request for advanced payment for *Products* in its sole and absolute discretion.
- 3.7.8 No *Products* shall be stockpiled or stored at the *Place of the Work* before their anticipated incorporation into the *Work* unless, in the reasonable opinion of the *Consultant* and the *Owner*, the stockpiling or storage of such *Products* at the *Place of the Work* is feasible and necessary or desirable, including because of advanced payment for such *Products* as approved by the *Owner* pursuant to paragraph 3.7.6, then the *Contractor* shall obtain the prior written approval of the *Owner* for stock piling or storage of *Products* at the *Place of the Work*. The *Contractor* acknowledges and accepts that the *Owner* may not have space for storage of *Products* at the *Place of the Work* and, as such, the *Contractor* agrees that the *Owner* shall not have any obligation to permit the stockpiling or storage of *Products* at the *Place of the Work*. Where the *Owner* does not approve storage of *Products* at the *Place of the Work*, the *Contractor* may elect at its sole cost to store such *Products* at an alternate location. The *Contractor* shall remove all surplus or rejected *Products* from the *Place of the Work*.
- 3.7.9 Where the *Owner* has made payment to the *Contractor* for *Products* prior to their delivery to the *Place of the Work*, at no additional cost to the *Owner*, the *Contractor* shall:
- .1 provide the *Owner* with an executed receipt clearly identifying the *Owner* as the owner of the subject *Products* together with any available identifying information for such *Products*, such as serial numbers;
 - .2 ensure that the *Products* are clearly marked, identified or labelled as being the property of the *Owner* during any storage or transport of such *Products*;

- .3 ensure that when such *Products* are stored at a location other than the *Place of the Work* they are kept in a segregated location and not intermingled or co-mingled with the property of the *Contractor* or any other person;
- .4 ensure that the *Owner* and *Consultant* have the right to access, examine and inspect such *Products*; and
- .5 ensure that such *Products* are not subject to any landlord distress rights, security interest or other encumbrance by any person.”

GC 3.8 SHOP DRAWINGS

- SC-34 Add the words “AND OTHER SUBMITTALS” to the title of GC 3.8 after the words “SHOP DRAWINGS”.
- SC-35 Add the words “and other *Submittals*” after the words “*Shop Drawings*” in paragraphs 3.8.1, 3.8.2, 3.8.3, 3.8.3.2, 3.8.5, 3.8.6, and 3.8.7.

GC 3.9 CLEAN-UP

GC 3.10 DOCUMENTS AT THE SITE

GC 3.11 USE OF THE WORK

GC 3.12 CUTTING AND REMEDIAL WORK

GC 3.13 EXCESS SOILS

- SC-36 Add the following new GC 3.9 CLEAN-UP, GC 3.10 DOCUMENTS AT THE SITE; GC 3.11 USE OF THE WORK, GC 3.12 CUTTING AND REMEDIAL WORK and GC 3.13 EXCESS SOILS:

“GC 3.9 CLEAN-UP

- 3.9.1 The *Contractor* shall maintain the *Work* in a safe and tidy condition and free from the accumulation of waste products and debris, other than that caused by the *Owner Personnel*, *Other Contractors* or their employees.”
- 3.9.2 Before applying for *Substantial Performance* as provided in GC 5.4 – SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK, the *Contractor* shall remove waste products and debris, other than that resulting from the work of *Owner Personnel*, *Other Contractors* or their employees and shall leave the *Place of the Work* clean and suitable for use and occupancy by the *Owner*. The *Contractor* shall remove materials, tools, *Construction Equipment*, and *Temporary Work* not required for the performance of the remaining work.

- 3.9.3 Prior to submitting its *Proper Invoice* for final payment, the *Contractor* shall remove any remaining materials, tools, *Construction Equipment*, *Temporary Work*, and waste products and debris, other than those resulting from the work of *Owner Personnel*, *Other Contractors* or their employees.
- 3.9.4 All debris and waste resulting from the *Work* shall be removed from the *Place of the Work* expeditiously and shall be disposed of in accordance with the *Contract Documents* and *Applicable Law*. Salvage or materials from the *Work* shall not be sold at or near the *Place of the Work*.
- 3.9.5 In the event that the *Owner* or any *Governmental Authority* orders, instructs or requests that the *Owner* or *Contractor* clean-up the *Place of the Work* or any property adjacent to or in proximity to the *Place of the Work*, the *Contractor* shall be responsible for the prompt completion of such clean-up activities at its sole cost, provided that the requirement for such clean-up is related to or arises from the *Work* and except to the extent such clean-up is required due to the work of *Owner Personnel*, *Other Contractors* or their employees.
- 3.9.6 The *Owner* shall have the right to back charge the costs of cleaning required to be performed by the *Contractor* pursuant to this GC 3.9 if not done by the *Contractor* within forty eight (48) hours of receipt of written notice from the *Owner* or *Consultant*.”

GC 3.10 DOCUMENTS AT THE SITE

- 3.10.1 The *Contractor* shall keep one copy of current *Contract Documents*, submittals, reports, and records of meetings at the *Place of the Work*, in good order and available to the *Owner* and the *Consultant*.

GC 3.11 USE OF THE WORK

- 3.11.1 The *Contractor* shall confine *Construction Equipment*, *Temporary Work*, storage of *Products*, waste products and debris, and operations of *Contractor Personnel* to limits indicated by laws, ordinances, permits, or the *Contract Documents* and shall not unreasonably encumber the *Place of the Work*.

GC 3.12 CUTTING AND REMEDIAL WORK

- 3.12.1 The *Contractor* shall perform the cutting and remedial work required to make the affected parts of the *Work* come together properly.
- 3.12.2 The *Contractor* shall co-ordinate the *Work* to ensure that the cutting and remedial work is kept to a minimum.
- 3.12.3 Cutting and remedial work shall be performed by specialists familiar with the *Products* affected and shall be performed in a manner to neither damage nor endanger the *Work*.

GC 3.13 EXCESS SOILS

3.13 The *Contractor* expressly acknowledges that, where the *Project* involves *Excess Soil*, *Applicable Law* shall include the *Soil Regulations*. In such case, notwithstanding that the *Owner* may be a “Project Leader” as defined under the *Soil Regulations*, the *Contractor* expressly agrees and acknowledges that the *Work* includes assumption, performance, and fulfillment of all liabilities, responsibilities and obligations of the Project Leader applicable to *Excess Soil* as set out in the *Contract Documents*. Without limiting the foregoing, in performance of the *Work* and its obligations under this *Contract* the *Contractor* shall coordinate and consult with the *Owner*, *Consultant* and *Environmental Consultant* as required to ensure compliance of the *Project* with the *Soil Regulations*.”

GC 4.1 CASH ALLOWANCES PAYMENT

SC-37 Delete paragraph 4.1.7 in its entirety and replace it with the following:

“4.1.7 At the commencement of the *Work*, the *Contractor* shall prepare for the review and acceptance of the *Owner* and the *Consultant* a schedule indicating the times within the *Construction Schedule* that items called for under cash allowances are required to be delivered to the *Place of the Work* to avoid delaying the progress of the *Work*.”

SC-38 Add new paragraph 4.1.8 in as follows:

“4.1.8 The *Owner* reserves the right to call, or to have the *Contractor* call, for competitive bids for portions of the *Work* to be paid for from cash allowances.”

GC 4.2 CONTINGENCY ALLOWANCE

SC-39 Add the following to the end of paragraph 4.2.4:

“For certainty, prior to *Contractor*’s submission of its *Proper Invoice* for final payment the *Contract Price* shall be reduced by the amount of any contingency allowance not authorized for expenditure under paragraph 4.2.3.”

SC-40 Add new GC 4.3 PROVISIONAL ITEMS ALLOWANCE as follows:

“GC 4.3 PROVISIONAL ITEMS ALLOWANCE

4.3.1 The *Contract Price* includes the amount of the provisional items allowance, if any, stated in the *Contract Documents*.

4.3.2 The provisional item allowance includes the *Contractor*’s overhead and profit in connection with such provisional items.

- 4.3.3 Expenditures under the provisional items 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 4.3.3 and the amount of the provisional items allowance. For certainty, prior to *Contractor’s* submission of its *Proper Invoice* for final payment the *Contract Price* shall be reduced by the amount of any provisional items allowance not authorized for expenditure under paragraph 4.3.3.”

GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

SC-41 Delete GC 5.1 in its entirety and replace it with the following:

“GC 5.1 – DRAFT APPLICATIONS FOR PAYMENT

- 5.1.1 Except as stipulated in paragraph 5.1.2, on a monthly basis and no earlier than five (5) *Working Days* after the end of the applicable monthly payment period, the *Contractor* shall submit to the *Consultant* and the *Owner* a draft application for payment for the value of the *Work* performed up to the end of the subject monthly payment period. The draft application for payment shall be in the form of the *Proper Invoice Template*. The draft application for payment must contain all information and documentation required for a *Proper Invoice* as stipulated in Appendix 2 – Proper Invoice Requirements.
- 5.1.2 The *Contractor* shall not submit a draft application for payment between December 24 and January 2 inclusive or on any day that is not a *Working Day*.
- 5.1.3 The *Contractor* shall be available upon request of the *Owner* or *Consultant* to meet and review the draft application for payment prior to *Contractor’s* submission of the corresponding *Proper Invoice*.
- 5.1.4 All draft applications for payment and *Proper Invoices* shall be submitted by email to the *Owner* and *Consultant* at the email addresses stipulated in the *Agreement Term Sheet* and all such email messages shall include:
- .1 the sender’s name, address, telephone number, fax number, if any, and e-mail address;
 - .2 the date and time of transmission; and
 - .3 the name and telephone number of a person to contact in the event of a transmission problem.

- 5.1.5 Where a draft application for payment or *Proper Invoice* is given by email between 4:00 p.m. and midnight, it shall be deemed to have been given on the following day.”

GC 5.2 APPLICATIONS FOR PAYMENT

SC-42 Delete paragraph 5.2.1 in its entirety and replace it with the following:

- “5.2.1 A minimum of five (5) Working Days following the Contractor’s submission of a draft application for payment pursuant to GC 5.1 the Contractor shall submit a Proper Invoice to the Consultant and the Owner on account as provided in Article A-5 of the Agreement which Proper Invoice shall be for Work for the value of the Work performed up to the end of the subject monthly payment period. All Proper Invoices shall be submitted in accordance with paragraphs 5.1.4 and 5.1.5. Notwithstanding any other term of the Contract, including paragraph 5.1.2, the Contractor shall not submit a Proper Invoice between November 22 and January 2 inclusive or on any day that is not a *Working Day*. For certainty, application for payment in respect of the *Warranty Security* shall only be made upon satisfaction of all stipulated requirements for this milestone as set out in paragraph 12.3.8.”

SC-43 Delete paragraph 5.2.2 in its entirety.

SC-44 In paragraph 5.2.3 add the words “in a *Proper Invoice*” after the words “The amount claimed” and add the following to the end:

“The amount applied for in the *Proper Invoice* for payment of the *Warranty Security* upon satisfaction of all requirements set out in paragraph 12.3.8 shall be comprised of the amount of the *Warranty Security* less any deductions to such security applied in accordance with this *Contract*.”

SC-45 Delete paragraph 5.2.4 in its entirety and replace it with the following:

- “5.2.4 At least 15 calendar days before submission of its first *Proper Invoice* the Contractor shall submit to the Consultant, in a form acceptable to the Owner and Consultant, acting reasonably, a schedule of values for the parts of the Work, aggregating the total amount of the *Contract Price*, so as to facilitate evaluation of *Proper Invoices*.”

SC-46 Amend paragraph 5.2.6 by replacing the words “Applications for payment” with the words “*Proper Invoices*”.

SC-47 Delete paragraph 5.2.7 in its entirety.

GC 5.3 PAYMENT

SC-48 In paragraph 5.3.1 replace the words “an application for payment” with “a *Proper Invoice*”.

SC-49 Delete subparagraph 5.3.1.1 in its entirety and replace it with the following:

“.1 If the *Consultant*, in consultation with the *Owner*, determines that an amount different than that applied for is properly due, the *Owner* or *Consultant* shall issue a “Notice of Non-Payment” pursuant to the *Construction Act* on behalf of the *Owner*.”

SC-50 Delete subparagraph 5.3.1.2 in its entirety and replace it with the following:

“.2 Subject to any “Notice of Non-Payment” issued pursuant to the *Construction Act* on behalf of the *Owner*, the *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement – PAYMENT no later than twenty-eight (28) calendar days from the date of receipt of such *Proper Invoice* and, in any event, in compliance with the *Payment Legislation*.”

SC-51 Add new paragraphs 5.3.2 to 5.3.5 as follows:

“5.3.2 If the *Contractor* fails to provide any element of a *Proper Invoice*, including a statutory declaration or the workers’ compensation clearance certificate, the application for payment will not constitute a *Proper Invoice* and the *Owner* shall not be required to make payment to the *Contractor* until a complete *Proper Invoice* is submitted.

5.3.3 The *Contractor* shall have no entitlement to payment and no *Proper Invoice* may be submitted for changes in the *Work* without a written *Change Order* issued by the *Owner*.

5.3.4 The *Owner* may withhold from payment amounts as determined by the *Owner* or *Consultant*, acting reasonably, to ensure correction of defective work and may also provide for the retention of amounts in addition to the statutory holdback provided for in the *Contract* sufficient to protect the *Owner* against all liens of which the *Owner* has notice.

5.3.5 Following receipt by the *Contractor* of statutory declarations from *Suppliers* or *Subcontractors* of any tier, the *Contractor* shall promptly provide the *Owner* and *Consultant* with copies of such statutory declarations.”

GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK

SC-52 Delete all paragraphs of GC 5.4 in their entirety and replace them with the following:

- “5.4.1 When the *Contractor* considers that *Substantial Performance of the Work* has been achieved, or if permitted by the *Payment Legislation* a designated portion of the *Work* which the *Owner* agrees to accept separately is substantially performed, the *Contractor* shall, within five (5) *Working Days*, deliver to the *Consultant* and to the *Owner* a written application for a review by the *Consultant* to establish *Substantial Performance of the Work* or substantial performance of the designated portion of the *Work*, which application shall include the following:
- a. A comprehensive list of work to be completed or corrected including all deficient or defective work identified by the *Owner* and *Consultant* and the cost for completion and correction of such work,
 - b. A list of work which cannot be performed for reasons beyond the control of the *Contractor* including the proposed date for completion of such work and the cost for completion of such work,
 - c. A declaration to the effect that:
 - i. the *Contract* is substantially performed,
 - ii. the performance of the balance of the *Contract* is in progress, and
 - iii. where the balance of the *Contract*, or a part or parts thereof cannot be performed forthwith, but must be deferred for reasons beyond the control of the *Contractor*, the balance of the *Contract* shall be completed by a fixed date,
 - d. All documentation required pursuant to GC 10.4 – WORKERS’ COMPENSATION, including a clearance certificate from the *WSIB* stating that all amounts owed to the date of *Substantial Performance of the Work* have been paid in full,
 - e. A statutory declaration using the latest CCDC 9A form of “Statutory Declaration of Progress Payment Distribution by Contractor”,
 - f. A list of all outstanding or potential *Claims* of the *Contractor* under the *Contract* as of the date of its application for *Substantial Performance of the Work*. For certainty, the provision of this list shall in no way relieve the *Contractor* of its notice obligations under the *Contract* for any *Claim*,

- g. A statement identifying the value of *Work* done to the proposed date of *Substantial Performance of the Work* together with all documentation reasonably required by the *Owner* and *Consultant* to determine the value of same, and
- h. A statement showing the amount of holdback monies due for release and payment when all liens that may be claimed against such holdback have expired or been satisfied, discharged or otherwise provided for under the *Payment Legislation*.

Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.

5.4.2 The *Consultant* will review the *Work* to certify or verify the validity of the application and shall promptly, and in any event, no later than 15 *Working Days* after receipt of the *Contractor's* application:

- .1 advise the *Contractor* in writing that the *Work* or the designated portion of the *Work* is not substantially performed and give reasons why, or
- .2 state the date of *Substantial Performance of the Work* or a designated portion of the *Work* in a certificate and issue a copy of that certificate to each of the *Owner* and the *Contractor*.

For certainty, the *Contract Price* to be used in determining achievement of *Substantial Performance of the Work* shall be the *Contract Price* as amended by any *Change Orders* issued as of the date such determination is being made and shall not include any anticipated changes to the *Contract Price* not yet confirmed by *Change Order*, including in respect of any cash allowances or contingencies.

5.4.3 Within no more than 7 calendar days following receipt of the certificate from the *Consultant* pursuant to paragraph 5.4.2, the *Contractor* shall cause such certificate to be published in accordance with the requirements of the *Payment Legislation* and the *Contractor* shall issue to the *Owner* and *Consultant* an application for release of the holdback. The *Contractor's* application for release of the holdback application shall include:

- .1 a copy of the advertisement containing the certificate of *Substantial Performance of the Work* placed by the *Contractor* in the appropriate construction trade newspaper;
- .2 a declaration that no written notices of lien have been received by the *Contractor*;

- .3 all documentation required pursuant to GC 10.4 – WORKERS’ COMPENSATION, including a clearance certificate from the *WSIB* stating that all amounts owed to the date of *Substantial Performance of the Work* have been paid in full; and
- .4 a statutory declaration using the latest CCDC 9A form of “Statutory Declaration of Progress Payment Distribution by Contractor”.

Except to the extent required by *Payment Legislation*, such application for release of the holdback shall not constitute an application for payment that is subject to *Proper Invoice* requirements. All holdback amounts prescribed by the *Payment Legislation* shall become due and payable to the *Contractor* following expiration of the holdback period stipulated in the *Payment Legislation* provided that all liens that may be claimed against the holdback have expired or been satisfied, discharged or otherwise provided for as required by the *Payment Legislation*.

5.4.4 There shall be no progressive release of holdback for a portion of the *Work* pursuant to any applicable *Payment Legislation*.

5.4.5 The *Owner* may refuse to pay some or all of the lien holdback amount provided that the *Owner* complies with any applicable requirements of the *Payment Legislation*.

5.4.6 Annual Release of Holdback

- .1 Accrued lien holdback the *Owner* is required to retain under the *Payment Legislation* shall be released on an annual basis in relation to *Work* performed during the applicable annual period provided that:
 - i. the *Construction Schedule* is longer than one year in duration;
 - ii. the *Contract Price* exceeds ten million dollars (\$10,000,000);
 - iii. the *Owner* has elected in the *Agreement Term Sheet* to release holdback on an annual basis;
 - iv. the *Contractor* submits to the *Owner* and *Consultant* an application for release of such holdback on an annual basis for the applicable annual period that includes a copy of the notice proposed to be given under subparagraph 5.4.6.1(v) and a statutory declaration using the latest CCDC 9A form of “Statutory Declaration of Progress Payment Distribution by Contractor”; and

- v. 60 calendar days after the date of the *Contractor's* application for release of the holdback on an annual basis and the giving of written notice in a form acceptable to the *Owner*, acting reasonably, by the *Contractor* to all *Contractor Personnel* of such application (including by posting of such notice in a visible location at the *Place of the Work*), there are no preserved or perfected liens in respect of the *Contract*, or all liens in respect of the *Contract* have been satisfied, discharged or otherwise provided for under the *Payment Legislation*.
- .2 For the purposes of this paragraph 5.4.6 the applicable annual period shall be each calendar year occurring during the term of the *Contract*.

5.4.7 **Phased Release of Holdback**

- .1 Accrued lien holdback the *Owner* is required to retain under the *Payment Legislation* shall be released on upon completion of each of phase of the *Work* expressly identified and described in the *Contract Documents* (each a "***Phase of the Work***") provided that:
 - i. the *Consultant* has certified that the subject *Phase of the Work* has been completed as required by the *Contract Documents*;
 - ii. the *Contract Price* exceeds ten million dollars (\$10,000,000);
 - iii. the *Owner* has elected in the *Agreement Term Sheet* to release holdback on a phased basis;
 - iv. the *Contractor* submits to the *Owner* and *Consultant* an application for release of such holdback on a phased basis for the completed *Phase of the Work* that includes a copy of the notice proposed to be given under subparagraph 5.4.7.1(v) and a statutory declaration using the latest CCDC 9A form of "Statutory Declaration of Progress Payment Distribution by Contractor"; and
- v. 60 calendar days after the date of the *Contractor's* application for release of the holdback on a phased basis and the giving of written notice in a form acceptable to the *Owner*, acting reasonably, by the *Contractor* to all *Contractor Personnel* of such application (including by posting of such notice in a visible location at the *Place of the Work*), there are no preserved or perfected liens in respect of the *Contract*, or all liens in respect of the *Contract* have been satisfied, discharged or otherwise provided for under the *Payment Legislation*.

- 5.4.8 Subject to paragraph 5.4.5, when releasing holdback pursuant to paragraph 5.4.6 or paragraph 5.4.7 the *Owner* may retain out of such accrued lien holdback amount any sums required by law to satisfy any liens against the *Work* or, if permitted by the *Payment Legislation*, other third party monetary claims against the *Contractor* which are enforceable against the *Owner*.
- 5.4.9 The *Owner's* payment of the accrued lien holdback on an annual basis or phased basis shall not limit, waive or diminish the *Contractor's* obligations, responsibilities, duties or liabilities under the *Contract* nor shall it constitute the *Owner's* acceptance of the *Work*. Further, no payment of holdback shall be made unless and until any liens have been satisfied, discharged or otherwise provided for under the *Payment Legislation*. Notwithstanding any such payment, the *Contractor* shall ensure that all *Work* and *Products* are protected pending *Completion* and be responsible for the correction of defects or *Work* not performed regardless of whether or not such was apparent when such payment was made. The *Contractor* shall indemnify and hold harmless the *Owner Entities* from all *Claims* resultant from the *Owner's* release of holdback pursuant to paragraphs 5.4.6 and 5.4.7 or *Contractor's* breach of its obligations under paragraphs 5.4.6 and 5.4.7.
- 5.4.10 For certainty, notwithstanding any provision of the *Agreement Term Sheet* or other *Contract Documents*, neither paragraph 5.4.6 nor paragraph 5.4.7 shall apply where the *Contract Price* as of the *Effective Date* does not meet or exceed the minimum contract price for release of holdback on an annual or phased basis established under the *Construction Act*.”

GC 5.5 FINAL PAYMENT

SC-53 Delete paragraphs 5.5.1 to 5.5.4 in their entirety and replace them with the following:

- “5.5.1 When the *Contractor* considers that *Completion* has been achieved, the *Contractor* shall submit a draft application for final payment within no more than five (5) *Working Days* of the claimed *Completion* date and shall submit a *Proper Invoice* to the *Owner* and *Consultant* for final payment no earlier than five (5) *Working Days* after submission of such draft application for final payment.
- 5.5.2 The *Consultant* will review the *Work* to certify or verify achievement of *Completion* and shall promptly, and in any event, no later than ten (10) calendar days after receipt of the *Contractor's Proper Invoice* for final payment:
- .1 advise the *Contractor* in writing that *Completion* has not been achieved and give reasons why, or
 - .2 state the date of *Completion* (as determined by the *Consultant*) in a certificate and issue a copy of that certificate to each of the *Owner* and the *Contractor*.

- 5.5.3 Payment of a *Proper Invoice* for final payment shall be made by the *Owner* in accordance with paragraph 5.3.1.2. All holdback amounts for finishing work prescribed by the *Payment Legislation* shall become due and payable to the *Contractor* following expiration of the holdback period stipulated in the *Payment Legislation* provided that all liens that may be claimed against such holdback have expired or been satisfied, discharged or otherwise provided for as required by the *Payment Legislation*.
- 5.5.4 For certainty, all references in the *Contract Documents* to final payment or a *Proper Invoice* for final payment shall refer to the *Proper Invoice* submitted by the *Contractor* and payment to be made by the *Owner* under the *Contract* following achievement of *Completion* or following the date of termination of the *Contract* or the *Contractor's* right to continue with the *Work* notwithstanding that payment of the *Warranty Security* (less any deductions to such security applied in accordance with this *Contract*) will not be made until satisfaction of all requirements set out in paragraph 12.3.8.”

GC 5.8 SET-OFF

SC-54 Add new GC 5.8 SET-OFF as follows:

“GC 5.8 SET-OFF

- 5.8.1 Notwithstanding any other provision in the *Contract* and subject to the provisions of the *Payment Legislation*, if the *Owner* has made an overpayment on any previous *Proper Invoice*, if the *Contractor* is in default under the *Contract* (including any failure to correct deficiencies as required by the *Contract*), if any amount is due and owing by the *Contractor* to the *Owner* under this *Contract*, or if the *Contractor* has not paid undisputed amounts due to *Contractor Personnel*, then without prejudice to any other right or remedy, the *Owner* may withhold or set-off payment from the *Contractor* of the amount reasonably necessary to protect the *Owner* from loss or damage arising from such event.”

GC 6.2 CHANGE ORDER

SC-55 Add new paragraph 6.2.1A as follows:

“6.2.1A If the *Contractor* is of the opinion that any direction or instruction received from the *Consultant* or the *Owner*, including any *Supplemental Instruction*, constitutes a proposed change in the *Work*, it shall give the *Consultant* and *Owner Notice in Writing* of such change within 5 *Working Days*, which notice shall include a written description of the alleged change in the *Work*, including a description of the anticipated impact to the *Contract Price* and *Contract Time* and all available supporting documentation. The *Consultant* will promptly investigate such alleged change in the *Work* and make a finding. If the finding is that such direction or instruction does constitute a change for which adjustment of the *Contract Price* and *Contract Time* is justified under the *Contract*, then, if the *Owner* does not dispute such finding within the time stipulated in Part 8 – DISPUTE RESOLUTION, the *Consultant* will issue appropriate instructions for a change in the *Work* as provided in paragraph 6.2.1. If the finding is that the direction or instruction does not constitute a change for which adjustment of the *Contract Price* or *Contract Time* is justified under the *Contract*, the *Consultant* shall provide its reasons for such finding in writing to the *Owner* and *Contractor* and the *Contractor* shall proceed with the affected *Work*, including implementation of the subject direction or instruction, and may dispute the finding of the *Consultant* under this paragraph 6.2.1A in accordance with PART 8 – DISPUTE RESOLUTION. For certainty, the *Contractor* shall not delay in its implementation of the subject direction or instruction or performance of any affected *Work* while the *Consultant* investigates the alleged change and makes a finding pursuant to this paragraph 6.2.1A.”

SC-56 Add new paragraphs 6.2.3 to 6.2.6 as follows:

“6.2.3 The *Contractor* shall prepare and submit to the *Consultant* and the *Owner* all details and supporting documentation regarding impacts of a proposed change to the *Contract Price* and *Contract Time* within ten (10) *Working Days* after notice of the proposed change is given to the *Contractor* under paragraph 6.2.1 and otherwise within five (5) *Working Days* of such details and supporting documentation becoming known or available, as applicable.

6.2.4 Unless otherwise agreed by the parties, the adjustment in the *Contract Price* for any change shall be determined in accordance with paragraphs 6.3.6 and 6.3.7.

- 6.2.5 For valuation of changes to the *Work*, including in respect of any contemplated *Change Order* or request for a *Change Order* by the *Contractor*, the *Contractor* shall provide the *Owner* and *Consultant* with a detailed breakdown of all expenditures itemized in paragraph 6.3.7 anticipated to be incurred in respect of the change and such other documentation as reasonably required by the *Owner* and *Consultant* to determine the anticipated expenditures to be incurred by the *Contractor* attributable to the change. The foregoing detailed breakdown shall include a breakdown of the price quotation that includes the following to the extent applicable, with appropriate supporting documentation: (i) estimated labour costs, including hours and applicable hourly rates; (ii) estimated *Product* costs, including *Supplier* quotations, estimated quantities and unit prices; (iii) estimated *Construction Equipment* costs; (iv) enumeration of all other estimated costs included in the price quotation; (v) estimated credit amounts for labour and *Products* not required on account of the proposed change; (vi) *Subcontractor* quotations, including a detailed breakdown of all of the foregoing and (vii) estimated *Contractor's* percentage fee for profit and *Overhead* as per paragraph 6.3.6. For certainty, for all changes the *Contractor's* percentage fee shall be as stipulated in paragraph 6.3.6.
- 6.2.6 A *Change Order* shall be a final determination and adjustment to the *Contract Time*, and *Contract Price* in respect of the subject change and there shall be no further adjustments to the *Contract Time* or *Contract Price* or compensation or payment of any kind whatsoever based on the aggregate number, scope or value of changes in the *Work* whether resulting from *Change Orders* or *Change Directives*.

GC 6.3 CHANGE DIRECTIVE

SC-57 Delete subparagraph 6.3.6.3 in its entirety and replace it with the following:

- “.3 Subject to subparagraph 6.3.6.4, in respect of the *Contractor*’s percentage fee, the *Contractor* shall be entitled to apply mark-ups as follows to the actual costs of performing the work attributable to the change as determined in accordance with paragraph 6.3.7 (exclusive of *Value Added Taxes*), which mark-ups include the *Contractor*’s fee for profit and *Overhead* (including profit and *Overhead* of all *Contractor Personnel*):
- i. for *Contractor*’s own work: a mark-up in an amount of no more than 15% of the *Net Actual Cost* of the *Contractor*’s own work
 - ii. for *Subcontractor*’s own work: a mark-up in an amount of no more than 15% of the *Net Actual Cost* of the *Subcontractor*’s own work; and
 - iii. *Contractor*’s mark-up on *Subcontractor*’s own work: a mark-up in an amount of not more than 10% of the *Net Actual Cost* of the *Subcontractor*’s own work.

For certainty, no further mark-up shall be applied to any costs attributable to the change, including in respect of profit and *Overhead* for *Contractor Personnel*, and regardless of the extent to which the subject work is assigned or sublet to others. If *Work* is assigned or sublet to an associate, as defined by the *Securities Act*, RSO 1990, c. S.5, as amended, no mark-up whatsoever shall be applied.”

SC-58 Add new subparagraphs 6.3.6.4 and 6.3.6.5 as follows:

- “.4 In no event shall the maximum aggregate mark-up applied by all levels of contract for overhead and profit pursuant to subparagraph 6.3.6.3 exceed 30% of the total *Net Actual Cost* of approved change.
- .5 Where the *Owner* and *Contractor* agree in writing to a rate and pricing schedule, to the extent applicable such rate and pricing schedule will be used to determine the cost of the *Contractor*’s actual expenditures and savings under paragraph 6.3.7.”

SC-59 Delete subparagraph 6.3.7.1(2) in its entirety.

SC-60 In subparagraph 6.3.7.6 add the following to the end:

“For certainty, in determining the cost of performing the work attributable to the change no mark-up shall be applied to the actual expenditures incurred by a *Subcontractor* attributable to the change, which expenditures shall be itemized as required pursuant to paragraph 6.3.15. All profit and *Overhead* of the *Subcontractor* is included in the *Contractor*’s percentage fee to be applied pursuant to subparagraph 6.3.6.3.”

SC-61 Delete paragraph 6.3.11 in its entirety and replace it with the following:

“Subject to paragraph 6.3.14, any undisputed value of *Work* performed as the result of a *Change Directive* shall be confirmed by way of one or more *Change Orders* and upon issuance of any such *Change Order* these amounts may be included in progress payments.”

SC-62 Add new paragraphs 6.3.14 and 6.3.15 as follows:

“6.3.14 Where a *Change Directive* stipulates a maximum amount that may be incurred in respect of such *Change Directive*, the *Contractor* shall give the *Owner* written notice at least 2 *Working Days* prior to incurring any costs in excess of such stipulated maximum and may not include in any *Proper Invoice* any amount in excess of such stipulated maximum without the prior written approval of the *Owner* in the form of a further or amended *Change Directive*. For certainty, stipulation of a maximum amount that may be incurred in respect of a *Change Directive* does not constitute the *Owner*’s agreement to the quantum of costs that may be attributable to the *Change Directive* and shall not obligate the *Owner* to issue a *Change Order* in respect of any claimed amount for the value of the *Work* performed as the result of the *Change Directive* that remains under dispute.

6.3.15 Without limiting the *Contractor*’s obligations under this GC 6.3, for valuation of any *Change Directive* the *Contractor* shall provide the *Owner* and *Consultant* with detailed itemized breakdowns of all actual expenditures itemized in 6.3.7 and incurred in respect of the change, including detailed, substantiated time sheets, purchase orders, receipts or cost vouchers from *Subcontractors* and *Suppliers* and such other documentation as reasonably required by the *Owner* and *Consultant* to determine the actual expenditures incurred by the *Contractor* attributable to the change.”

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

SC-63 Amend subparagraphs 6.4.1.1 and 6.4.1.2 by adding the following after the words “*Contract Documents*” in each subparagraph:

“and which would not have been readily apparent prior to the *Contractor’s* commencement of the performance of the *Work* from review of the *Contract Documents* and *Place of the Work* by the *Contractor* as required by the *Contract Documents*, including pursuant to paragraph 1.5 of Article A-5 and paragraph 1.1.3 of GC 1.1”

GC 6.5 DELAYS

SC-64 Add the following to the end of paragraph 6.5.2:

“Notwithstanding the foregoing, (i) where the stop work order was issued as a result of or due to a *Force Majeure Event* this paragraph 6.5.2 shall not apply and the *Contractor’s* entitlement to adjustment of the *Contract Time* or *Contract Price* shall be governed by paragraph 6.5.3, and (ii) where the stop work order was issued as a result of or due to *COVID-19*, the *Pandemic* or a *Pandemic Change in Law*, including a *Governmental Response*, and was not the result of an act or fault of any *Contractor Personnel*, directly or indirectly, this paragraph 6.5.2 shall not apply and the *Contractor’s* entitlement to adjustment of the *Contract Time* or *Contract Price* shall be governed by the provisions of Article A-10 hereof.”

SC-65 Delete paragraph 6.5.3 in its entirety and replace it with the following:

“6.5.3 If the *Contractor* is delayed in the performance of the *Work* by a *Force Majeure Event*, including:

- .1 labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized contractors’ association, of which the *Contractor* is a member or to which the *Contractor* is otherwise bound),
- .2 fire, unusual delay by common carriers or unavoidable casualties, or

.3 *Abnormally Adverse Weather Conditions,*

then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as the result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. Except to the extent such delays result from actions by *Owner Personnel*, the *Contractor* shall only be entitled to payment for costs directly incurred with the *Owner's* written approval to protect the *Work* and secure the *Place of the Work* during the period of such delay and to mitigate the impacts of such delay to performance of the *Work* within the *Contract Time*. For certainty, in the event of delay caused by or resultant from *COVID-19*, the *Pandemic* or a *Pandemic Change in Law*, including a *Governmental Response*, this paragraph 6.5.3 shall not apply and the *Contractor's* entitlement to adjustment of the *Contract Time* or *Contract Price* shall be governed by the provisions of Article A-10 hereof.”

SC-66 Delete paragraph 6.5.4 in its entirety and replace it with the following:

“6.5.4 Upon the occurrence of any event that may cause delay to performance of the *Work* the *Contractor* shall promptly give the *Owner* verbal notice of such delay event. No extension shall be made for delay unless *Notice in Writing* of the cause of delay is given to the *Consultant* and *Owner* not 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.”

SC-67 Delete paragraph 6.5.5 in its entirety and replace it with the following:

“6.5.5 No adjustment to the *Contract Time* shall be made because of failure of the *Consultant* to furnish instructions unless the *Consultant* has failed to furnish such instructions within the time stipulated in any schedule agreed-to by the parties for submission and return of *Shop Drawings* and *Submittals* and the *Contractor* has given at least two (2) *Working Days' Notice in Writing* to the *Consultant* and *Owner* of the date for upon which such instructions are required.”

SC-68 Add new paragraphs 6.5.6 and 6.5.7 as follows:

“6.5.6 Any adjustment to the *Contract Time* under this *Contract* shall be determined based on the direct impacts of the subject change or delay to the critical path for performance of the *Work* as of the date of the change or delay.

6.5.7 The *Contractor* acknowledges that the *Owner* will suffer real and significant losses if the *Contractor* fails to attain *Ready-for-Takeover* by the *Ready-for-Takeover Date*.

.1 Where the *Owner* has stipulated an amount for liquidated damages in the *Agreement Term Sheet*, then if the *Contractor* fails to achieve *Ready-for-Takeover* by the *Ready-for-Takeover Date* then the *Contractor* shall be liable to the *Owner* for liquidated damages in accordance with paragraph 4.7 of Article A-4 for each day or part day of delay until *Ready-for-Takeover* is achieved as confirmed by the *Consultant* in accordance with GC 12.1. The parties agree that such liquidated damages are not a penalty and represent a reasonable, fair and genuine pre-estimate of losses to the *Owner* anticipated to result from the *Contractor*'s delay in achieving *Ready-for-Takeover* by the *Ready-for-Takeover Date*.

.2 Where the *Owner* has not stipulated an amount for liquidated damages in the *Agreement Term Sheet*, then subparagraph 6.5.7.1 shall not apply and the *Contractor* shall be liable for and shall indemnify and hold harmless the *Owner* from all *Claims* resultant from or caused by failure to achieve *Ready-for-Takeover* by the *Ready-for-Takeover Date* and/or *Completion* by the *Completion Date*, including costs incurred for the *Consultant*, any *Claims* arising under any lease agreements for the *Project* (if applicable), and any *Claims* relating to financing of the *Project*.”

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

SC-69 Delete paragraph 6.6.1 in its entirety and replace it with the following:

“6.6.1 If the *Contractor* intends to make a claim for an increase to the *Contract Price* the *Contractor* shall give *Notice in Writing* of intent to claim to the *Owner* and to the *Consultant* within five (5) *Working Days* of commencement of the event or series of events giving rise to such claim. Notwithstanding the foregoing, any claim for adjustment to the *Contract Price* resultant from *COVID-19*, the *Pandemic* or a *Pandemic Change in Law*, including a *Governmental Response*, shall be governed by the provisions of Article A-10 and this GC 6.6 shall not apply.”

SC-70 Delete paragraphs 6.6.3 and 6.6.4 in their entirety and replace them with the following:

- “6.6.3 The party making a claim pursuant to this GC 6.6 shall prepare and submit to the *Consultant* and other party in writing all available details and supporting documentation regarding the claim not later than ten (10) *Working Days* after commencement of the event or series of events giving rise to such claim and shall thereafter submit all such details and supporting documentation within five (5) *Working Days* of such details and supporting documentation becoming known or available, as applicable. For certainty, the supporting documentation to be submitted shall include all evidence reasonably required by the *Consultant* to make a finding and all such supporting documentation shall be prepared at the applicable party’s own cost.
- 6.6.4 Without limiting paragraph 6.6.3, 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, weekly or bi-weekly as the *Consultant* may reasonably require, submit further written 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 within five (5) *Working Days* of the end of the effects resulting from the event or series of events.”

SC-71 Add new paragraph 6.6.7 as follows:

- “6.6.7 Where the party making a claim fails to provide notice or details and supporting documentation within the time stipulated in this GC 6.6 and such failure prevents the *Consultant* or other party from mitigating or minimizing *Claims* resultant from the event or series of events giving rise to such claim or otherwise causes the other party loss or damage, then the party making the claim shall be barred from bringing the subject claim.”

GC 7.1 OWNER’S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR’S RIGHT TO CONTINUE WITH THE WORK, OR TERMINATE THE CONTRACT

SC-72 Delete subparagraph 7.1.5.1 in its entirety and replace it with the following:

- “.1 take possession of the *Work* and *Products* at the *Place of the Work*; subject to the rights of third parties, utilize the *Construction Equipment* and *Temporary Work* at the *Place of the Work*; require the *Contractor* to transfer, novate or assign all agreements with *Subcontractors* and *Suppliers* in respect of the *Work* to the *Owner* or other contractors designated by the *Owner*; finish the *Work* by whatever method the *Owner* may consider expedient, but without undue delay or expense,”

SC-73 In subparagraph 7.1.5.4 delete the words “warranty period” and replace them with the words “*Warranty Period*”.

SC-74 Add a new subparagraph 7.1.5.5 as follows:

“.5 set-off against any amount payable to the *Contractor* under the *Contract* all amounts payable by the *Contractor* to the *Owner*.”

SC-75 Add a new paragraphs 7.1.7 and 7.1.8 as follows:

“7.1.7 The *Owner* shall not be liable to the *Contractor* for any *Consequential Damages* arising from termination pursuant to this GC 7.1.

7.1.8 The *Contractor* shall submit to the *Owner* and *Consultant* a *Proper Invoice* for final payment no later than 45 calendar days after the date of termination.”

GC 7.2 CONTRACTOR’S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT

SC-76 Delete paragraph 7.2.2 in its entirety.

SC-77 Delete subparagraphs 7.2.3.1 and 7.2.3.2 in their entirety.

SC-78 In subparagraph 7.2.3.4 delete the words “except for GC 5.1 FINANCIAL INFORMATION REQUIRED OF THE OWNER.”

SC-79 In paragraph 7.2.4, delete “5 *Working Days*” from the second line and replace with “fifteen (15) *Working Days*”, and add the following to the end of the paragraph:

“The *Owner* shall be deemed not to be in default of its obligations under the *Contract* if it is taking active steps to remedy the default but cannot reasonably do so within the said fifteen (15) *Working Day* period.”

SC-80 In paragraph 7.2.5, delete the words “including reasonable profit” and replace them with the words “to the date of termination” and add the words “, but shall not be entitled to compensation for any *Consequential Damages*” after the words “termination of the *Contract*”.

SC-81 Add new paragraph 7.2.6 as follows:

“7.2.6 The *Contractor*’s claim for compensation under this GC 7.2 shall be submitted to the *Owner* and *Consultant* in the form of a *Proper Invoice* for final payment no later than 45 calendar days after the date of termination.”

GC 7.3 TERMINATION FOR CONVENIENCE

SC-82 Add new GC 7.3 TERMINATION FOR CONVENIENCE as follows:

“GC 7.3 TERMINATION FOR CONVENIENCE

- 7.3.1 The *Owner* may in its sole discretion terminate the *Contractor*’s right to continue with the *Work* in whole or in part or this *Contract* for any reason, including without cause or for convenience, at any time by giving at least 30 calendar days’ *Notice in Writing* of such termination to the *Contractor* specifying the date of termination.
- 7.3.2 In the event of termination pursuant to paragraph 7.3.1, the *Contractor* shall be entitled to be paid for all work performed to the date of termination, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a direct result of such termination, but shall not be entitled to compensation for any *Consequential Damages*. The *Contractor*’s claim for such compensation shall be submitted to the *Owner* and *Consultant* in the form of a *Proper Invoice* for final payment no later than 45 calendar days after the date of termination.”

GC 8.1 AUTHORITY OF THE CONSULTANT

SC-83 In paragraph 8.1.2 delete the words “paragraph 8.1.3 and paragraphs 8.3.3 to 8.3.8 of”.

SC-84 In paragraph 8.1.3, add the following after the first sentence:

“The *Contractor* shall continue performance of the *Work* notwithstanding any such dispute and shall ensure all other *Contractor Personnel* also do so.”

GC 8.2 ADJUDICATION

SC-85 Delete paragraph 8.2.1 in its entirety and replace it with the following:

“8.2.1 Nothing in this *Contract* shall be deemed to affect the rights of the parties to resolve any dispute by adjudication as may be provided for by applicable legislation. Further, in addition to the matters that may be referred to adjudication pursuant to the *Payment Legislation*, the parties agree that any dispute relating to costs resultant from termination of the *Contract* or of the *Contractor*’s right to continue with the *Work* or payments due and owing in the event of or following any such termination may be referred by either party to adjudication. For certainty, no dispute regarding the validity of any such termination may be referred to adjudication and any such dispute shall be resolved in accordance with GC 8.3.”

SC-86 Add new paragraph 8.2.2 as follows:

“8.2.2 To the extent permitted by the *Construction Act* and except as required for performance of the parties’ obligations under this *Contract* or exercise of their rights under the *Construction Act*, any adjudication in respect of the *Contract* and *Project*, including all documentation and materials exchanged and any resultant award or order issued by an adjudicator, shall be confidential as between the parties.”

GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

SC-87 Delete paragraph 8.3.1 in its entirety.

SC-88 Delete paragraph 8.3.2 in its entirety and replace it with the following:

“8.3.2 For any finding of the *Consultant* under GC 2.2 – ROLE OF THE CONSULTANT that is clearly identified as a finding for the purposes of this paragraph 8.3.2 of the *Contract*, a party shall be conclusively deemed to have accepted such finding and to have expressly waived and released the other party from any claims in respect of the particular matter dealt with in that finding unless, within 15 *Working Days* after receipt of that finding, the party sends a *Notice in Writing* of dispute to the other party and to the *Consultant*, which contains the particulars of the matter in dispute and the relevant provisions of the *Contract Documents*.”

SC-89 Delete paragraphs 8.3.4, 8.3.5 and 8.3.6 in their entirety and replace them with the following:

“8.3.4 Following receipt of a responding party’s *Notice in Writing* of reply under paragraph 8.3.2, the parties may elect to engage in mediated negotiations to assist the parties in reaching agreement on any unresolved dispute.

8.3.5 If the dispute is not resolved at a mediation or if the parties do not agree to mediate the dispute, either party may terminate the mediation by giving *Notice in Writing* to other party and the *Consultant*.

8.3.6 Upon termination of the mediation pursuant to paragraph 8.3.5 the dispute shall be finally resolved by arbitration which may be commenced by either party by *Notice in Writing* to the other party. The arbitration shall be conducted in the jurisdiction of the *Place of the Work* and the parties agree that the arbitral award shall be final and binding and may only be appealed to the court on a question of law subject to the leave of such court as may be granted in accordance with subsection 45(1) of the *Arbitration Act*. For certainty, there shall be no appeal of the arbitral award on a question of fact or mixed fact and law.”

SC-90 Delete paragraph 8.3.7 in its entirety.

SC-91 In paragraph 8.3.8 delete the words “*Notice in Writing* requesting arbitration in paragraph 8.3.6” and replace them with the words “termination of the mediation pursuant to paragraph 8.3.5”.

SC-92 Add the following new paragraphs 8.3.9 to 8.3.13:

“8.3.9 Within five *Working Days* of the termination of the mediation pursuant to paragraph 8.3.5, the *Owner* and the *Contractor* shall give the *Consultant* a written notice containing:

- .1 a copy of supplementary conditions 8.3.9 to 8.3.14 of this *Contract*, and;
- .2 a description of any claims or issues which the *Contractor* or the *Owner*, as the case may be, wishes to raise in relation to the *Consultant* arising out of the issues in dispute in the arbitration.

8.3.10 The *Owner* and the *Contractor* agree that the *Consultant* may elect to become a full party to the arbitration under paragraph 8.3.6 if the *Consultant*:

- .1 has a vested or contingent financial interest in the outcome of the arbitration;
- .2 gives the notice of election to the *Owner* and the *Contractor* within ten (10) *Working Days* of receipt of the notice under paragraph 8.3.9;
- .3 agrees to be a party to the arbitration within the meaning of the rules referred to in paragraph 8.3.6, and,
- .4 agrees to be bound by the arbitral award made in the arbitration.

8.3.11 Without limiting and subject to the *Owner* and *Contractor*’s rights under paragraph 8.3.12 to challenge whether the *Consultant* has satisfied the requirements of paragraph 8.3.10, if an election is made under paragraph 8.3.10:

- .1 the *Owner* or *Contractor* may request particulars and evidence of the *Consultant*’s vested or contingent financial interest in the outcome of the arbitration;
- .2 the *Consultant* shall participate in the appointment of the arbitrator; and,
- .3 notwithstanding the rules referred to in paragraph 8.3.6, the time period for reaching agreement on the appointment of the arbitrator shall begin to run from the date the respondent receives a copy of the notice of arbitration.

- 8.3.12 The arbitrator in the arbitration in which the *Consultant* has elected under paragraph 8.3.10 to become a full party may:
- .1 on application of the *Owner* or the *Contractor*, determine whether the *Consultant* has satisfied the requirements of paragraph 8.3.10, and;
 - .2 make any procedural order considered necessary to facilitate the addition of the *Consultant* as a party to the arbitration.
- 8.3.13 The provisions of paragraph 8.3.9 shall apply (with all appropriate changes being made) to written notice to be given by the *Consultant* to any sub-consultant.”

GC 9.1 PROTECTION OF WORK AND PROPERTY

- SC-93 Amend subparagraph 9.1.1.1 by adding the following to the end:
- “which the *Contractor* could not have discovered from review as required by the *Contract Documents*, including paragraph 1.1.3 of GC 1.1”
- SC-94 Delete paragraph 9.1.1.2 in its entirety and replace it with the following:
- “.2 negligent acts or omissions of any *Owner Personnel*.”
- SC-95 Delete paragraph 9.1.2 in its entirety and replace it with the following:
- “9.1.2 Before commencing any *Work*, the *Contractor* shall determine the locations of all underground utilities and structures indicated in the *Contract Documents*, or that are reasonably discoverable from inspection of the *Place of the Work* as required by the *Contract Documents*, including paragraph 1.5 of Article A-1.”
- SC-96 Add new paragraphs 9.1.5 and 9.1.6 as follows:
- “9.1.5 The *Contractor* shall cooperate in all respects, at no cost to the *Owner*, to provide accommodation and safe access to the *Place of the Work* or portions thereof as the *Owner Personnel* may require from time to time and as may be required by utility providers with equipment or operations located at the *Place of the Work*.
- 9.1.6 No *Owner Personnel* or *Owner Entities* shall have any liability for the safeguarding or protection of, or for the loss, theft, damage, destruction, or disappearance of, any *Construction Equipment, Products, Temporary Work* or other tangible property or materials located at the *Place of the Work*, except to the extent caused by their own negligence.”

GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

SC-97 In paragraph 9.2.3 delete the first word “The” and replace it with the following:

“Without limiting any of the *Contractor’s* obligations under this *Contract*, including for overall health and safety at the *Place of the Work*, the”

SC-98 Add the following words to paragraph 9.2.6 after the word “responsible”:

“or whether any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with *Applicable Laws*) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment or material damage to the property of the *Owner* or others,”

SC-99 Add the words “and the *Consultant*” after the word “*Contractor*” in subparagraph 9.2.7.4.

SC-100 Add the following words to paragraph 9.2.8 after the word “responsible”:

“or that any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with *Applicable Laws*) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment or material damage to the property of the *Owner* or others,”

GC 9.4 CONSTRUCTION SAFETY

SC-101 Delete paragraph 9.4.1 in its entirety and replace it with the following:

“9.4.1 The *Contractor* shall be solely responsible for: (i) construction health and safety at the *Place of the Work*, including all responsibilities of the “constructor” under the *OHSA*; (ii) compliance with the rules, regulations, and practices required by *Applicable Laws*, including the *OHSA*; and (iii) initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the *Work*. The *Contractor* shall file the requisite “notice of project” and list itself as the “constructor” with respect to the *Project*.”

SC-102 Delete paragraph 9.4.4 in its entirety and replace it with the following:

“9.4.4 The *Owner* shall cause the *Owner Personnel* to comply with all health and safety precautions and programs established by the *Contractor* at the *Place of the Work*, including by requiring such compliance in any contracts with *Owner Personnel*.”

SC-103 Add the following new paragraphs 9.4.6 to 9.4.11:

- “9.4.6 The *Contractor* shall provide appropriate health and safety instruction and training to all *Contractor Personnel* (to the extent same have access to the *Place of the Work*) before the *Work* is commenced.
- 9.4.7 The *Contractor* and each *Subcontractor* having an accident or incident at the *Place of the Work*, as prescribed under the *OHSA*, shall promptly notify the *Owner* and the *Consultant*.
- 9.4.8 Prior to commencement of the *Work*, and again at any time upon request by the *Owner*, the *Contractor* shall provide the *Owner* with information and evidence regarding compliance with its obligations relating to health and safety under this *Contract* (including compliance with paragraph 3.1.6, GC 9.4 and paragraph 10.2.4), which evidence shall include: (i) a copy of the *Contractor*’s “notice of project” identifying the *Contractor* as the “constructor” with respect to the *Project* under the *OHSA*; (ii) a copy of all “Form 1000s” obtained by the *Contractor* from *Contractor Personnel* as required by the *OHSA*; (iii) a copy of all health and safety plans and programs prepared by the *Contractor* in respect of the *Place of the Work* and/or performance of the *Work*; (iv) a copy of the *Contractor*’s subcontracts with *Contractor Personnel*; (v) copies of training logs and meeting minutes relating to health and safety at the *Place of the Work* and/or in performance of the *Work*; (vi) copies of any and all documentation filed by or submitted to any *Governmental Authority* by any *Contractor Personnel* in respect of the *Project*, the *Work* or the *Place of the Work*, including any accident or incident reports; and (vii) any other documentation relating to the *Contractor*’s health and safety obligations under this *Contract* as may be reasonably requested by the *Owner*.
- 9.4.9 The *Contractor* represents that it has the experience, knowledge and expertise in respect of construction health and safety necessary for performance of the *Work* and all obligations under this *Contract* in accordance with all *Applicable Laws*, including as necessary to undertake all obligations of the “constructor” under the *OHSA* and to provide for compliance with all requirements of the *OHSA* applicable to the *Place of the Work* and performance of the *Work*. The *Contractor* further acknowledges that the *Owner Entities* do not have such knowledge, experience and expertise and are accordingly relying upon the *Contractor* in this respect.
- 9.4.10 The *Contractor* shall indemnify and save harmless all *Owner Personnel* and *Owner Entities* from and against any and all *Claims* arising out of any safety infractions committed by any *Contractor Personnel* or resulting from any failure by the *Contractor* to fulfill its obligations under paragraph 3.1.6, paragraph 10.2.4 and/or this PART 9 – PROTECTION OF PERSONS AND PROPERTY.

9.4.11 The provisions of this GC 9.4 shall survive the completion of the *Work* or the termination of the *Contract* for any reason whatsoever.”

GC 9.5 MOULD

SC-104 Add the words “and the *Consultant*” after the word “*Contractor*” in subparagraph 9.5.3.4.

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

SC-105 Replace all reference to “laws” and “applicable laws” in GC 10.2 with “*Applicable Laws*”.

SC-106 Delete paragraph 10.2.5 in its entirety and replace it with the following:

“10.2.5 Subject to compliance with its obligations under paragraph 1.5 of Article A-5 and paragraph 1.1.3 of GC 1.1, the *Contractor* shall not be responsible for verifying that the *Contract Documents* are in compliance with *Applicable Laws*. If the *Contract Documents* are at variance therewith, or if, subsequent to the *Effective Date*, changes are made to *Applicable Laws* which require modification to the *Contract Documents*, the *Contractor* shall advise the *Consultant* in writing requesting direction immediately upon such variance or change becoming known. The *Consultant* will issue the changes required to the *Contract Documents* as provided in GC 6.1 – OWNER’S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.”

SC-107 Delete paragraph 10.2.7 in its entirety and replace it with the following:

“10.2.7 If, subsequent to the *Effective Date*, changes are made to *Applicable Laws* which affect the cost of the *Work*, either party may submit a claim in accordance with the requirements of GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE. Notwithstanding the foregoing, any claim for adjustment to the *Contract Price* resultant from *COVID-19*, the *Pandemic* or a *Pandemic Change in Law*, including a *Governmental Response*, shall be governed by the provisions of Article A-10 and this paragraph 10.2.7 and GC 6.6 shall not apply.”

GC 10.4 WORKERS’ COMPENSATION

SC-108 In paragraph 10.4.1, replace the word “applications for payment” with the words “*Proper Invoices*”.

SC-109 Add new paragraphs 10.4.2 and 10.4.3 as follows:

“10.4.2 At any time during the term of the *Contract*, when requested by the *Owner*, the *Contractor* shall provide such evidence of compliance by the *Contractor* and *Subcontractors*.

- 10.4.3 The *Contractor* shall indemnify and hold harmless the *Owner* and its directors, officers and employees from and against all *Claims* by any *Contractor Personnel* with respect to workers' compensation insurance claims. This indemnity shall survive the completion of the *Work* or the termination of the *Contract* for any reason whatsoever."

GC 11.1 INSURANCE

SC-110 Revise paragraph 11.1.1 as follows:

- (1) **Where the original *Contract Price* stipulated in the Agreement is equal to or less than \$5,000,000:** Delete paragraph 11.1.1 and replace it with the following:

"11.1.1 Without restricting the generality of GC 13.1 – INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the requirements of which are specified in Appendix 3 to the Supplementary Conditions – Insurance in effect at the time of bid closing except as hereinafter provided:

- .1 Commercial General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner* and the *Consultant* as additional insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. Commercial General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Ready-for-Takeover*. Liability coverage shall be provided for completed operations hazards from the date of *Ready-for-Takeover*, as set out in the certificate of *Ready-for-Takeover*, on an ongoing basis for a period of 6 years following *Ready-for-Takeover*.
- .2 Automobile Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
- .3 Unmanned aerial vehicle aircraft, manned aircraft or watercraft Liability Insurance when owned or non-owned manned or unmanned aircraft or watercraft are used directly or indirectly in the performance of the *Work*.

- .4 “Broad form Builders Risk” property insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The “Broad form” 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 *Ready-for-Takeover*;
 - (2) on the commencement of use or occupancy of any part or section of the *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*; and
 - (3) when left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.
- .5 Boiler and machinery insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. Such coverage can be included as part of the Broad Form Builders Risk policy. 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 *Ready-for-Takeover*.

- .6 The “Broad form Builders Risk” 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 *Contractor* as their respective interests may appear. In the event of loss or damage:
- (1) the *Contractor* 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 *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except that the *Contractor* shall be entitled to such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*;
 - (2) the *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount 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. In addition the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor*’s interest in the restoration of the *Work*; and
 - (3) to the *Work* arising from the work of the *Owner*, the *Owner*’s own forces or *Other Contractors*, the *Owner* shall, in accordance with the *Owner*’s obligations under the provisions relating to construction by the *Owner* or *Other Contractors*, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as in accordance with the progress payment provisions.
- .7 Contractors’ Equipment Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
- .8 Contractors’ Pollution Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.”

- (2) **Where the original *Contract Price* stipulated in the Agreement is greater than \$5,000,000 and equal to or less than \$25,000,000:** Delete paragraph 11.1.1 and replace it with the following:

“11.1.1 Without restricting the generality of GC 13.1 – INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the requirements of which are specified in Appendix 3 to the Supplementary Conditions – Insurance in effect at the time of bid closing except as hereinafter provided:

- .1 Wrap-up liability insurance in the name of the *Contractor* and including all *Owners, Contractors, Subcontractors* and the *Consultants engaged in the work* as insureds. Wrap-up liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Ready-for-Takeover*. Liability coverage shall be provided for completed operations hazards from the date of *Ready-for-Takeover*, as set out in the certificate of *Ready-for-Takeover*, on an ongoing basis for a period of 6 years following *Ready-for-Takeover*.
- .2 Automobile Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
- .3 Unmanned aerial vehicle aircraft, manned aircraft or watercraft Liability Insurance when owned or non-owned manned or unmanned aircraft or watercraft are used directly or indirectly in the performance of the *Work*.
- .4 “Broad form Builders Risk” property insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The “Broad form” 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 *Ready-for-Takeover*;

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- (2) on the commencement of use or occupancy of any part or section of the *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*; and
 - (3) when left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.
- .5 Boiler and machinery insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. Such coverage can be included as part of the Broad Form Builders Risk policy. 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 *Ready-for-Takeover*.
- .6 The “Broad form Builders Risk” 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 *Contractor* as their respective interests may appear. In the event of loss or damage:
- (1) the *Contractor* 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 *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except that the *Contractor* shall be entitled to such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*;

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- (2) the *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount 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. In addition the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor's* interest in the restoration of the *Work*; and
- (3) to the *Work* arising from the work of the *Owner*, the *Owner's* own forces or *Other Contractors*, the *Owner* shall, in accordance with the *Owner's* obligations under the provisions relating to construction by the *Owner* or *Other Contractors*, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as in accordance with the progress payment provisions.
- .7 Contractors' Equipment Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
- .8 Project Specific Contractors' Pollution Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
- .9 Commercial General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner* and the *Consultant* as additional insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. Commercial General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Ready-for-Takeover*. Liability coverage shall be provided for completed operations hazards from the date of *Ready-for-Takeover*, as set out in the certificate of *Ready-for-Takeover*, on an ongoing basis for a period of 6 years following *Ready-for-Takeover*."
- (3) **Where the original *Contract Price* stipulated in the Agreement is greater than \$25,000,000:** Delete paragraph 11.1.1 and replace it with the following:

“11.1.1 The *Contractor* shall provide, maintain and pay for insurance coverages as stipulated by the *Owner* in writing prior to commencement of the *Work*. Where no written direction in respect of insurance coverages is provided by the *Owner* prior to commencement of the *Work* then the insurance requirements for projects with an original *Contract Price* greater than \$5,000,000 and equal to or less than \$25,000,000 shall apply notwithstanding that the *Contact Price* is greater than \$25,000,000.”

SC-111 In all instances and for all *Contract Prices*, delete paragraphs 11.1.6, 11.1.7 and 11.1.8 in their entirety.

GC 11.2 CONTRACT SECURITY

SC-112 Add new GC 11.2 CONTRACT SECURITY as follows:

“GC 11.2 CONTRACT SECURITY

11.2.1 *Contractor* shall provide security and bonding if and as stipulated in the *Contract Documents*. Without limiting the foregoing, where the *Contract Price* as of the *Effective Date* is \$500,000 or more, bonds will be provided by the *Contractor* as required by the *Construction Act*, the coverage limit of which shall include *Value Added Taxes* as stipulated in paragraph 4.2 of Article A-4.”

GC 12.1 READY-FOR-TAKEOVER

SC-113 Amend subparagraph 12.1.1.2 by adding the following to the end:

“and, where possible, evidence of certification by all permit-issuing authorities, indicating approval of all permitted installations.”

SC-114 Amend subparagraph 12.1.1.3 by adding the words “has been completed by the *Contractor*” at the end.

SC-115 Amend subparagraph 12.1.1.4 by deleting the word “immediate”.

SC-116 Amend subparagraph 12.1.1.6 by adding the words “and commissioning” after the word “testing”.

SC-117 In subparagraph 12.1.1.8 delete the word “scheduled” and replace it with the word “completed” and delete the words “, acting reasonably”.

SC-118 In paragraph 12.1.4 delete the words “10 calendar days” and replace them with the words “10 *Working Days*”.

GC 12.2 EARLY OCCUPANCY BY THE OWNER

SC-119 Delete subparagraphs 12.2.3.2 and 12.2.3.3 in their entirety and replace them as follows:

- “.2 The *Owner* shall, at any and all times, have the right to enter, occupy and use the *Work* in whole or in part before completion of the *Contract*. Such entry, occupation or use shall not be considered as acceptance of the *Work* nor in any way relieve or limit the responsibilities and liabilities of the *Contractor* under the *Contract* nor affect the warranty period.
- .3 For certainty, and notwithstanding occupancy by the *Owner* of a part or entirety of the *Work* before *Ready-for-Takeover* has been attained:
- .1 the *Contractor* shall continue to be liable for the care of such part or entirety of the *Work* except that the *Owner* shall become responsible for preventative maintenance and shall be liable for any loss or damage caused by its negligence or fault; and
- .2 the warranty period shall be as set out in paragraph 12.3.1 of GC 12.3 – WARRANTY.”

SC-120 Delete paragraph 12.2.4 in its entirety and replace it with the following:

- “12.2.4 Without limiting paragraph 12.2.3, the *Contractor* shall not unreasonably interfere with such use or operation of the *Work* and *Project* by the *Owner*. The *Contractor*, in completing its obligations under the *Contract*, shall, at its own cost, take all reasonable measures to minimize the effect thereof on such use or operation.”

GC 12.3 WARRANTY

SC-121 Delete paragraph 12.3.1 and replace it with the following:

- “12.3.1 The warranty period under the *Contract* is:
- .1 one year from the date when *Ready-for-Takeover* has been achieved or the date of termination of the *Contract* or the *Contractor*’s right to continue with the *Work*; or
- .2 such longer warranty period established in the *Contract Documents* for extended warranties,
- (the “*Warranty Period*”).”

SC-122 Amend paragraphs 12.3.3 and 12.3.6 by deleting the words “one year warranty period” wherever they appear and replace them with the words “*Warranty Period*”.

SC-123 Delete paragraph 12.3.4 in its entirety and replace with the following:

“12.3.4 Subject to paragraph 12.3.2, within 15 *Working Days* of receipt of *Notice in Writing* pursuant to paragraph 12.3.3 (or within such other reasonable time as determined by the *Consultant*) the *Contractor* shall correct, at the *Contractor*’s expense, any defects or deficiencies in the *Work* which appear prior to and during the *Warranty Period* and shall complete such correction as expeditiously as possible, except that where the deficiency prevents maintaining security at the *Place of the Work* or prevents continued operation or functionality of systems essential to the ongoing business or operations of any *Owner Entities* as determined at the sole discretion of the *Owner*, all necessary corrections and/or installations of temporary replacements shall be carried out immediately as an emergency service. Should the *Contractor* fail to provide this emergency service within 48 hours of a request being made during the normal business hours of the *Contractor*, the *Owner* shall be authorized to carry out all necessary repairs or replacements at the *Contractor*’s expense and deduct all costs of so doing from the *Warranty Security* and, if required, otherwise recover all costs of so doing as a debt due and payable by the *Contractor* upon demand. No such action by the *Owner* shall waive or release the *Contractor* of its obligations under this *Contract*, including any warranty obligations.”

SC-124 Delete paragraph 12.3.5 and replace it with the following:

“12.3.5 The *Contractor* shall correct or pay for damage resulting from corrections made under the requirements of this GC 12.3. If the *Contractor* fails to correct defects or deficiencies in the *Work* or other damage resulting from such corrections within 15 *Working Days* after receiving written notification of the defect or deficiency or damage from the *Owner* or the *Consultant*, the *Owner* may (whether itself or through others) make such corrections at the *Contractor*’s expense and deduct all costs of so doing from the *Warranty Security* and, if required, otherwise recover all costs of so doing as a debt due and payable by the *Contractor* upon demand.”

SC-125 Add new paragraphs 12.3.7 to 12.3.9 as follows:

- “12.3.7 Where manufacturers offer, as a general policy, extended warranties on their *Products* or other greater benefits than those called for in the specifications, the *Contractor* shall obtain the benefit of such extended warranties for the *Owner*. The *Contractor* shall ensure that all warranties, guarantees or other obligations for *Work* or *Products* performed or supplied by any *Contractor Personnel* in connection with the *Work* are obtained and available for the direct benefit of the *Owner*. In the alternative, the *Contractor* shall assign to the *Owner* all warranties, guarantees or other obligations for *Work* or *Products* performed or supplied by any *Contractor Personnel* and such assignment shall be with the consent of the assigning party, where required by law, or by the terms of that *Person's* contract. Such assignment shall be in addition to, and shall in no way limit, the warranty rights of the *Owner* under the *Contract Documents*.
- 12.3.8 To ensure performance of the *Contractor's* obligations as set out in GC 12.3 – WARRANTY, the *Owner* shall not make payment to the *Contractor* of the *Warranty Security* until the following has occurred, as confirmed by the *Consultant* in writing:
- .1 expiry of the *Warranty Period*; and
 - .2 correction by the *Contractor* of all defects and deficiencies in the *Work* which occurred or arose prior to and during the *Warranty Period*.
- 12.3.9 Specified warranty periods shall not be construed as limiting the provisions of GC 13.1 –INDEMNIFICATION. Payment of holdback amounts and final payment shall not relieve the *Contractor's* responsibility for correction of any other deficiencies or incomplete items, at no additional cost to the *Owner* pursuant to this GC12.3 – WARRANTY.”

GC 13.1 INDEMNIFICATION

SC-126 Delete paragraph 13.1.1 and replace it with the following :

- “13.1.1 The *Contractor* shall indemnify and save harmless the *Owner Entities* from and against any and all *Claims* arising out of the negligence, errors, omissions, fraud or willful misconduct of the *Contractor Personnel* attributable to or connected with the *Contractor's* performance or non-performance of its obligations pursuant to this *Contract* except to the extent that such *Claims* are attributable or caused by the negligence of the *Owner Entities* or any of them. This indemnity shall survive the expiration or earlier termination of this *Contract* and continue in full force and effect.”

- SC-127 In paragraph 13.1.2 delete the words “The obligation of either party to indemnify as set forth in paragraph 13.1.1” and replace them with the words “The liability of either party under this *Contract*”.
- SC-128 In subparagraph 13.1.2.1 delete the words “the minimum liability insurance limit for one occurrence, of the applicable insurance policy, as referred to in CCDC 41 in effect at the time of bid closing” and replace them with the words “the amount of the minimum insurance limit for one occurrence, of the applicable insurance policy, as set forth in Appendix 3 to the Supplementary Conditions for each policy of insurance required to be provided by such party”.
- SC-129 Add the following to the end of subparagraph 13.1.2.1:
- “For certainty, each party’s liability for losses suffered by the other party for which insurance is to be provided by them pursuant to GC 11.1 – INSURANCE (as modified by the Supplementary Conditions) shall not be less in the aggregate than the total amounts of the minimum insurance limits for one occurrence for each policy of insurance as stipulated in GC 11.1 – INSURANCE (as modified by the Supplementary Conditions) as is applicable to the subject *Claims*.”
- SC-130 In subparagraph 13.1.2.3 delete the words “and neither party shall have any liability to the other for indirect, consequential, punitive or exemplary damages”.
- SC-131 Add new paragraphs 13.1.7 to 13.1.11 as follows:
- “13.1.7 The *Owner Entities* shall have no liability under this *Contract* or in respect of the *Work* or the *Project* for any *Consequential Damages*.
- 13.1.8 Without limiting the foregoing, within 10 calendar days of the *Contractor* receiving notice or otherwise becoming aware of a *Claim* initiated by a third party against an *Owner Entity* and/or the *Contractor* in respect of a matter for which the *Contractor* has indemnified the *Owner Entities* under this *Contract* and where such *Claim* has been referred to a legal proceeding or other dispute resolution proceeding, the *Contractor* shall retain legal representation and confirm in writing to the *Owner* that it shall assume the *Owner Entities*’ defence in accordance with the indemnification provisions outlined in this *Contract*, including this GC 13.1 – INDEMNIFICATION. For certainty, for the purposes of this GC 13.1 – INDEMNIFICATION “third party” shall not include any *Subcontractor*, *Supplier*, *Other Contractor* or other person or entity engaged for the *Project*.

- 13.1.9 Where the *Contractor* receives notice or otherwise becomes aware of a *Claim* initiated by a third party against an *Owner Entity* and/or the *Contractor* in respect of a matter for which the *Contractor* has indemnified the *Owner Entities* under this *Contract* and where such *Claim* has not been referred to a legal proceeding or other dispute resolution proceeding, if the *Contractor* denies liability and does not assume responsibility for payment of such *Claim* the *Contractor* will notify the *Owner* and third party claimant in writing of its decision within 20 calendar days of receiving notice or otherwise becoming aware of the *Claim*, and the *Owner* reserves the right to assign the *Claim* to an independent insurance adjuster for investigation and determination. The *Owner* and *Contractor* shall fully cooperate with the adjuster to achieve timely resolution of such *Claim*. The *Contractor* and the *Owner* shall provide the adjuster with access to any and all records or documentation in relation to the *Work* and obligations performed under the *Contract* as required for the adjuster's determination. The *Owner* and the *Contractor* acknowledge that all *Claims* will be investigated and responded to by the adjuster within 45 calendar days of receipt of the *Claim* or within such other time as may be agreed by the parties.
- 13.1.10 The *Owner* and the *Contractor* shall be bound by the final decision of the independent adjuster who shall notify the claimant in writing of the final decision with respect to the adjustment of the *Claim*. The *Owner* shall reserve the right to communicate to the third party claimant the final decision with respect to the adjustment of the *Claim*. Where liability is found on the part of the *Contractor*, the adjuster shall handle settlement negotiations and all pertaining financial and legal transactions on behalf of the *Owner* and the *Contractor*, including but not limited to securing a full and final release and issuing the settlement funds to the third party claimant.
- 13.1.11 To the extent the adjuster determines the *Contractor* to be liable for the *Claim* under this *Contract* or at law, all costs for adjuster fees, claim administration and settlement costs will be borne by the *Contractor*. To the extent the *Contractor* is found not to be liable for the *Claim* under this *Contract* or at law, the *Owner* will bear all costs for adjuster fees, claim administration and settlement costs.
- 13.1.12 For certainty, where any *Claim* has been referred to a legal proceeding or other dispute resolution proceeding paragraphs 13.1.8 will apply (and paragraphs 13.1.9 to 13.1.11 shall not apply) and the *Contractor* may advance any denial of liability in the normal course of such proceedings.”

GC 14.1 CONSTRUCTION LIENS

GC 15.1 OWNERSHIP AND CONFIDENTIALITY

GC 16.1 FREEDOM OF INFORMATION

SC-132 Add the following new GC 14.1 CONSTRUCTION LIENS, GC 15.1 OWNERSHIP AND CONFIDENTIALITY and GC 16.1 FREEDOM OF INFORMATION:

“GC 14.1 CONSTRUCTION LIENS

- 14.1.1 In the event that a lien arising from the performance of the *Work* is registered against the *Place of the Work* or *Project* or the *Owner Entities’* interest in the *Place of the Work* or *Project*, the *Contractor* shall, within seven (7) calendar days, at its sole expense, vacate or discharge the lien from title to the *Place of the Work*. If the lien is merely vacated, the *Contractor* shall, if requested, undertake the *Owner Entities’* defence of any subsequent lawsuit commenced in respect of the lien at the *Contractor’s* sole expense. The *Owner Entities* shall have the right to be represented by advisory counsel and other professionals, at its own expense, and shall be kept fully informed by the *Contractor* of the proceeding at all stages thereof whether or not so represented.
- 14.1.2 If the *Contractor* fails or refuses to vacate or discharge a construction lien within the time prescribed above, the *Owner* shall, at its option, be entitled to take all steps necessary to vacate and/or discharge the lien, and all costs incurred by the *Owner Entities* in so doing (including legal fees on a solicitor and client basis and any payment which may ultimately be made out of or pursuant to security posted to vacate the lien) shall be for the account of the *Contractor*, and the *Owner* may deduct such amounts from any amounts otherwise due or owing to the *Contractor*. If the *Owner* vacates the lien, it shall be entitled to retain all amounts it would be required to retain pursuant to the *Payment Legislation* if the lien had not been vacated.
- 14.1.3 Without limiting the generality of the foregoing, the *Contractor* shall indemnify the *Owner Entities* for all costs (including legal fees on a solicitor and client basis) they may occur in connection with the claim of lien or subsequent lawsuit brought in connection with the lien, or in connection with any other claim or lawsuit brought against the *Owner Entities* by any *Contractor Personnel*.
- 14.1.4 This GC 14.1 – CONSTRUCTION LIENS does not apply to liens filed by *Contractor Personnel* that are claimed as a result of any default by the *Owner* to make payments to the *Contractor* in accordance with the terms of the *Contract*.

GC 15.1 OWNERSHIP AND CONFIDENTIALITY

- 15.1.1 Subject to and without limiting paragraph 3.7.5, all *Work*, including all *Products* and all portions thereof, shall be the property of the *Owner*.

- 15.1.2 The *Contractor* grants to the *Owner* an irrevocable, perpetual, worldwide, and exclusive royalty-free license to use the *Deliverables*, including all *Contractor IP* therein, for the *Project*, including: (i) for completion of the *Project* and *Work* in the event of early termination of the *Contract*; and (ii) for the future repair, use, occupancy, expansion, operation, maintenance, and/or modification to the *Project* and *Work*. The licence shall be assignable and transferable by the *Owner* to any *Affiliate* and to any purchaser of all or part of the *Place of the Work* or *Project* provided that such *Person* assumes and agrees in writing to all limitations of use set out herein. The *Owner* may use the *Deliverables* for the purposes provided in this paragraph 15.1.2 whether or not this *Contract* is terminated, provided only that the *Owner* pays the compensation due and owing to the *Contractor* pursuant to this *Contract*. The *Deliverables* may not be reproduced for use for other projects by either party without the express written permission of the other party. The *Contractor* shall ensure that all moral rights to the *Deliverables* have been waived, including by all *Contractor Personnel*. Copies of all *Deliverables* shall be handed over by the *Contractor* to the *Owner* upon the earlier of termination of this *Contract* and submission of the *Contractor's Proper Invoice* for final payment. The *Contractor* agrees to obtain such rights from all *Contractor Personnel* as required so that the *Contractor* can grant the above-noted license.
- 15.1.3 The *Contractor* shall not, without the *Owner's* prior written consent, release or disclose any *Confidential Information* to anyone except as necessary to perform the *Work* and its obligations under this *Contract*, and then, only where the *Person* receiving such information is bound by an obligation of confidentiality consistent with this *Contract*. If any *Contractor Personnel* is required to disclose Confidential Information under a valid order of a *Governmental Authority*, the *Contractor* shall: (i) provide the *Owner* with immediate written notice of any request for disclosure; (ii) cooperate with the *Owner* in its efforts to resist or minimize the *Confidential Information* required to be disclosed; and (iii) take such steps as are reasonably necessary and available to maintain the confidentiality of the information by the *Contractor*.
- 15.1.4 The *Contractor* acknowledges that disclosure or use of the *Confidential Information* in violation of this *Contract* could cause irreparable harm to the *Owner* for which monetary damages may be difficult to ascertain or be an inadequate remedy. The *Contractor* therefore agrees that the *Owner* shall have the right, in addition to its other rights and remedies, to seek injunctive relief for any violation of its confidentiality obligations under this GC 15.1 – OWNERSHIP AND CONFIDENTIALITY.
- 15.1.5 This GC 15.1 – OWNERSHIP AND CONFIDENTIALITY shall survive the completion of the *Work* or the termination of the *Contract* for any reason whatsoever.

GC 16.1 FREEDOM OF INFORMATION & DISCLOSURE

- 16.1.1 Without limiting the foregoing, the *Owner* represents to *Contractor*, and *Contractor* acknowledges, that the *Owner Entities* are bound by *MFIPPA* and that the law might compel the *Owner Entities* to disclose certain *Confidential Information*. The *Owner Entities* are not required to take steps to oppose or prevent, or assist the *Contractor* in opposing or preventing, any disclosure of information, including *Confidential Information*, which, in the opinion of the *Owner Entities'* counsel, is legally required to be disclosed. *Contractor* shall assist and comply with any notice provided under *MFIPPA* respecting an access request that the *Owner* has received, including providing records and information to the *Owner* that the *Owner* deems to be within its control for the purposes of this *Contract*. If *Contractor* is legally compelled to disclose *Confidential Information*, for example through court order, warrant, or under applicable legislation, *Contractor* shall promptly notify the *Owner* prior to disclosure of any such *Confidential Information* so that the *Owner Entities* have an opportunity, in their sole discretion, to oppose disclosure through any available processes.”

[END OF SUPPLEMENTARY CONDITIONS. APPENDICES FOLLOW.]

**APPENDIX 1 TO THE SUPPLEMENTARY CONDITIONS
AGREEMENT TERM SHEET**

Supplementary Condition	Contract Clause	Description	Term
SC-1	Paragraph 1.3 of Article A-1	<i>Ready-for-Takeover Date</i>	
SC-1	Paragraph 1.3 of Article A-1	<i>Completion Date</i>	
SC-3	Paragraph 4.6 of Article A-4	Percentage of the total amount claimed in each <i>Proper Invoice</i> to be retained by <i>Owner</i> as <i>Warranty Security</i>	
SC-3	Paragraph 4.7 of Article A-4	Amount of liquidated damages per day for each day or part day of delay until <i>Ready-for-Takeover</i> is achieved	
SC-12	Definitions	<i>Owner's Agent</i>	
SC-41	Paragraph 5.1.4 of GC 5.1	Email address(es) for submission of all draft applications for payment and <i>Proper Invoices</i> to <i>Owner</i> and <i>Consultant</i>	
SC-52	Paragraph 5.4.6	Owner election to release holdback on an annual basis	
SC-52	Paragraph 5.4.7	Owner election to release holdback on phased basis	
N/A	N/A	Where <i>Contract Price</i> is less than \$250K, does <i>Owner</i> elect not to take the statutory 10% holdback?	

**APPENDIX 2 TO THE SUPPLEMENTARY CONDITIONS
PROPER INVOICE REQUIREMENTS**

Each *Proper Invoice* submitted by the *Contractor* shall be in the form set out in Exhibit A to this Appendix 2 include the following:

- The *Contractor's* name and address;
- The date of the *Proper Invoice*;
- The period during which the services, products or materials were supplied;
- Identification of the *Contract* and any applicable *Change Order* (being the authority under which the subject work, services, products or materials were supplied);
- A description of the subject work, services, products or materials supplied (including quantity where appropriate);
- The amount payable for the subject work, services, products or materials supplied and the payment terms;
- The name, title, telephone number and mailing address of the person to whom payment is to be sent;
- A statement based on the schedule of values submitted pursuant to paragraph 5.2.4;
- A copy of the current *Construction Schedule* and of any look-ahead schedule required by the *Contract Documents*;
- A copy of the *Contractor's* current and up-to-date certificate of insurance evidencing compliance with GC 11.1.
- Where payment is requested for *Products* delivered to the *Place of the Work* but not yet incorporated into the *Work*, evidence as reasonably required by the *Consultant* to establish the value and delivery of such *Products*;
- Where payment for *Products* prior to their delivery to the *Place of the Work* is approved by the Owner pursuant to paragraph 3.7.7, evidence as the *Consultant* and *Owner* may reasonably require to establish (i) the value of such *Products*; (ii) compliance with paragraph 3.7.8; and (iii) that such *Products* have been ordered by the *Contractor* for the *Project* and are being manufactured, transported or stored prior to their delivery to the *Place of the Work*;
- All documentation required pursuant to GC 10.4 – WORKERS' COMPENSATION, including a clearance certificate from the *WSIB* stating that all amounts owed to date have been paid in full;

- For each *Proper Invoice* submitted after the first, a statutory declaration using the latest CCDC 9A form of “Statutory Declaration of Progress Payment Distribution by Contractor”;
- For a *Proper Invoice* submitted in respect of final payment:
 - copies of all *Deliverables*, including as-built drawings, and copies of all warranties, guarantees and operation and maintenance manuals related to the *Work*, in hard copy and electronic format as requested by the *Owner*; and
 - an executed final waiver and release in the form attached as Exhibit B to this Appendix 2.
- Any other supporting documents required by the *Contract Documents*.

[Exhibits A and B to this Appendix 2 follow]

**EXHIBIT A TO APPENDIX 2 TO THE SUPPLEMENTARY CONDITIONS
PROPER INVOICE TEMPLATE**

See attached.

**EXHIBIT A
PROPER INVOICE TEMPLATE**

INVOICE TEMPLATE

Draft Invoice **Date:** *Insert date draft invoice sent to owner*
Proper Invoice **Date:** *Insert date proper invoice sent to owner*
Payment due Date *Insert date payment due to the contractor*

Owner *Insert owner's name*
Address *Insert owner's address*
Project Manager *Insert owner's project manager's name*

Contract Title *Insert title*
Contract Number *Insert number*
Purchase Order Number *Insert number*
Payment Certificate No. *Insert number*
Work Completed From *Insert period start date*
To *Insert period end date*

Contractor *Insert contractor's legal name*
Contractor's Address *Insert contractor's address*
Remit Payment To Address *Insert remittance address if different from contractor's address*
Project Manager *Insert contractor's project manager's name*
Contact Info *Insert phone number and email*
HST Registration No. *Insert number*

Consultant *Insert consultant's name*
Contract Administrator *Insert consultant's contract administrator's name*

Contract Value (excl. HST) (1) *Insert current contract value including contingency*
Contingency Allowance (2) *Insert current contingency allowance*
Approved Change Orders (3) *Insert value of total approved change orders*
Revised Total Contract Value (4) *(1) - (2) + (3)*
Estimated %age of Work Performed *(Gross payment to date) / (4)*
Contingency Unallocated *(2) - (3)*

	<u>To Date</u>	<u>Previous</u>	<u>Current</u>
Value of Work Performed (excl. Change Orders)	\$ -	\$ -	\$ -
Value of Change Orders Performed	-	-	-
Gross Payment	\$ -	\$ -	\$ -
Less Statutory Holdback (10%)	-	-	-
Release of Statutory Holdback (10%)	-	-	-
Less Finishing Holdback (10%)	-	-	-
Release of Finishing Holdback (10%)	-	-	-
Less Warranty Security	-	-	-
Release of Warranty Security	-	-	-
Less Other Retainers	-	-	-
Release of Other Retainers	-	-	-
Total Net Payment	\$ -	\$ -	\$ -
HST (13%)			-
Less Liquidated Damages	-	-	-
Total Recommended Payment			<u>\$ -</u>

Attachments submitted with this invoice Statutory Declaration
 Progress and Look Ahead Work Schedules per Contract
 WSIB
 Certificate of Insurance
 Tender Price Breakdown/Schedule of Values
 Other _____

Approved by Contractor

Print Name _____

Signature _____

Date _____

**EXHIBIT B TO APPENDIX 2 TO THE SUPPLEMENTARY CONDITIONS
FORM OF FINAL WAIVER AND RELEASE**

TO: [OWNER NAME AND ADDRESS] (“*Owner*”)
FROM: [CONTRACTOR NAME AND ADDRESS] (“*Contractor*”)
DATE OF APPLICATION
FOR FINAL PAYMENT: [●]
RE: CCDC 2 – 2020 Stipulated Price Contract dated [●] (the “**Contract**”)

Except for *Claims* for which *Notice in Writing* has been received by the *Owner* from the *Contractor* prior to the date of the *Contractor*’s application for final payment under the *Contract* (including all such *Claims* listed herein) or *Claims* which the *Contractor* could not reasonably have knowledge of on such date (including the *Contractor*’s claim for any amounts expressly held back by the *Owner* under the *Contract*, including in respect of any unpaid *Warranty Security*), the *Contractor* acknowledges and agrees that:

1. the *Contractor* does not have and will not make any *Claim* for additional compensation under the *Contract*, including without limitation for extras, changes or delays, or any other *Claim* whatsoever against the *Owner Entities* in connection with the *Contract*, the *Project*, or the *Work*;
2. the final payment made by the *Owner* shall be received by the *Contractor* in full and final settlement of the balance due to the *Contractor* under the *Contract* and of any and all *Claims* of the *Contractor* in connection with the *Contract* (except only for the *Contractor*’s claim for any amounts expressly held back by the *Owner* under the *Contract*, including in respect of any unpaid *Warranty Security*); and
3. the *Contractor* gives receipt of full discharge and waives its rights to any and all *Claims* not submitted as of the date of its application for final payment under the *Contract*.

As of the date of this Waiver and Release the *Contractor* has given the *Owner Notice in Writing* of the following *Claims*:

1. [LIST TO BE COMPLETED BY CONTRACTOR]

For certainty, all terms not defined herein shall have the meaning given in the *Contract*.

[CONTRACTOR NAME]

I/we have authority to bind the company

I/we have authority to bind the company

**APPENDIX 3 TO THE SUPPLEMENTARY CONDITIONS
INSURANCE**

Where the original *Contract Price* stipulated in the Agreement is equal to or less than \$5,000,000 the following shall apply:

1. Commercial General liability insurance shall be with limits of not less than \$5,000,000 per occurrence, an aggregate limit of not less than \$5,000,000 within any policy year with respect to completed operations, and a deductible not exceeding \$10,000. The insurance coverage shall not be less than the insurance provided by IBC Form 2100 (including an extension for a standard provincial and territorial form of non-owned automobile liability policy) and IBC Form 2320. To achieve the desired limit, umbrella or excess liability insurance may be used. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
2. Automobile liability insurance in respect of vehicles that are required by law to be insured under a contract by a Motor Vehicle Liability Policy, shall have limits of not less than \$5,000,000 inclusive per occurrence for bodily injury, death and damage to property, covering all vehicles owned or leased by the *Contractor*. Where the policy has been issued pursuant to a government-operated automobile insurance system, the *Contractor* shall provide the *Owner* with confirmation of automobile insurance coverage for all automobiles registered in the name of the *Contractor*.
3. Manned Aircraft and watercraft liability insurance with respect to owned or non-owned aircraft and watercraft (if used directly or indirectly in the performance of the *Work*), including use of additional premises, shall have limits of not less than \$10,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof and limits of not less than \$10,000,000 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the *Owner*.
4. Unmanned aerial vehicle liability insurance with respect to owned or non-owned aircraft (if used directly or indirectly in the performance of the *Work*), shall have limits of not less than \$5,000,000 per occurrence or accident for bodily injury, death and damage to property or such amounts as required by any applicable law or regulation.
5. “Broad form Builders Risk” property insurance shall have limits of not less than the sum of 1.1 times *Contract Price* and the full value, as stated in the *Contract*, of *Products* and design services that are specified to be provided by the *Owner* for incorporation into the *Work*, with a deductible not exceeding \$10,000. The insurance coverage shall not be less than the insurance provided by IBC Forms 4042 and 4047 or their equivalent replacement. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
6. Boiler and machinery insurance shall have limits of not less than the replacement value of the permanent or temporary boilers and pressure vessels, and other insurable objects forming part of the *Work*. The insurance coverage shall not be less than the insurance

provided by a comprehensive boiler and machinery policy including hot testing and commissioning.

7. Contractors' equipment insurance coverage written on an "all risks" basis covering *Construction Equipment* used by the *Contractor* for the performance of the *Work*, shall be in a form acceptable to the *Owner* and shall not allow subrogation claims by the insurer against the *Owner*. Subject to satisfactory proof of financial capability by the *Contractor* for self-insurance, the *Owner* may agree to waive the equipment insurance requirement.
8. Contractors' Pollution liability insurance shall have limits of not less than \$5,000,000 per occurrence for bodily injury, death and damage to property, with a deductible not exceeding \$25,000.

Where the original *Contract Price* stipulated in the Agreement is greater than \$5,000,000 and equal to or less than \$25,000,000 the following shall apply:

1. Commercial General liability insurance shall be with limits of not less than \$10,000,000 per occurrence, an aggregate limit of not less than \$10,000,000 within any policy year with respect to completed operations, and a deductible not exceeding \$10,000. The insurance coverage shall not be less than the insurance provided by IBC Form 2100 (including an extension for a standard provincial and territorial form of non-owned automobile liability policy) and IBC Form 2320. To achieve the desired limit, umbrella or excess liability insurance may be used. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
2. Wrap-up liability insurance shall be with limits of not less than \$10,000,000 per occurrence, an aggregate limit of not less than \$10,000,000 within any policy year with respect to completed operations, and a deductible not exceeding \$100,000. The insurance coverage shall not be less than the insurance provided by IBC Form 2100 (including an extension for a standard provincial and territorial form of non-owned automobile liability policy) and IBC Form 2320. To achieve the desired limit, umbrella or excess liability insurance may be used. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
3. Automobile liability insurance in respect of vehicles that are required by law to be insured under a contract by a Motor Vehicle Liability Policy, shall have limits of not less than \$10,000,000 inclusive per occurrence for bodily injury, death and damage to property, covering all vehicles owned or leased by the *Contractor*. Where the policy has been issued pursuant to a government-operated automobile insurance system, the *Contractor* shall provide the *Owner* with confirmation of automobile insurance coverage for all automobiles registered in the name of the *Contractor*.
4. Manned Aircraft and watercraft liability insurance with respect to owned or non-owned aircraft and watercraft (if used directly or indirectly in the performance of the *Work*), including use of additional premises, shall have limits of not less than \$10,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of

use thereof and limits of not less than \$10,000,000 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the *Owner*.

5. Unmanned aerial vehicle liability insurance with respect to owned or non-owned aircraft (if used directly or indirectly in the performance of the *Work*), shall have limits of not less than \$5,000,000 per occurrence or accident for bodily injury, death and damage to property or such amounts as required by any applicable law or regulation.
6. “Broad form Builders Risk” property insurance shall have limits of not less than the sum of 1.1 times *Contract Price* and the full value, as stated in the *Contract*, of *Products* and design services that are specified to be provided by the *Owner* for incorporation into the *Work*, with a deductible not exceeding \$100,000. The insurance coverage shall not be less than the insurance provided by IBC Forms 4042 and 4047 or their equivalent replacement. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
7. Boiler and machinery insurance shall have limits of not less than the replacement value of the permanent or temporary boilers and pressure vessels, and other insurable objects forming part of the *Work*. The insurance coverage shall not be less than the insurance provided by a comprehensive boiler and machinery policy including hot testing and commissioning.
8. Contractors’ equipment insurance coverage written on an “all risks” basis covering *Construction Equipment* used by the *Contractor* for the performance of the *Work*, shall be in a form acceptable to the *Owner* and shall not allow subrogation claims by the insurer against the *Owner*. Subject to satisfactory proof of financial capability by the *Contractor* for self-insurance, the *Owner* may agree to waive the equipment insurance requirement.
9. Project Specific Contractors’ Pollution liability insurance shall have limits of not less than \$10,000,000 per occurrence for bodily injury, death and damage to property, with a deductible not exceeding \$25,000.

[*End of Appendix 3*]

Attachment 1 - Technical Specifications

T-683-24

**Woodlands Operation Center
Roof Replacement**

Issued for Tender

**Woodlands Operation
Center 1179 Bronte Road,
Oakville**



Prepared for:

Halton Region

**1151 Bronte Road
Oakville, ON, L6M 3L1**

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APPENDICES

Appendix A	Designated Substance Survey Report
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1.0 GENERAL

Work under this Contract includes the repair/replacement of the roof assemblies (including all related components) at the following site(s):

- .1 **Woodlands Operations Centre,**
1179 Bronte Road, Oakville, ON

1.1 DESCRIPTION OF EXISTING COMPONENTS

There are **Seven (7) defined flat roof areas** (Ballasted EPDM systems) & **Three (3) sloped overhang roofs** (Modified Bitumen System) in the scope of this project (**approximately 5,080 Sq. M.** in area). These existing roofs were reported to have been installed around 2002. There is also a Sloped metal roof which may be included as a provisional item.

The flat roof assemblies used stone ballast, loose-laid EPDM membrane, but insulation & deck varied. The existing assemblies at 5 of the 7 flat roof assemblies consist of 76mm of rigid insulation on a sloped metal deck. The other two flat roof sections (A1 & C2) are on a concrete deck and have additional tapered insulation in addition to the 76mm base insulation.

The sloped overhang roofs are composed of a two modified bitumen roof overtop 19mm plywood and a steel deck.

Typical Service life of this type of Roof system is approximately 20 years. As such the roof has reached the end of its projected lifespan, is in poor condition. The existing assembly does not have the required amount of insulation to meet current energy standards.

In order to address these issues this project is calling for full replacement of the roof assembly, with a new system featuring thicker base insulation to provide better thermal performance.

1.2 DESCRIPTION OF WORK

It is the Contractor's responsibility to provide all labour, material, equipment and supervision to complete the repairs outlined in this specification taking into account all site conditions, noise restrictions, work area restrictions, protection requirements, accessibility restrictions, etc. No extras will be entertained for inconveniences after the award of this Contract.

In particular, the work includes, but is not necessarily limited to the following:

- .1 The Contractor is to be considered the constructor of this project and as such is responsible for aspects as defined by the OHSA.
- .2 Erect temporary roof safety railings at all work locations around the perimeter of the roof in accordance with *Section 02 41 13 – Selective Site Demolition*.
- .3 Work shall include the installation and maintenance of hoarding, protection & construction signage at the work area as per all applicable codes/regulations.

It is the Contractor's responsibility to ensure these areas are fully protected and watertight to ensure public safety in order for these areas to remain fully operational during this repair/replacement work.

- .4 It is the Contractor's responsibility to ensure that the work area is watertight at all times. Contractor to install all protective measures deemed necessary to prevent water infiltration into the building during construction.
- .5 Ensure all HVAC and associated mechanical and electrical systems are protected during the work. Protect or disconnect, remove, store for reuse and reconnect existing conduits, cables, wiring, insulated piping, gas lines and similar items to permit roof replacement/repair, membrane and sheet metal flashing installation and sleeve flashing installations, in accordance with *Section 15 00 00 – Mechanical Work*.
- .6 Provide a disposal bin adjacent to the roof area, to dispose of all debris, material etc. Provide all necessary disposal chutes, cranes and/or overhead/building protection required to facilitate disposal of material from the roof to the disposal bins. Perform this work in accordance with *Section 02 41 19.13 – Site selective Building* and *Section 02 41 13 – Selective Site Demolition*.
 - .1 Locations to be confirmed with Halton Region prior to implementation to ensure no interruption of services.**
- .7 Provide protection to ventilation openings located on the roof from fumes, dust and debris generated by re-roofing operations as directed by the Consultant.

ROOF RENEWAL

- .1 Erect roof safety railings at all work locations around the perimeter of the roof. Perform this work in accordance with *Section 02 41 13 – Selective Site Demolition*.
- .2 It is the contractor's responsibility to ensure that the work area is watertight at all times. Contractor to install all protective measures deemed necessary to prevent water infiltration into the building during construction.
- .3 Work shall include the installation and maintenance of hoarding, protection and construction signage around the work area in accordance with all applicable codes and regulations. Ensure all HVAC and associated mechanical and electrical systems are protected during the work.
- .4 Provide protection to ventilation openings located on the roof from fumes, dust and debris generated by re-roofing operations as directed by the Consultant.
- .5 Provide a disposal bin adjacent to the roof area, to dispose of all debris, material etc. Perform this work in accordance with *Section 02 41 13 – Selective Site Demolition*.

- .6 Disconnect, remove, store for reuse, reinstall and reconnect the existing roof top mechanical units, exhaust fan units and other roof penetrations as required to permit roof replacement/repairs. Disconnect, lift, modify or replace and reconnect all related duct work, piping & electrical components to accommodate curb & support heights. Perform this work in accordance with *Section 15 00 00 – Mechanical Work*
- .7 Remove existing roof stone ballast, store on site for reinstatement.
- .8 Remove existing concrete pavers & rigid insulation pad and store for reinstatement. Reinstall concrete pavers.
- .1 replace all damaged pavers with new to match existing.
- .2 Where new insulation pads are required re-use insulation from previous roof assembly to reduce waste.
- .9 Work shall include the removal and disposal of the existing roofing system down to the deck of the building including membrane, insulation, sheet metal and any rotten plywood / wood blocking
- .1 Sheet metal flashing is to be removed and reinstated where possible and only replaced as noted on drawings coloured to best match existing.
- .2 Installation of a new EPDM roofing system complete with new wood blocking, sheet metal flashing and new roof accessories in the area of work.
- .10 Remove and dispose of the existing roofing system, including roofing membranes, membrane flashings, insulation, vapour retarder, related curb and perimeter sheet metal flashings, pitch pockets, sleeves, roof drains and all other roofing components to be replaced with new. Perform this work in accordance with *Section 02 41 13 – Selective Site Demolition & Section 02 41 19.13 – Selective Building Demolition*.
- .1 Coordinate the shut down, and/or removal & reinstatement of HVAC units as required to facilitate the work.
- .11 Clean, repair and fill-in all surfaces which may be detrimental to the new roofing system. Identify areas of rust, warping or deterioration to the Consultant. Where deterioration exists scour corrosion and paint deck with two coats of corrosion resistant, replace decking where directed by consultant. Likewise localized concrete repairs are to be performed as required at concrete deck areas.
- .12 Provide new carpentry, including perimeter wood blockings, and cants as required. Refasten existing carpentry as required to ensure adequate anchorage.
- .13 Clean, remove rust, prepare, prime and paint all areas of exposed existing metal which is being retained at the roof level (guardrails, gas lines, corroded areas of the roof deck, structural supports, etc.)
- .1 Paint in accordance with 09 01 90.63–*Exterior Re-Painting*.

- .2 Remove all loose paint, and scour any rust and corrosion from the exposed metal, prior to painting.
- .3 Apply one coat of the manufacturer's specified primer/rust inhibitor for their paint system. Then apply two coats of exterior corrosion resistant metal paint.
- .14 Remove and replace caulking at all wall, ladder and cladding accessible at roof level with new silicone caulking.

.15 Provide and install new Modified Bitumen as follows:

- .1 Provide and install a modified bitumen roofing (Mod. Bit) membrane system in accordance with *Section 07 52 00 – Mod. Bit. Roofing*, at three sloped overhang roof areas.
- .2 Overlay roofing systems at the sloped overhang **Roof Areas (E1, F1 & G1)**. The new roofing system shall consist of the following:
 - .1 Torch applied modified membrane capsheet.
 - .2 Torch applied modified membrane basesheet.
 - .3 Existing Mod. Bit. Roofing retained as a vapour barrier, prepared for torch adhesion.
 - .4 Existing metal deck with mechanically attached plywood sheathing
- .3 Overlay roofing systems at the sloped overhang **Roof Areas (E1, F1 & G1)**. The new roofing system shall consist of the following:
 - .1 Torch applied modified membrane capsheet.
 - .2 Torch applied modified membrane basesheet.
 - .3 New polyisocyanurate insulation adhered with low-rise foam adhesive, stagger /offset joints, with new vapour barrier

.1 13mm (0.5”) high density coverboard.

.2 Tapered polyisocyanurate insulation is to be used as per approved shop drawings to provide min. 2% slope toward drains and Scuppers. The proposed system is to eliminate all ponding at the roof (water build up for longer than 48 hours after rainfall) At drains provide increased slope (min 3%) in 610x610mm sumps. The base insulation can be reduced by max 12.7mm at the sumps to permit this increased slope.

.3 114mm (4.5”) polyisocyanurate (a 63.5mm & a 76mm Layer)

- .4 New Self adhered Vapour Barrier prime & provide can't strips as required by manufacturer.
- .5 New 12.7mm (½") gypsum board mechanically fastened

.16 Provide and install new EPDM roofing systems as follows:

- .1 Provide and install an EPDM membrane system in accordance with *Section 07 53 23 – EPDM Roof*, on all subject roof areas.
 The new roofing system shall consist of the following:
 - .1 stone ballast (reinstated and topped up with new as required)
 - .2 loose laid 90mil EPDM membrane with fully adhered upturns with bonding adhesive, overlap as per manufacturer requirements
 - .3 New polyisocyanurate insulation adhered with low-rise foam adhesive, stagger /offset joints, with new vapour barrier;
 - .1 **At Roofs A1 & C2** (concrete deck) use the following Insulation:
 - 1. **13mm (0.5")** high density coverboard.
 - 2. **Tapered polyisocyanurate insulation** is to be used as per approved shop drawings to provide min. 2% slope toward drains and Scuppers. The proposed system is to eliminate all ponding at the roof (water build up for longer than 48 hours after rainfall)
 - 3. **114mm (4.5")** polyisocyanurate (63.5mm Layer & a 76mm Layer)
 - 4. New Torch applied vapour barrier
 - .2 **At Roofs A2, B, C1, D** (sloped metal deck) use the following Insulation:
 - 1. **13mm (0.5") high density coverboard.**
 - 2. **140mm (5.5")** polyisocyanurate to be installed across the roof (70mm Layer & a 70mm Layer),
 - 3. At drains provide increased slope (min 3%) in 610x610mm sumps. The base insulation can be reduced by max 12.7mm at the sumps to permit this increased slope.

4. **Tapered insulation Crickets** are to be installed as per approved shop drawings. Use tapered insulation/crickets to provide slope towards drains/scuppers and around perimeters/penetrations.
 5. New Self adhered Vapour Barrier prime & provide can't strips as required by manufacturer.
 6. New 12.7mm (½") gypsum board mechanically fastened
- .4 Existing Roof deck, prepared & repaired as required.
- .17 Provide new roof drains at existing roof drain locations. Provide new eavestroughs and downspouts, install scupper locations to drain into downspouts. Ensure roof drains, scuppers and rain water leaders are clear of all debris and free draining at project completion.
- .1 **At drains provide increased slope (min 3%) in 610x610mm sumps. The base insulation can be reduced by max. 12.7mm at the sumps to permit this increased slope.**
 - .2 **Provide new aluminum downspouts at scuppers. Colour to be approved by owner's representative.**
- .18 Provide Tapered insulation/crickets to supplement the existing roof slope to better promote drainage towards existing roof drains.
- .1 **Contractor to submit tapered insulation shop drawings for review and approval.**
 - .1 **At roof A1 and C2 provide minimum 2% slope to drains/scuppers with tapered insulation. (3% at sumps)**
 - .2 **At other roof areas, provide crickets between drains and at perimeters/penetrations.**
- .19 Adjust the height of vent pipes to accommodate the new sleeve flashing. Provide vent pipe sleeve flashings at existing vent pipe location. Ensure existing vent pipe is clear of all debris.
- .20 As required modify the height of existing skylight units, mechanical units and exhaust fan curbs to ensure they meet the requirements. All units must have at least a minimum of 150mm (6") above the height of the new roofing membrane. Supplement existing carpentry / metal framing with new wooden blocking securely fastened as required to ensure adequate anchorage and height.
- .21 Provide conduit flashings at the existing/new conduit penetration locations. Supply and install new pads, supports and brackets as required.

- .22 Provide metal chimney sleeve flashings and storm collars at existing metal chimney penetration locations. Provide insulated copper sleeve flashings, storm collars and all other components necessary to ensure continued water tightness of existing gas line penetrations and for all other roof penetrations and protrusions where no other sleeve flashing is specified. Provide sprayed polyurethane foam insulation to fill void between penetration and sleeve flashing. Supply and fabricate copper sleeve flashings and storm collars in accordance with *Section 07 62 00 – Sheet Metal Flashing and Trim*.
- .23 Provide membrane underlayment beneath sheet metal flashings except where membrane flashings are present in accordance with *Section 07 62 00 – Sheet Metal Flashing and Trim*.
- .24 Remove & recycle existing parapet cap metal. Supply and install new 24 Gauge prefinished sheet metal or aluminum flashings, at all locations of membrane flashings and as detailed on the drawings. Perform this work in accordance with *Section 07 62 00 – Sheet Metal Flashing and Trim*. New metal flashing to match existing colour and gauge.
- .25 Provide sealants in all joints, to sheet metal flashing joints and intersections such as corners, at storm collars and to all other locations to provide watertight joints in accordance with *Section 07 92 00 – Sealants*.
- .26 Provide sealant at the following flashing locations in accordance with *Section 07 92 00 – Sealants*:
- .1 Along locations where membrane flashings terminate at the base of a wall or curb (horizontal and vertical terminations);
 - .2 Along joint between roof or wall penetrations and membrane flashings and vapour retarder membrane.
- .27 Apply sealant between storm collars and roof penetrations in accordance with *Section 07 92 00 – Sealants*.
- .28 Protect or disconnect, remove, store for reuse and reconnect existing conduits, cables, wiring, insulated piping, gas lines and similar items to permit roof replacement/repair, membrane and sheet metal flashing installation and sleeve flashing installations, in accordance with *Section 15 00 00 – Mechanical Work*.
- .29 Install new guardrail system at Roofs B, C1 and D at the top landing of each access ladder and at the two indicated skylights at Roof Area B as per drawings and approved shop drawings.**
- .1 New guardrails are to be non-penetrating and to meet loading requirements of the 2012 Ontario building Code.
 - .2 Material: Aluminum or steel with corrosion resistant finish (Powder coating or approved alternative)

- .3 Submit Shop Drawings to Consultant for review/approval. To Include:
 - .1 Dimensions of guardrail system
 - .2 Weight of guardrail system
 - .3 Layout of guardrail system including any additional guardrail requirements (such as returns/outriggers where required by the manufacturer).

CLEANING & CLOSEOUT

- .1 Perform daily and final clean-up of work areas and surrounding areas & site.
- .2 Repair all areas damaged by construction activity. Specifically, the Contractor shall repair all damage resulting from the Construction to the satisfaction of the Consultant including repainting of surfaces in accordance with these Specifications which have been damaged.
- .3 All rooftop mechanical and electrical equipment, air-handling units, gas lines, utilities and any miscellaneous rooftop equipment shall be in working order, re-connected and returned to their preconstruction condition following the installation of the new roof.
- .4 Ensure roof drains and gutters are clear of all debris and free draining at project completion.
- .5 Final cleaning of site (including fixtures, piping, etc.,) and the disposal of all waste products and/ or debris generated by the construction activity as well as any material present in the work area prior to the commencement of the Work. The areas requiring cleaning shall consist of all areas affected by the Work.
- .6 The above description is general only and must not be construed as limiting the scope of work.

1.3 CONSTRUCTION SCHEDULE

- .1 In conjunction with and in a form acceptable to the Consultant and the Owner's Representative, provide within five (5) days after award of contract a detailed schedule indicating the following parameters.
 - .1 Start date and completion date for each phase of the work.
 - .2 Co-ordination of other repair items as applicable.
 - .3 Daily and weekly schedule for manpower and equipment, hours of operation and crew sizes.
- .2 The construction schedule shall reflect completion of all work under the Contract within the specified time and in accordance with these Specifications.
- .3 If the Contractor desires to make a major change in the method of operation after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor shall submit to the Consultant a revised construction schedule in advance of beginning revised operation.

2.0 PRODUCTS

Not applicable

3.0 EXECUTION

Not applicable

END OF SECTION

1.0 GENERAL

1.1 CONTRACTOR'S USE OF SITE

- .1 The building is to remain open throughout the course of the work. The Contractor shall have complete and sole use and access to the designated work areas, unless otherwise stipulated by the Owner during the course of the Work.

Access to other areas of building is not permitted unless supervised by the Owner's representatives.

Contractor to provide "full poly-tarp protection" during the installation of the new roofing system, new vents or anyother miscellaneous items. Seam overlaps between the tarps shall be tied together with zip lock ties and maintained during the work to ensure dust and debris from the work does enter the ductwork or drains, and affect the current mechanical system inside the building. Filter material/fabric is to be installed in/over open vents/penetrations in areas where poly-tarps are not suitable.

The installation and maintenance of hoarding, protection and construction signage around the work area in accordance with all applicable codes and regulations is contractor's responsibility. This includes ensuring all HVAC and associated mechanical and electrical systems are protected during the work.

All interior areas are to remain open during this work. It is the Contractor's duty to ensure these areas are fully protected to ensure public safety in order for these areas to remain fully operational during this repair/replacement work.

Shop drawings for hoarding and protection work shall be certified by a Professional Engineer and approved by the Consultant before actual installation.

- .2 The Contractor shall co-ordinate his work schedule with the Owner so as to minimize disruptions of the site. No work shall be performed until approved by the Owner's Representative.
- .3 It is the Contractor's responsibility to ensure the building remains operational at all times and to perform work as required to ensure that a minimum of one (1) exit and one (1) entrance is available to the patrons at all times.
- .4 It is the Contractor's responsibility to control traffic and redirect if necessary, to allow vehicular access to parking spaces outside the work area. Any required traffic rerouting and the work sequence shall be closely co-ordinated with the Owner.
- .5 Provide signage of professional quality, barriers and hoarding necessary to protect the public from the Contractor's operations and route traffic through the work areas. Signage must be provided at each entrance indicating repairs are being performed at the site. Refer to specification *Section 01 56 00 – Temporary Barriers & Enclosures* for location and list of non-standard construction signage that must be

supplied by the Contractor. These signage requirements are in addition to any standard signs required to control and/or reroute traffic through the site.

- .6 The use of all power tools, and percussive equipment is to be in accordance with all local by-laws and ordinances.
- .7 Do not unreasonably encumber site with materials or equipment.
- .8 Do not close or obstruct or store materials in roadways, sidewalks or passageways without prior approval from the Owner. Do not interfere with safe passage to and from the building and adjacent public sidewalks and roads.
- .9 Move stored products or equipment which interferes with operations of the building or Owner.
- .10 General Contractor to obtain and pay for all necessary approvals to locate equipment or materials on property.
- .11 Protect all existing light standards, walls, plants, finishes, windows, doors, etc.
- .12 Protect all utilities, gas mains, electrical conduit, etc. that must remain in service throughout the construction period.
- .13 During transportation of materials or equipment through occupied areas, ensure vehicles are protected from damage. All damage to vehicles will be repaired at Contractor's expense.
- .14 The Contractor shall make allowance in their price to cover all costs of temporary removal and replacement and/or relocation of existing electrical wiring and mechanical hardware required for completion of the work.
- .15 The Contractor is required to use the main roadways leading to the Wastewater Treatment Plant and Water Filtration Plant for delivery and removal of material for the duration of the project. Disposal bins, supply trucks, etc. are to be located on site. Contractor to be responsible for all required permits.
- .16 Maintain free access routes for ambulance, emergency vehicles, garbage trucks, etc.

1.2 HOURS OF WORK

- .1 Use of all equipment to be restricted in accordance with local and municipal noise by-laws and regulations.
- .2 Work shall be limited to the hours of 8:00am to 6:00pm MONDAY through FRIDAY.
 - .1 Weekend and After hours work may be possible if approved the Owner's Representative
- .3 All work shall be in accordance with Noise By-laws.

1.3 EFFECT ON BUILDING OPERATIONS

- .1 The Contractor shall schedule his operation to minimize the interruption of the normal use of the site and building and to comply with laws, by-laws, ordinances, rules and regulations relating to the Work.
- .2 The Contractor shall be responsible for arranging for the location of all existing utilities prior to construction and protection of the same during construction.

1.4 EXISTING SERVICES

- .1 Notify Owner and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Owner a notice of three (3) working days for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3 Provide for pedestrian and vehicular traffic.

2.0 PRODUCTS

Not applicable

3.0 EXECUTION

Not applicable

END OF SECTION

1.0 GENERAL

1.1 SUBSTITUTION OF MATERIALS PRIOR TO BID CLOSING

- .1 Where products or systems have been specified by trade name no substitution will be allowed except where alternates have been approved by **Halton Region** prior to bid closing.
- .2 Where a specified product or system is not available at the time of tender, the Contractor must inform the Consultant in writing so that he may advise all bidders of proposed changes. In the event that the Contractor fails to do so, the Consultant will choose a substitute item suitable for the application at the time of construction.

1.2 REQUEST FOR APPROVAL OF ALTERNATIVES

- .1 **Contractors may request to have products or systems which have not been specified to be approved through the question period. In this period they may apply for approval of their product/system as “alternative”.**
- .2 **Requests for approval must reach the Consultant during the question period and prior to the tender closing.** The Consultant shall advise applicants of the status of their request three (3) working days prior to the tender closing.
- .3 Requests for approval shall include:
 - .1 Project name and number
 - .2 Specification sections in which the product/system is specified
 - .3 Description of proposed substitute including:
 - .1 Manufacturer’s material specifications;
 - .2 Manufacturer’s preparation and application requirements; and,
 - .3 Manufacturer’s warranties.
- .4 Sample of product indicating surface finish and material thicknesses to be applied under this Contract.
- .5 Installation history of proposed substitute including:
 - .1 Projects and locations;
 - .2 Approximate value of contract;
 - .3 Approximate size of the projects;
 - .4 Number of years in use;
 - .5 Type of use;
 - .6 Name of owner and architect and/or engineer involved; and,
 - .7 Any additional information as specified in the applicable division.
- .6 When submitting alternatives to materials or equipment specified, Bidder shall include in their Bid any changes in the Work required to accommodate such

alternatives. A later claim for addition to the Contract Price because of changes in the Work necessitated by the use of alternatives will not be considered.

- .7 All requests shall be submitted in duplicate and be complete with a stamped self-addressed envelope for return of the request.

1.3 APPROVAL OF ALTERNATIVES

- .1 The Consultant reserves the right to reject any or all requests for approval.
- .2 An addendum will be issued prior to bid closing if an alternative is approved. No alternative materials or equipment will be considered after bid closing.
- .3 Product/systems which have been approved as alternatives may be substituted for specified product/systems at the time of tender.
- .4 Should any proposed substitution be accepted either in part or in whole, the Contractor shall assume full responsibility and costs when substitution affects other work on project and pay for drawing changes required as a result of substitution.
- .5 All credits arising from approval of substitutions will be credited to Contract in such amounts as may be determined by the Consultant and Contract Price will be adjusted accordingly.
- .6 No substitutions will be permitted without prior written approval by the Consultant.

2.0 PRODUCTS

Not applicable

3.0 EXECUTION

Not applicable

END OF SECTION

1.0 GENERAL

1.1 PROJECT CO-ORDINATION

- .1 The Contractor is responsible for co-ordination of Trades. Lines of demarcation between Contractors and Trades or trade and trade are solely the responsibility of the Contractor. The Owner's Representative assumes no responsibility for the division of the work or for any jurisdictional involvements as a result of such division.
- .2 The Contractor is responsible for co-ordination with the Owner's Representative for all on-site activity as it affects the operation of the building.

1.2 NOTIFICATION FOR INSPECTION

- .1 The Contractor is to notify the Owner's Representative at least 24 hours in advance for inspections. No work shall be covered or concealed until reviewed by the Departmental Representative unless Contractor is informed that an inspection will not be performed. Such review does not absolve the Contractor from his responsibility to perform his work in accordance with the Contract Documents.
- .2 The Owner's Representative shall notify the designated inspection company for material sampling and testing.
- .3 The Contractor shall promptly provide the Consultant with safe access to any part of the Work requiring inspection.
- .4 The Owner's Representative may be present during inspections carried out.

1.3 SUPERINTENDENCE

- .1 The Contractor is to provide a full time Superintendent who is to be on-site on a continuous basis during the execution of the work and shall not be changed without Consultant's consent. Superintendent shall have as a minimum, a pager at all times during Working hours to allow for communication with Owner's Representative.
- .2 The Superintendent shall be satisfactory to the Owner's Representative.
- .3 Project Superintendence shall be deemed not satisfactory and changes or additions to the superintendence may be demanded when control, organization or co-ordination of the Work is not satisfactory, or, the quality of the Work does not meet the requirements of the Contract Documents, or directions given in accordance with the Contract Documents are not followed, or, progress is behind schedule.

2.0 PRODUCTS

Not applicable.

3.0 EXECUTION

Not applicable.

END OF SECTION

1.0 GENERAL

1.1 DOCUMENTS

- .1 This section, along with the drawings, forms part of the contract documents and is to be read, interpreted and co-ordinated with all other parts.

1.2 WORK INCLUDED

- .1 Administration of Project Meetings.
- .2 Pre-construction Meeting.
- .3 Progress Meetings.

1.3 ADMINISTRATION OF PROJECT MEETINGS

- .1 The Consultant shall preside at meetings.
 - .1 A representative of the Contractor shall record the minutes, include significant proceedings and decisions, and identify “action by” parties.
 - .2 The Contractor shall reproduce and distribute copies of minutes to meeting participants, to affected parties not in attendance, to the Owner and Consultant within three days after each meeting.
- .2 The Consultant shall schedule and administer project meetings.
 - .1 Prepare agenda for meetings.
 - .2 Distribute written notice of each unscheduled meeting three (3) days in advance of meeting date to Contractor, Owner and relevant Subcontractors.
 - .3 The Owner shall provide physical space and make arrangements for meetings on site.
 - .4 Representatives of Contractor, Subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the party each represents.

1.4 PRECONSTRUCTION MEETING

- .1 Within ten (10) days after award of Contract, the Consultant, or Contractor shall request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Senior representatives of the Owner, Consultant, Contractor, major Subcontractors, field inspectors will be in attendance.

- .3 The Consultant shall establish a time and location of meeting and notify parties concerned five (5) days before meeting.
- .4 The Consultant shall incorporate mutually agreed upon Contract Document variations into the Agreement, prior to sending the agreement to the parties for signing.
- .5 **Agenda to include the following:**
 - .1 Appointment of official representative of participants in the Work.
 - .2 Schedule of Work, progress scheduling (*Section 01 32 16 – Construction Progress Schedule*).
 - .3 Shop drawings and schedule of shop drawing submissions.
 - .4 Requirements of temporary facilities, site signage, hoarding, dust protection, offices, storage sheds, utilities, fences.
 - .5 Delivery schedule of critical equipment.
 - .6 Contemplated change orders, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements (GC).
 - .7 Take-over procedures, acceptance, warranties (*Sections 01 77 00 – Closeout Procedures and Section 01 78 36 – Warranties*).
 - .8 Monthly progress claims, administrative procedures, holdbacks (GC).
 - .9 Appointment of inspection and testing agencies or firms.
 - .10 Insurances, transcript of policies (GC).
 - .11 Commissioning installation check list
 - .12 Preparation for new roof water testing.
 - .13 O&M Manual documentation submission

1.5 PROGRESS MEETINGS

- .1 During the course of work, the Consultant or the contractor shall schedule progress meetings every two weeks, further progress meetings may be scheduled by Consultant, Contractor, or Owner as required to expedite the Work.
- .2 Consultant, Contractor, major Subcontractors involved in the Work, Owner when required, are to be in attendance.
- .3 The **CONSULTANT** shall notify parties a minimum of three (3) days prior to meeting of changed time or place.
- .4 **Agenda to include the following:**
 - .1 Review and approval of minutes from previous meeting.
 - .2 Review of work progress since previous meeting.
 - .3 Field observations and problems which impede construction schedule or cause conflicts.
 - .4 Progress, schedule, during succeeding work period.
 - .5 Corrective measures and procedures to regain projected schedule.
 - .6 Revisions to construction schedule.
 - .7 Review of off-site fabrication delivery schedules.
 - .8 Review submittal schedules; expedite as required.
 - .9 Maintenance of quality standards.
 - .10 Pending changes and substitutions, Notices of Proposed Change and Change Orders.
 - .11 Review proposed changes for effect on construction schedule and on completion date.
 - .12 Other business.

2.0 **PRODUCTS**

Not applicable

3.0 **EXECUTION**

Not applicable

END OF SECTION

1.0 GENERAL**1.1 RELATED SECTIONS**

- .1 Section 01 77 00 - Closeout Procedures.

1.2 SCHEDULES REQUIRED

- .1 Submit schedules as follows:
 - .1 Construction Progress Schedule.
 - .2 Submittal Schedule for Shop Drawings and Product Data.
 - .3 Submittal Schedule for Samples.
 - .4 Product Delivery Schedule.
 - .5 Cash Allowance Schedule for purchasing Products.
 - .6 Shutdown or closure activity.

1.3 FORMAT

- .1 Prepare schedule in form of a horizontal bar (Gantt) chart.
- .2 Provide a separate bar for each major item of work, trade or operation.
- .3 Split horizontally for projected and actual performance.
- .4 Provide horizontal time scale identifying first work day of each week.
- .5 Format for listings: chronological order of start of each item of work.
- .6 Identification of listings: By Systems description.

1.4 SUBMISSION

- .1 Submit initial format of schedules within 15 working days after award of Contract.
- .2 Submit schedules in electronic format, forward on disc as PDF files.
- .3 Submit one opaque reproduction, plus 2 copies to be retained by Owner.
- .4 Owner will review schedule and return review copy within ten (10) working days after receipt.
- .5 Resubmit finalized schedule within seven working days after return of review copy.
- .6 Submit revised progress schedule with each application for payment.
- .7 Distribute copies of revised schedule to:
 - .1 Job site office.
 - .2 Subcontractors.
 - .3 Other concerned parties.

- .8 Instruct recipients to report to Contractor within ten (10) working days, any problems anticipated by timetable shown in schedule.

1.5 CRITICAL PATH SCHEDULING

- .1 Include complete sequence of construction activities.
- .2 Include dates for commencement and completion of each major element of construction as follows.
 - .1 Site clearing.
 - .2 Site utilities.
 - .3 Foundation Work.
 - .4 Structural framing.
 - .5 Special Subcontractor Work.
 - .6 Equipment Installations.
 - .7 Finishes.
- .3 Show projected percentage of completion of each item as of first day of month.
- .4 Indicate progress of each activity to date of submission schedule.
- .5 Show changes occurring since previous submission of schedule:
 - .1 Major changes in scope.
 - .2 Activities modified since previous submission.
 - .3 Revised projections of progress and completion.
 - .4 Other identifiable changes.
- .6 Provide a narrative report to define:
 - .1 Problem areas, anticipated delays, and impact on schedule.
 - .2 Corrective action recommended and its effect.
 - .3 Effect of changes on schedules of other prime contractors.

1.6 SUBMITTALS SCHEDULE

- .1 Include schedule for submitting shop drawings, product data, and samples.
- .2 Indicate dates for submitting, review time, resubmission time, last date for meeting fabrication schedule.

END OF SECTION

1.0 GENERAL

- .1 This section specifies general requirements and procedures for Contractor's submissions of shop drawings, product data, samples and mock-ups to Engineer for review. Additional specific requirements for submissions are specified in the project specifications.
- .2 Do not proceed with work until relevant submissions are reviewed by Consultant.
- .3 Present shop drawings, product data, samples and mock-ups in imperial units.
- .4 Where items or information is not produced in imperial units converted values are acceptable.
- .5 Contractor's responsibility for errors and omissions in submission is not relieved by Engineer's review of submissions.
- .6 Notify Engineer, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Contractor's responsibility for deviation in submission from requirements of Contract Documents is not relieved by Engineer's review of submission, unless Engineer gives his written acceptance of specified deviations.
- .8 Make any changes in submissions which Engineer may require consistent with Contract Documents and resubmit as directed by Engineer.
- .9 Notify the Consultant in writing when resubmitting any revision other than those requested by the Consultant.

1.1 SUBMISSION REQUIREMENTS

- .1 Coordinate each submission with requirements of work and Contract Documents. Individual submissions will not be reviewed until all related information is available.
- .2 Submit 4 copies of product data, manufactures' catalogue sheets, brochures, literature, performance charts and diagrams.
- .3 Comply with the following requirements in regard to submission of product data:
 - .1 Delete information not applicable to project.
 - .2 Supplement standard information to provide details applicable to project.
 - .3 Provide certification of compliance to applicable codes.
 - .4 Provide manufactures' certification as to current production.
- .4 Allow 5 working days for Engineer's review of each submission.

- .5 Accompany submissions with transmittal letter in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.

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

- .7 After Engineer's review, distribute copies.

1.2 SHOP DRAWINGS

- .1 List of all shop drawing required per discipline prior to construction start up meeting to be submitted by the consultant.

- .2 Prior to commencing work, provide digital sets of shop drawings for the Consultant's review pertaining to installations and fabrications required by the Contract. Unless noted otherwise, shop drawings shall be submitted for the following work:
 - .1 Product Data for all material of for the proposed roofing assembly.**

 - .2 Drain Detail, Scupper Detail & related material product data**

.3 Tapered Insulation & Cricket Shop Drawings

.4 Non-Penetrating Gaurdrails Shop Drawings. to Include:

- .1 dimensions of guardrail system**
- .2 weight of guardrail system**
- .3 layout of guardrail system including any additional guardrail requirements (such as returns/outriggers where required by the manufacturer).**

- .2 As part of the Consultant's field services, the Consultant will review shop drawings pertaining to work shown on the Consultant's drawings by means of appropriate rational sampling procedures and comment on the accuracy with which the Contractor prepared the drawings.
- .3 Review of shop drawings is for the sole purpose of ascertaining conformance with the general design concept and is not an approval of the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting them.
- .4 Review of shop drawings shall not relieve the Contractor of his responsibility for errors and omissions in the shop drawings or for meeting all requirements of the Contract Documents.
- .5 The Contractor is solely responsible for information pertaining to the fabrication process, techniques of construction and installation and for co-ordination of the work of all sub-trades.
- .6 Cross-reference shop drawing information to applicable portions of Contract Documents.
- .7 Shop Drawings to be stamped and sealed by a Professional Engineer (Ontario) confirming that the components are compliant with the Ontario Building Code and other applicable codes. As required.**

1.3 SAMPLES

- .1 Samples: examples of materials, equipment, quality, finishes, workmanship.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.
- .3 Reviewed and accepted samples will become standard of workmanship and material against which installed work will be verified.

END OF SECTION

1.0 GENERAL

1.1 SECTION INCLUDES

- .1 Health and safety considerations required to ensure that due diligence towards health and safety on construction sites, and meets the requirements laid out in the Occupational Health and Safety - Construction.

1.2 RELATED REQUIREMENTS

- .1 Submittal Procedure Section 01 33 00
- .2 **Lead Disturbance Precautions** **Section 02 83 13**
- .3 **Silica Disturbance Precautions** **Section 02 87 13**

1.3 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety & Health Regulations.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Ontario: Safety Code for the Construction industry – Act Respecting Occupational Health & Safety
- .4 PSPC Asbestos Management Directive and Standard, newest version O. Reg
- .5 MOL – O. Reg. 278/05 Designated Substance Asbestos on construction projects and in building and repair operations.
- .6 MOL – Lead on Construction Projects.
- .7 MOL – Silica on Construction Projects.

1.4 SUBMITTALS

- .1 The Contractor shall be responsible & assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility within 3 weeks of tender award.
- .2 Once General Contractor is awarded, the vendor will need to complete and submit the following information as outlined below:
 - .1 Fill out all of the client’s required Health & Safety Documentation.
 - .2 All Certifications/Training records, SDS forms, etc. that are requested must be submitted by awarded GC prior to start of work.

- .3 A site-specific Lead Management Plan.**
 - .1 The Awarded contractor is to submit and implement a lead mitigation plan in accordance with MOL's Guidelines: Lead on Construction Sites. Lead Mitigation Plan is to be submitted to consultant and client for review and approval prior to proceeding with any operations that produce lead particulate.**
- .4 A site-specific Silica Management Plan.**
 - .1 The Awarded contractor is to submit and implement a lead mitigation plan in accordance with MOL's Guidelines: Lead on Construction Sites. Silica Mitigation Plan is to be submitted to consultant and client for review and approval prior to proceeding with any operations that disturb Silica.**
- .3 Submit site-specific Health and Safety Plan: Within 7-days after date of Notice to Proceed, prior to commencement of Work. Health & Safety Plan must include:**
 - .1 Results of site-specific safety hazard assessment.**
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.**
- .4 Submit copies of incident and accident reports.**
- .5 Submit copies of incident and accident reports within 24 hours to the Owners Representative. Verbally notify Consultant and the Owner's Representative.**
- .6 Submit WHMIS and SDS - Safety Data Sheet.**
- .7 Awarded Contractor to review existing Designated Substance Survey (Project Specific DSS if required) and provide indication that the vendor is aware and are a certified abatement contractor, under the direction of a certified environment consultant;**

1.5 FILING OF NOTICE

- .1 File Notice of Project with Provincial Authority prior to beginning of Work.**

1.6 SAFETY REQUIREMENTS

- .1 Perform site specific safety hazard assessment related to project.**
- .2 Awarded Contractor to review existing Designated Substance Survey**

1.7 PROJECT / SITE CONDITIONS

- .1 Request any report referring to hazardous and / or designated substances in the area of Work prior to bidding.
- .2 **There is lead containing paint being used in follow:**
 - .1 Lead were detected in the paint at the roof level structural steel.
 - .2 low levels of lead in the gasline paint though they were reported to contain less than 90 ppm of lead.
- .3 **A number of building materials were identified in the areas assessed that are suspected to contain crystalline silica. This includes the Concrete, Asphalt Masonry and mortar,**

1.8 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Contractor to ensure that there is caution tape / hoarding over the entrances during regular business hours.

1.9 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work..
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
- .3 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.10 COMPLIANCE REQUIREMENTS

- .1 Comply with Ontario Health and Safety Regulations

1.11 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to

Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

- .2 **Contractors are to STOP WORK IMMEDIATELY and contact the Owner/Consultant should they encounter any previously unidentified suspect designated substances.**

1.12 POSTING OF DOCUMENTS

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

1.13 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.14 WORK STOPPAGE

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

2.0 PRODUCTS

Not applicable.

3.0 EXECUTION

Not applicable.

END OF SECTION

1.0 GENERAL

1.1 INSPECTION

- .1 Owner's Representative and the Consultant shall have access to the Work. If part of the Work is in preparation at locations other than the Place of the Work, access shall be given to such work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by the Consultant, or the law of the Place of the Work.
- .3 If the Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have the inspections or tests satisfactorily completed and make good such Work.
- .4 The Consultant may order any part of the Work to be examined if the Work is suspected to be not in accordance with the Contract Documents. If, upon examination such work is found not in accordance with the Contract Documents, correct such work and pay the cost of examination and correction.

1.2 INDEPENDENT INSPECTION AGENCIES

- .1 Provide independent inspection agencies as specified in the contract documents.
- .2 Provide equipment required for executing inspection and testing by the appointed agencies.
- .3 Employment of inspection/testing agencies does not relax the responsibility to perform Work in accordance with the Contract Documents.
- .4 If defects are revealed during inspection and/or testing, the appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by the Consultant at no cost to Owner's Representative. Pay costs for retesting and re-inspection.

1.3 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to the Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.4 PROCEDURES

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

- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in the Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site.
- .4 Provide sufficient space to store and cure test samples.

1.5 REJECTED WORK

- .1 Remove defective Work, whether the result of poor workmanship, use of defective products or damage and whether incorporated in the Work or not, which has been rejected by the Consultant as failing to conform to the Contract Documents. Replace or re-execute in accordance with the Contracts Documents.
- .2 Make good anything damaged by such removals or replacements promptly.
- .3 If in the opinion of the Owner's Representative it is not expedient to correct defective Work or Work not performed in accordance with the Contract Documents, Owner's Representative may deduct from the Contract Price the difference in value between the Work performed and that called for by the Contract Documents, the amount of which shall be determined by the Consultant.

1.6 REPORTS

- .1 Submit digital copies of inspection and test reports to the Consultant.
- .2 Provide copies to Subcontractor of work being inspected or tested and manufacturer or fabricator of material being inspected or tested

1.7 MOCK-UPS & SAMPLES

- .1 Prepare mock-ups and samples for Work specifically requested in specifications. Construct in locations acceptable to Departmental Representative or as specified.
- .2 Prepare mock-ups for Consultant's review with reasonable promptness. Failure to prepare mock-ups or samples in time is not sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

2.0 PRODUCTS

Not Applicable

3.0 EXECUTION

Not Applicable

END OF SECTION

1.0 **GENERAL**

1.1 **RELATED WORK**

- .1 Temporary Barriers & Enclosures Section 01 56 00

1.2 **TEMPORARY UTILITIES**

- .1 Provide and pay for where specified, locate where directed, and maintain temporary facilities for the Work and for all trades, and remove them upon completion of the Work.
- .2 Where specified to provide utilities, make all arrangements with the public utilities, obtain all necessary permits, provide or pay for connections and all respective fees.

.3 **ELECTRICAL POWER**

- .1 Discuss available power with the Owner's Representative prior to bidding.
- .2 The Contractor shall pay for any alternations to the electrical system which may be needed to accommodate the Contractor's equipment. Co-ordinate any required alterations with the Owner's Representative. Reinstate the system to its original condition upon completion.
- .3 The Owner shall pay for electrical consumption.

.4 **WATER SUPPLY**

- .1 Contractor shall pay for the cost of any temporary water connections or alterations which are required to perform the Work.
- .2 The Owner shall pay for water consumed.

.5 **PORTABLE TRAILER**

- .1 Contractor shall pay for the cost to provide their own trailer for equipment and material storage. There will be no material/equipment storage in the building.

1.3 **TEMPORARY FIRE PROTECTION**

- .1 Provide and maintain temporary fire protection equipment during performance of the Work as required by governing codes, regulations and by-laws.

1.4 **TEMPORARY FIRST AID FACILITIES**

- .1 Provide well stocked and maintained first aid kit adequate to handle requirements of hazards during the Work in the Site office.
- .2 Contractor is to have one of the safety data sheets for all material being used on the project on site and readily available to the Consultant, Owner & Contractor's forces.

- .3 **Contractor is to have on site and provide their forces with all protective equipment & cleaning supplies needed to meet COVID-19 safety requirements.**

1.5 SANITARY FACILITIES

- .1 The building toilets and facilities cannot be used by the Contractor's forces.
- .2 The contractor shall provide and maintain their own portable toilets to be used by their work crew and all subcontractors.

1.6 TEMPORARY BARRIERS AND ENCLOSURES

- .1 Provide hoarding, fencing, barriers, barricades and plant protection as required by the authorities and specified herein to protect persons and property, public and private. Refer to *Section 01 56 00 - Temporary Barriers & Enclosures* for signage & hoarding requirements.
- .2 Maintain barriers in sound and clean condition throughout the Work.
- .3 Keep Site clear of unauthorized signs.
- .4 Provide barriers with required warning lights and signs.
- .5 Hoarding, fencing, barriers and barricades are to be constructed and supported in such a manner that no sharp projections that can cause personnel injury are created.
- .6 Remove hazards requiring barriers as soon as possible.
- .7 Remove barriers at time of turn-over of the Work to the Owner.

1.7 SECURITY

- .1 Take all necessary precautions to guard/secure site, premises, materials & the public at all times other than when supervised work is in progress.

1.8 PROTECTION OF THE WORK DURING CLOSE-DOWN

- .1 Should the project be closed down for any cause, assume all responsibility for its proper protection during such period.

2.0 PRODUCTS

Not applicable

3.0 EXECUTION

Not applicable

END OF SECTION

1.0 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 01 51 00 - Temporary Utilities

1.2 WALK-THROUGH INSPECTION OF SITE

- .1 Prior to start of Work, Contractor, & Owner's Representative will perform walk-through inspection of site to determine existing conditions.
- .2 The Contractor is to perform a thorough inspection of the site prior to the start of work and provide a written notice to the Owner's Representative detailing all damaged property as well as all items that appear to be of poor working order or appearance (i.e. sign, fixtures, dirt, etc.).
- .3 Upon receiving this notice, Owner's Representative & Consultant will verify the validity of the items listed.
- .4 If written notice is not given within five (5) days of commencement of Work, it will be assumed that the Contractor has reviewed the site and has accepted the condition of the property as being free of damage.
- .5 Any damages not listed as part of the written notice of clause 1.3.2 above found after the completion of the work will be the sole responsibility of the Contractor to rectify. These rectifications shall be completed in a timely and satisfactory manner.
- .6 The project will not be considered substantially performed if the cost to correct these outstanding deficiencies is greater than the limits outlined in the Construction Lien Act.

1.3 THE WORK, WORK IN PROGRESS, PROPERTY & PERSONS

- .1 Provide protection as required to protect work in progress and other property from damage and to provide suitable conditions for the progress of finishing work.
- .2 Take reasonable and required measures, including those required by authorities having jurisdiction, to protect the public and those employed on the Work from bodily harm.
- .3 Comply with requirements of The Occupational Health and Safety Act, 1980 and Regulations for Construction Projects.
- .4 Direct all Subcontractors to protect their own work, existing property, adjacent public and private property and work of other Sections from damage while working.

1.4 CONSTRUCTION SIGNAGE

- .1 Contractor shall provide all required signage necessary to protect the public from the construction, control the traffic flow through the garage and the work area and to inform patrons that construction activity is in process.

- .2 Additional signs may be required at the discretion of Owner's Representative as construction progresses. No extras will be entertained for signage requirements after tenders close.
- .3 All signage to be of professional quality and design.
- .4 Typical signage that may be required are as follows:
 - .1 two-way traffic
 - .2 keep right or left
 - .3 yield, stop, detour
 - .4 one way traffic
 - .5 no parking, directional arrows, etc.
- .5 Signage will be required at all entrances to the 'Work Area'. This signage shall consist of the standard "Men at Work" sign with an additional sign (special order) indicating that the site is temporarily under construction and we are sorry for the inconvenience.
- .6 Typical additional non-standard signage that will be required is as follows:
 - .1 Site Temporarily Under Construction - Sorry for the Inconvenience
 - .2 This Section of Site Closed For Repairs
 - .3 Caution 2-Way Traffic, Proceed When Way is Clear (with directional arrows).
- .7 All non-standard signage is to be of adequate size (discuss with the Owner's Representative prior to ordering) with orange background and large black letters and decals. Plywood backing is sufficient. All signs are to be of professional quality.
- .8 All signage is to be securely fastened directly to hoarding or if signage is required and hoarding is not available, the signs are to be securely fastened to 2 screw jack (post shores) which are fully tightened to the slab soffit and slab surface. Signs and posts are to be installed in such a manner that projections that may cause public injury are not created.

1.5 CONSTRUCTION BARRIERS AND ENCLOSURES

- .1 Contractor shall supply and construct hoarding, barriers and enclosures as indicated in these specifications, drawings and as directed by the Owner's Representative.
- .2 No extras shall be entertained for hoarding, barriers and enclosures after tenders close unless the scope of work is significantly changed.

1.6 EXISTING BUILDINGS, CURBS, ROADS AND LANES

- .1 During Installation ensure that work area is watertight at all times. At the end of each day's work ensure that work area is left in a safe and watertight condition.
- .2 Protect existing buildings, structures, curbs, roads and lanes. If, during work, any existing items are damaged, repair or replace them.
- .3 All interior areas are to remain open during this work. It is the Contractor's duty to ensure these areas are fully protected to ensure public safety in order for these areas to remain fully operational during this repair/replacement work.

- .4 Provide pavement, curb and sidewalk protection for public thoroughfares and the Work in progress as required by the authorities and to protect public property and the Work.

1.7 CONTROL OF CONSTRUCTION GENERATED DUST, DEBRIS, FUMES, ETC.

- .1 Dust, dirt, construction debris, water and fumes from the work areas must not be permitted to enter areas of the building or rooms in or adjacent to work areas.

1.8 PROTECTION OF EXISTING EXPOSED FACILITIES

- .1 Existing lighting system within work area is to be protected from damage or removed and re-installed upon completion of repairs.
- .2 All exposed conduit, fixtures, attached devices, sprinkler fire system plumbing, mechanical system components, louvers and ducts are to be protected against the accumulation of dust, debris and damage. The Contractor will be responsible to correct any damages to these systems at his own expense. Contractor to promptly report any damage to the Owner's Representative.
- .3 Protect existing control equipment, overhead doors, etc. from damage.
- .4 Inspect materials, equipment and components to be re-used or turned over to the Owner's Representative. Note their condition and advise the Owner's Representative in writing, of any defects or conditions which would affect their removal and re-use, prior to removal.
- .5 Any damage to the paint finish of the walls or columns caused by the construction shall be repaired by the Contractor at no cost to the Owner.

1.9 FIRE PROTECTION

- .1 Take necessary precautions to eliminate fire hazards and to prevent damage to the Work, building materials, equipment and other property both public and private having to do with the Work. Inspect the Work at least once a week for this purpose.
- .2 Store and locate products and equipment packed in cardboard cartons, wood crates and other combustible containers in orderly and accessible manner. Place approved types of firefighting equipment in vicinity of products packed in this type of crate or carton until permanent fire protection and equipment are available.
- .3 Open fires or burning of rubbish or debris are not permitted on the Site.

2.0 PRODUCTS

Not applicable

3.0 EXECUTION

Not applicable

END OF SECTION

1.0 GENERAL**1.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise specified, comply with manufacturers latest printed instructions for materials and installation methods.
- .2 Supply copies of these instructions to the Consultant prior to commencing work.
- .3 Notify Consultant in writing of any conflict between the Contract Documents and manufacturer's instructions.

1.2 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and maintain packaged materials with manufacturer's seals and labels intact.
- .2 Shelf life will be strictly adhered to, materials shipped without dates will be rejected.
- .3 Immediately remove rejected materials from site.
- .4 Store materials in regulation containers in accordance with Ontario Occupational Health and Safety Regulations and manufacturer's instructions.
- .5 Toxic or hazardous chemicals shall be secured in a locked storage area.
- .6 All containers to be labelled with material expiration dates. Materials older than the expiry date shall not be used on the Work and shall be removed immediately from the job site.
- .7 Provide Owner and Consultant with material safety data sheets (MSDS) for all products prior to arrival on site.

2.0 PRODUCTS**2.1 MATERIALS**

- .1 Use new products unless otherwise specified.
- .2 Provide three (3) copies maintenance instructions for finished surfaces and maintenance materials prior to Substantial performance.

3.0 EXECUTION

Not applicable

END OF SECTION

1.0 GENERAL

1.1 DESCRIPTION OF WORK INCLUDED

- .1 Provide all labour, material, equipment and services necessary to clean the exterior cladding, windows, and surrounding site after installation and removal of caulking, etc. and dispose of all waste products and debris in the work area as indicated on the Contract Documents.
- .2 Provide all labour, material, equipment and services necessary to clean the structure outside the work area if debris generated by construction has affected these areas.

1.2 GENERAL REQUIREMENTS

- .1 Conduct cleaning and disposal operations to comply with the local and municipal ordinances and anti-pollution laws and the building management.
- .2 Store volatile wastes in covered metal containers and remove from premises daily.
- .3 Prevent accumulation of wastes which create hazardous conditions.
- .4 Provide adequate ventilation during use of volatile or noxious substances.
- .5 Co-ordinate requirements for ventilation and waste disposal operation with the Owner's Representative.

1.3 REFERENCES

- .1 Waste Control Regulations - Comply with the requirements of the Occupational Health and Safety Act.

2.0 PRODUCTS

2.1 MATERIALS

- .1 Use only cleaning materials approved by the manufacturer for the surface to be cleaned and as recommended by cleaning material manufacturer.

3.0 EXECUTION

3.1 PRIOR TO CONSTRUCTION

- .1 Prior to the submission of a Bid for this project, the Contractor shall examine the site to determine its condition with respect to debris and dust.
- .2 At the time when cleaning is to be performed, it will be the Contractor's responsibility to clean the site of all debris generated by the construction as well as any existing debris, unless otherwise indicated in the contract documents.
- .3 No extras will be entertained for site cleaning after the contract is awarded.

3.2 WASTE REMOVAL AND CLEANING DURING CONSTRUCTION

- .1 Contractor is to provide all required cleaning during Construction.
- .2 Maintain the place of work and adjacent properties free from accumulations of waste materials and rubbish.
- .3 Provide on-site containers for collection of waste materials and rubbish.
- .4 Disposal of all waste products to be performed in accordance with the product manufacturer's Material Safety Data Sheets, and in accordance with the Occupational Health and Safety Act.
- .5 Seal off all work areas to prevent dust and debris being generated from affecting other areas, including construction access requirements. Any dust and debris which escapes from the work area, is to be cleaned up in a timely fashion. If deemed by the Owner's Representative, this cleaning operation has not been performed in a timely fashion, the Owner may contract an independent cleaner to rectify the situation. The cost of which will be back charged to the contractor.
- .6 Perform daily and end of work clean-up of work areas and surrounding areas and site. Ensure all areas outside of designated storage spaces are clear of all debris, equipment and material at the end of each day.
- .7 Entrances and exits are to remain unobstructed at all times unless prior permission is given by the owner

3.3 FINAL CLEANING

- .1 Contractor is to clean all areas affected by the Work to "as new" condition. Removing all debris generated by construction activity as well as any existing debris present prior to start of work.
- .2 Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials immediately prior to the final inspection of work. Material and equipment used for cleaning to be in strict accordance with manufacturer's instructions.
- .3 Prior to the work being considered Substantially Performed, the Contractor shall remove his surplus products, tools, construction machinery and equipment not required for the performance of the remaining work. Contractor shall also remove waste products and debris other than that caused by other Contractors or their employees not involved with the Work and leave the Site clean and suitable for occupancy by the Owner's Representative unless otherwise specified
- .4 Prior to the Work being considered Totally Performed, the Contractor shall remove his remaining products, tools, construction machinery and equipment.

END OF SECTION

1.0 GENERAL

1.1 SECTION INCLUDES

- .1 Text, schedules and procedures for systematic Waste Management Program for construction, deconstruction, demolition, and renovation projects, including:
 - .1 Diversion of Materials.
 - .2 Materials Source Separation Program (MSSP).
 - .3 Canadian Governmental Responsibility for the Environment Resources

1.2 DEFINITIONS

- .1 Demolition Waste Audit (DWA): Relates to actual waste generated from project.
- .2 Materials Source Separation Program (MSSP): Consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .3 Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others.
- .4 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .5 Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .6 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .7 Salvage: Removal of structural & non-structural materials from deconstruction / disassembly projects for purpose of reuse or recycling.
- .8 Separate Condition: Refers to waste sorted into individual types.
- .9 Source Separation: Acts of keeping different types of waste materials separate beginning from first time they became waste.

1.3 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)

- .1 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
- .2 Provide containers to deposit reusable and recyclable materials.
- .3 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
- .4 Locate separated materials in areas which minimize material damage.
- .5 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
 - .1 Transport to recycling facility.

1.4 STORAGE, HANDLING AND PROTECTION

- .1 Unless specified otherwise, materials for removal become Contractor's property.
- .2 Protect, stockpile, store and catalogue salvaged items.
- .3 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to approved local facility.
- .4 Protect structural components not removed for demolition from movement or damage.
- .5 Support affected structures. If safety of building is endangered, cease operations and immediately notify Department having jurisdiction.
- .6 Protect surface drainage, mechanical and electrical from damage and blockage.
- .7 Separate and store materials produced during dismantling of structures in designated areas.
- .8 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On-site source separation is recommended.

1.5 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of any waste into waterways, storm, or sanitary sewers.
- .3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .4 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.

1.6 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Provide security measures approved by Owner.

1.7 SCHEDULING

- .1 Coordinate Work with other activities at site to ensure timely and orderly progress of Work.

2.0 PRODUCTS

Not applicable

3.0 EXECUTION

3.1 APPLICATION

- .1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

3.2 CLEANING

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Source separate materials to be reused/recycled into specified sort areas.

3.3 DIVERSION OF MATERIALS

- .1 From following list, separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by Owner and consistent with applicable fire regulations.
 - .1 Mark containers or stockpile areas.
 - .2 Provide instruction on disposal practices.
- .2 On-site sale or distribution of salvaged materials to third parties is not permitted.

END OF SECTION

1.0 GENERAL

1.1 TAKE OVER PROCEDURE

.1 Contractor's Inspections

- .1 The Contractor and his Subcontractors shall conduct an inspection of the work and correct all deficiencies.
- .2 The Contractor shall notify the Consultant, in writing, of satisfactory completion of the "Contractor's Inspection" and request "Consultant's Inspection".

.2 Consultant's Inspection

- .1 The inspection team shall consist of the Consultant and the Contractor; the Owner, or his representative shall attend at their option.
- .2 During the "Consultant's Inspection" a list of all deficiencies shall be drawn up and signed by the Consultant.
- .3 The Contractor shall correct all deficiencies in a timely and satisfactory manner.

.3 Final Inspection

- .1 When the Contractor is satisfied that all deficiencies have been corrected, the Contractor shall request, in writing, a "Final Inspection".
- .2 The "Final Inspection" shall be conducted by the Consultant and the Contractor; the Owner, or his representative shall attend at their discretion.

.4 Certificate of Substantial Performance

- .1 The Contractor must submit a request in writing to the Consultant for a Certificate of Substantial Performance.
- .2 Once the Contractor has received a copy of the Certificate of Substantial Performance, he shall comply with the following:
 - .1 the requirements of the "Construction Lien Act".
 - .2 the requirements of the Workers Compensation Act.
 - .3 Supply all warranties, and inspection certificates in accordance with the requirements of the Contract Documents.
 - .4 all other contractual requirements

.5 Completion

- .1 Immediately following the issuance of the Certificate of Substantial Performance of the work, the Consultant, in consultation with the Contractor, will establish a reasonable date for the “Completion of the Work”.

.6 Release of Holdback

- .1 If at the time the holdback is to be released all deficiencies noted in subsequent site reports have not been completed to the satisfaction of the Consultant, the value of these deficiencies as determined by the Consultant will be retained from the holdback to be released. The remainder of the holdback will be released provided there are no outstanding claims pursuant to the Construction Lien Act. The portion of the holdback retained, equal to the value of the deficiencies will be held until such time the deficiencies have been rectified to the satisfaction of the Consultant and Owner.

2.0 PRODUCTS

Not applicable

3.0 EXECUTION

Not applicable

END OF SECTION

1.0 GENERAL

1.1 RECORD DRAWINGS

- .1 Engineer will provide Contractor two sets of white prints for record drawing purposes.
- .2 Contractor to maintain project record drawings and record accurately deviations from Contract documents.
- .3 Record changes in red and mark on one set of prints.
- .4 At completion of Contract and prior to final inspection, neatly transfer “as-built” records to second set of white prints using fine, red marker. Neatly print lettering and numbers in size to match original. Lines may be drawn free-hand but shall be neat and accurate. Add at each drawing title block note: “AS-BUILT” RECORD. Circle on List of Drawings each title and number of drawing marked with “as-built” records.
- .5 Submit both sets of “as-built” record drawings to Engineer on completion of contract and before the final payment. Contractor shall provide two (2) paper copies and one (1) electronic (PDF) copy of the drawings.
- .6 Record following information:
 - .1 Field changes of dimension and detail.
 - .2 Changes made by Change Order or Field Order.
 - .3 Deviation from electrical and mechanical installation shown on drawings.
 - .4 Other significant deviations which are concealed in construction and cannot be identified by visual inspection.
 - .5 Type and location of structural repairs ordered by Engineer.
 - .6 location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
- .7 Make project record drawings available at all times for reference purposes and for inspection by the Engineer. Provide prints of reproducible drawings to Engineer at regular intervals but not less than once each month.
- .8 If project is completed without significant deviations from contract drawings, declare this in writing and submit to Engineer in lieu of project record documents.

1.2 OPERATION AND MAINTENANCE MANUALS

- .1 Submit three (3) copies of manufacturer’s printed operation and maintenance manuals for requirements requested within those Specification Sections.
- .2 Follow the following format and include the following contents:

Binder Cover, Edge and Title Page: Project Name, Building Name, address, project number (GOC#), Project Completion Date

Table of Contents: Project Name, Building Name, address, project number (GOC#), Project Completion Date and table of contents.

Tab A – Contact Information: Include contact information for Consultant, General Contractor and all Sub-Contractors. Contractor Information: name, address, telephone number of manufacturer, installing contractor, 24-hour number for emergency service for all equipment in this section identified by equipment.

Tab B – Signed Letter of warranty: Signed and dated general contractor, and all sub-contractors, letter of Warranty which includes project name, project number (GOC#), location, warranty start date (to be the date of Substantial Completion as declared by Consultant), and all manufacturer and extended warranties.

Tab C – Shop Drawing: A copy of all Shop Drawings reviewed by the Consultant and or Commissioning Agent.

Tab D – All Reports: Copies of all TAB reports, pre-functional tests, start-up reports, completed performance verification forms and permits or certifications from Authorities having jurisdictions.

Tab E – Sequences of Operation: Provide Designers and / or the Manufactures operating instructions and sequence of operations.

Tab F – Maintenance & Service Procedures: specific service & maintenance manuals, preventative and corrective maintenance, with service procedures and schedules.

Tab G – As-Built Drawings: Marked in red ink, by the Contractor and/or sub-contractor, and reviewed by the Consultant. Provide both a hardcopy and CAD electronically.

Tab H – RP1 - Equipment Data Collection Forms (CMMS): All equipment which is to be deleted, removed, added or replaced from site is to have a CMMS inventory sheet completed and included in the O&M manual.

Tab I – Site Inspection Reports: Inspection report(s) conducted during the implementation of the project.

Tab J – Final Commissioning Manual: Narrative of commissioning activities and challenges that occurred during each phase of the project. Confirmation letter identifying that all performance verification tests have met the requirements of the specification document, basis of design (if applicable) and requirement of the project.

Tab K – Submit copies of transportation documents or shipping manifests indicating weights of materials, and other evidence of disposal indicating final location of waste diverted from landfill and waste sent to landfill.

END OF SECTION

1.0 **GENERAL**

1.1 **DOCUMENTS**

- .1 This section along with the Drawings, forms part of the Contract Documents and is to be read, interpreted, and co-ordinated with all other parts.
- .2 All conditions of the Contract and Division 1, General Requirements, apply to this Section.
- .3 All work shall meet the requirements of the latest edition of the National Building Code, including all amendments up to project date.

1.2 **RELATED WORK**

- .1 Temporary Barriers & Enclosures Section 01 56 00

1.3 **WORK INCLUDED**

- .1 Installation of hoarding/dust protection and shoring around the Work as per *Section 01 56 00 – Temporary Barriers & Enclosures*.
 - .1 Provide barricades, hoarding, guard rails, overhead protection, and other protection as required, to give full protection to occupants, general public, and workers employed on the demolition, and to adjacent buildings and properties.
 - .2 Prevent debris from blocking building, site or municipal drainage system.
- .2 **Provide all labour, material, equipment and supervision required to remove and dispose of all material and debris resulting from the removal of existing roofing, mechanical units, metal and other roofing material as required in accordance with the Contract Documents.**

1.4 **SUBMITTALS**

- .1 Submit for approval, drawings, diagrams or details clearly showing the sequence of demolition.
- .2 Prior to commencement of any excavation, the Contractor shall consult with Municipal Authorities, Utility Companies and owner for information with regards to the exact location of utilities (i.e. telephone lines, sprinkler systems, all outdoor lighting systems, etc.) and exercise the necessary care in construction operations, and to take such other precautions as are necessary to safeguard the utility from damage. Notify owner at least 48 hours in advance of any necessary interruption. Any claims resulting from damage shall be the contractor's responsibility.

1.5 PERMITS AND REGULATIONS

- .1 Arrange and pay for all permits, notices and inspections for the proper execution and completion of demolition work.
- .2 Unless otherwise specified, carry out work for demolition in accordance with Ontario Building Code and to the requirements of Ontario Occupational Health and Safety Act and Regulations for construction projects.
- .3 Comply with all fire safety regulations and procedures required by the Construction Safety Act of Ontario, National Building Code and Municipal Authority having jurisdiction.

2.0 PRODUCTS

Not applicable

3.0 EXECUTION

3.1 INSPECTION

- .1 Visit and examine the site and note all characteristics and features affecting the Work of this Section.
- .2 Ensure all services, whether buried, built-in or exposed are properly identified as to position, type of service, size, direction of flow.
- .3 Inspect materials, equipment, components to be re-used or turned over to the Owner. Note their condition and advise the Consultant in writing of any defects or conditions which would affect their removal and re-use.

3.2 DEMOLITION & REMOVAL

- .1 Use extreme care at all times. Confine effect of demolition to those parts which are to be demolished.
- .2 Perform the work in a manner so as not to inconvenience persons outside those parts which are to be demolished.
- .3 Do not sell or burn materials on Site.
- .4 Remove existing equipment, services and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
- .5 At the end of each day's work, leave work in safe condition so that no part is in danger of toppling, falling, causing injury or damage.

- .6 Remove and dispose of material and debris resulting from the removal of the asphalt and granular materials as indicated in the Contract Documents.
- .7 Inform the Consultant of any unusual condition encountered during removal. Allow Consultant to review condition prior to continue work.

3.3 WASTE DISPOSAL

- .1 Disposal of waste products and material is to be in strict accordance with the product manufacturer's material safety data sheets and in accordance with the governing waste control regulations.
- .2 The existing drainage system is not to be used to dispose of project wastes and/or materials
- .3 Store volatile wastes or material in covered metal containers. All wastes which create hazardous conditions must be removed from the premises daily.
- .4 Dispose of removed components on a continuous basis.
- .5 Implement a waste management system 3R's programs wherever possible. Segregate from debris all material which presently can be recycled or re-used. Transport these materials to a reuse or recycling facility.
- .6 Materials not acceptable for reuse or recycling shall be disposed of at an appropriate and authorized landfill site.
- .7 Selling of materials on site will not be permitted.
- .8 Re-use of removed demolition materials as partial or whole will not be permitted unless permitted by the Consultant.
- .9 Cost to transporting to dump site and for dumping of materials, etc. are to be included in the Bid Price.
- .10 Submit copies of transportation documents or shipping manifests indicating weights of materials, and other evidence of disposal indicating final location of waste diverted from landfill and waste sent to landfill.

END OF SECTION

1.0 GENERAL

1.1 SUMMARY

- .1 This Section includes requirements for the following:
 - .1 Demolition and removal of selected portions of exterior building components or structural elements.
 - .2 Demolition of mechanical and electrical equipment.
 - .3 Repair procedures for selective demolition operations.

1.2 RELATED SECTIONS

- .1 Section 01 11 00 – Summary of Work
- .2 Section 01 35 29.06 – Health & Safety Requirements
- .3 Section 01 52 00 – Construction Facilities
- .4 Section 01 56 00 – Temporary Barriers and Enclosures
- .5 Section 01 74 19 – Waste Management & Disposal
- .6 Section 02 41 13 – Selective Site Demolition

1.3 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A10.8 2011, Safety Requirements for Scaffolding
- .2 Canadian Standards Association (CSA).
 - .1 CSA S350, Code of Practice for Safety in Demolition of Structures
 - .2 CSA Z797 – Code of Practice for Access Scaffold.
- .3 Department of Justice Canada (Jus)
 - .1 Species at Risk Act, 2002
 - .2 Impact Assessment Act, 2019
 - .3 Canadian Environmental Protection Act, 1999 (CEPA)
- .4 National Fire Protection Association (NFPA)
 - .1 NFPA 241-13, Standard for Safeguarding Construction, Alteration, and Demolition Operations
- .5 National Research Council Canada (NRC)
 - .1 National Building Code of Canada (NBC)

- .6 Environment & Climate Change Canada:
 - .1 Environmental code of practice for the elimination of fluorocarbon emissions from refrigeration and air conditioning systems
- .7 Federal Halo Carbon Regulations, 2022
- .8 Montreal Protocol

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Coordinate selective demolition work so that work of this Section adheres to aesthetic criteria established by the Drawings and specified dimensions with all elements in planes as drawn, maintaining their relationships with all other building elements.
- .2 Coordinate with Owner for the material ownership as follows:
 - .1 Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property. Demolished materials shall become Contractor's property and shall be removed from Project site.
 - .2 Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during demolition remain Owner's property:
 - .1 Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.
 - .2 Coordinate with Owner, who will establish special procedures for removal and salvage operations.
- .3 Convene pre-demolition meeting one week prior to beginning work of this section to confirm extent of salvaged and demolished materials; and to review Contractor's demolition plan.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Provide the following submittals before starting any work of this Section.
- .3 Submit schedule of demolition activities indicating:
 - .1 Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
 - .2 Coordinate with Owner's ongoing site operations, and limit the number of interruptions during regular business hours.

- .3 Interruption of utility services.
 - .4 Coordination for shutoff, capping, and continuation of utility services.
 - .5 Use of elevator and stairs.
 - .6 Locations of temporary partitions and means of egress, including for others affected by selective demolition operations.
 - .7 Coordination with Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- .4 Submit a plan of demolition area indicating extent of temporary facilities and supports, methods of removal and demolition prepared by a professional engineer in accordance with requirements of Authority Having Jurisdiction.
 - .5 Submit information for companies and personnel indicating their capabilities and experience to perform work of this Section including but not limited to, lists of completed projects with project names and addresses, for work of similar complexity and extent.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with *Section 01 74 19 – Waste Management and Disposal*.

1.7 EXISTING CONDITIONS

- .1 Owner will occupy portions of building immediately adjacent to selective demolition area:
 - .1 Conduct selective demolition so that Owner's operations will not be disrupted.
 - .2 Provide not less than three (3) days' notice to Owner of activities that will affect Owner's operations.
- .2 Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities and as follows:
 - .1 Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.
- .3 Should material resembling spray or trowel applied asbestos or any other designated substance be encountered in course of demolition, stop work, take preventative measures, and notify Owner immediately. Do not proceed until written instructions have been received.

- .4 Structures to be demolished to be based on their condition on date that tender is accepted.
- .5 Salvage items identified by Owner. Remove, protect and store salvaged items as directed by Owner. Deliver to Owner as directed.
- .6 Storage or sale of removed items or materials on site will not be permitted.
- .7 Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
- .8 Maintain fire protection facilities in service during selective demolition operations.
- .9 Modification to be made to HVAC/plumbing as required to maintain Owner's operations, without compromising air or domestic water quality.

1.8 RODENT CONTROL

- .1 Engage the services of a professional Pest Control Firm to survey the building and immediate areas to ascertain presence of any pests that would be impacted by removal and demolition activities. The Pest Control Firm will take measures to properly abate any such noted pests in accordance with regulatory requirements and provide certification that building areas are free and clear prior to commencement of building abatement and removal activities.

2.0 PRODUCTS

2.1 MATERIALS

- .1 Design temporary support structures required for demolition work and underpinning and other foundation supports necessary for the project using a qualified professional engineer registered and licensed in province of the Work.
 - .1 Design, specifications, work procedures, or other records created for this work to be submitted to the Owner for review prior to commencement of work.
- .2 Use repair materials identical to existing materials:
 - .1 If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - .2 Use materials whose installed performance equal or surpasses that of existing materials.
 - .3 Comply with material and installation requirements specified in individual technical specification Sections.

3.0 EXECUTION**3.1 EXAMINATION**

- .1 Verify that utilities have been de-energized, disconnected and capped.
- .2 Survey existing conditions and correlate with requirements indicated to determine extent of structure demolition required.
- .3 Inventory and record the condition of items to be removed and reinstalled, and items to be removed and salvaged.
- .4 When unanticipated mechanical, electrical, or structural elements are encountered, investigate and measure the nature and extent of the element.
- .5 Perform engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during structure demolition operations.
- .6 Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES

- .1 Coordinate existing services indicated to remain and protect them against damage during selective demolition operations
- .2 Locate, identify, de-energize, disconnect, and seal or cap off indicated utilities serving areas to be selectively demolished.
 - .1 Arrange to shut off affected utilities with utility companies.
 - .2 If utility services are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary utilities that bypass area of selective demolition and that maintain continuity of service to other parts of building.
 - .3 Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
 - .4 Coordinate with Mechanical and Electrical Divisions for shutting off, disconnecting, removing, and sealing or capping utilities.
 - .5 Do not start selective demolition work until utility disconnecting and sealing have been completed and verified in writing.

3.3 PREPARATION

- .1 Do work in accordance with 01 35 29.06 – Health and Safety Requirements.
- .2 Conduct selective demolition and debris removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities:
 - .1 Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner's. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
 - .2 Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
 - .3 Protect existing site improvements, appurtenances, and landscaping to remain.
 - .4 Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
- .3 Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain in accordance with Sections 01 51 00 and 01 56 00, and as follows:
 - .1 Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - .2 Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - .3 Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - .4 Cover and protect furniture, furnishings, and equipment that have not been removed.
- .4 Provide temporary enclosures for protection of existing building and construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities in accordance with Sections 015100 and 015600.
 - .1 Provide temporary weather tight enclosure for building exterior.
 - .2 Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures.

- .3 Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
- .5 Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise in accordance with Section 01 51 00.
- .6 Provide and maintain shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of construction to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished:
 - .1 Strengthen or add new supports when required during progress of selective demolition.

3.4 POLLUTION CONTROLS

- .1 Provide temporary enclosures or other suitable methods reviewed and accepted by the Owner to limit spread of dust and dirt. Comply with governing environmental protection regulations, and as limited below:
 - .1 Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
 - .2 Wet mop floors to eliminate tracking of dirt, wipe down walls and doors of demolition enclosure. Vacuum carpeted areas.
- .2 Remove and transport debris to prevent spillage on adjacent surfaces and areas.
- .3 Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- .4 Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.5 SELECTIVE DEMOLITION

- .1 Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - .1 Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - .2 Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain

- or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
- .3 Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - .4 Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame cutting operations. Maintain fire watch and portable fire suppression devices during flame cutting operations.
 - .1 A hot work permit is required to be completed by the contractor and submitted to the Owner for review for hot works such as welding, cutting or open flames or sparks, prior to the commencement of such work each day.
 - .5 Maintain adequate ventilation when using cutting torches.
 - .6 Remove decayed, vermin infested, or otherwise dangerous or unsuitable materials and promptly dispose of off site.
 - .7 Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - .8 Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - .9 Dispose of demolished items and materials promptly.
 - .10 Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
 - .2 Comply with Owner's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during selective demolition operations.
 - .3 Existing Items to Remain:
 - .1 Protect construction indicated to remain against damage and soiling during selective demolition.
 - .2 Items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

- .4 Concrete:
 - .1 Demolish in small sections.
 - .2 Cut concrete full depth at junctures with construction to remain and at regular intervals, using power driven saw, then remove concrete between saw cuts.
 - .3 Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete indicated for selective demolition.
 - .4 Neatly trim openings to dimensions indicated.
- .5 Concrete Slab Reinforcing:
 - .1 Locate location of reinforcing steel in concrete slabs prior to cutting or coring using non-destructive, non-ionizing radio frequency locators.
 - .2 Core concrete slabs to avoid reinforcing steel, electrical conduit or water pipes; adjust core location and coordinate with Owner where slab features interfere with core drilling.
 - .3 Notify the Owner immediately for further instructions where coring or cutting will damage existing slab features.
- .6 Concrete Slabs on Grade: Saw cut perimeter of area to be demolished, then break up and remove.
- .7 Below Grade Construction: Demolish foundation walls and other below grade construction including; but not limited to, the following:
 - .1 Basements.
 - .2 Foundation walls.
 - .3 Footings.
 - .4 Piles: to depths indicated.
- .8 Masonry:
 - .1 Demolish in small sections.
 - .2 Cut masonry at junctures with construction to remain, using power driven saw, then remove masonry between saw cuts.
- .9 Roofing: Remove no more existing roofing than can be covered in one day by new roofing. Refer to applicable Division 7 Section for new roofing requirements.
- .10 Air Conditioning Equipment: Remove equipment without releasing refrigerants. Recharge any lost refrigerants.

3.6 PEST CONTROL

- .1 Engage the services of a professional Pest Control Firm to survey the building and immediate areas to ascertain the presence of any pests that would be impacted by demolition and removal activities.
- .2 Pest Control Firm to take measures to properly abate any such noted pests in accordance with regulatory requirements and provide certification that the building areas are free and clear prior to commencement of building abatement and removal activities.

3.7 CLOSEOUT ACTIVITIES

- .1 Promptly repair damage to adjacent construction caused by selective demolition operations and as follows:
 - .1 Patch to produce surfaces suitable for new materials where repairs to existing surfaces are required,
 - .2 Completely fill holes and depressions in remaining existing masonry walls remain with an approved masonry patching material applied according to manufacturer's written recommendations.
 - .3 Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.
- .2 Arrange for legal disposal and remove demolished materials to accredited provincial landfill site or alternative disposal site (recycle centre):
 - .1 Promptly dispose of demolished materials.
 - .2 Do not allow demolished materials to accumulate onsite.
 - .3 Do not burn demolished materials.

END OF SECTION

Part 1 General

1.1 GENERAL REQUIREMENTS

- .1 Conform to Sections of Division 1 as applicable.

1.2 RELATED SECTIONS

- .1 Section 01 35 29.06 - Health and Safety Requirements
- .2 Section 02 87 13 – Silica Disturbance Precautions

1.3 SITE CONDITIONS

- .1 Paints and surface coatings sampled and not sampled are or assumed to be lead-containing.
- .2 Materials identified to contain designated substances can be found within the following reports titled:
 - .1 **Hazardous Building Materials Assessment (Pre-construction) Roof Project Woodlands Operations Centre 1179 Bronte Road, Oakville, Ontario issued by Pinchin dated February 5, 2024.**
 - .2 **The analytical results indicate the presence of lead in the paint at the structural steel (~0.1%) . As well as low levels of lead in the gas line paint (0.008%).**

1.4 DESCRIPTION OF WORK

- .1 The extent of disturbance of lead-containing materials is not known. All lead abatement work is subject to classification as Class/Type 1, 2, or 3 operation as per the Environmental Abatement Council of Ontario (EACO) "*Lead Guideline*" (October 2014) or the Ministry of Labour "*Lead on Construction Projects*" guideline.
- .2 Lead-containing wastes should be recycled if practicable or handled and disposed of according to O.Reg. 347.
- .3 Dispose of all waste as lead contaminated including insulation, polyethylene drop sheets, coveralls, respirator filters, and all porous materials that cannot be properly cleaned and decontaminated.

1.5 REFERENCES/REGULATIONS

- .1 Comply with Federal, Provincial and local authority requirements. The more stringent requirements shall apply in the event of a conflict with any particular authority or jurisdiction. Regulations and Guidelines include:
 - .2 Regulations made under the *Occupational Health and Safety Act*, Revised Statutes of Ontario, 1990, Chapter O.1 as amended.
 - .3 The Occupational Health and Safety Act, Regulation for Construction Projects, O. Reg. 213/91 (as amended).
 - .4 The Occupational Health and Safety Act, Regulation Respecting Lead, O. Reg. 490/09.

- .5 Ministry of Labour Guideline regarding Lead on Construction Projects, April 2011.
- .6 Ministry of Environment, Regulation 347/90 (as amended) for disposal of hazardous waste.

1.6 DEFINITIONS

- .1 **Authorized Visitor(s):** Owner's Consultant or persons representing regulatory agencies, and person(s) authorized by either of them
- .2 **Work Area(s):** Area(s) where work takes place which will, or may disturb lead paint and lead dust.
- .3 **HEPA Filter:** High Efficiency Particulate Aerosol filter at least 99.97 percent efficient in collecting 0.3-micrometer aerosol.
- .4 **HEPA Vacuum:** High Efficiency Particulate Aerosol filtered vacuum equipment acceptable to local provincial Ministry of Labour, and Health Canada. Ensure vacuums are equipped with hoses, fittings, and nozzle attachments. Maintain vacuum equipment and system properly.
- .5 **Polyethylene Sheeting:** Polyethylene sheeting of 0.15 mm (6 mil) minimum thickness with tape seals along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide continuous polyethylene membrane protection.
- .6 **Peel Away 1:** Chemical product for removing paints and other adhesives manufactured by Dumond Chemical Inc., 1501 Broadway, New York, NY 10036, or equivalent.
- .7 **Work Area:** Polyethylene enclosed portion of work area where disturbance of lead containing paint and generated dust to take place.

1.7 SUBMITTALS

- .1 Submit names of supervisory personnel who will be responsible for Lead abatement work area(s). One of these supervisors must remain on site at all times while lead paint disturbance, removal or cleanup is occurring. Submit proof that supervisory personnel have attended training course on lead control and have performed supervisory function on at least 2 other lead removal projects of similar size of this project.
- .2 Proof of worker training for lead abatement work.
- .3 Certificates indicating each worker has had proper respirator fit test for the respirator appropriate for work being performed.
- .4 Submit list of existing damage for acceptance.
- .5 Laws of province of Ontario shall govern this work. Contractor shall observe all such laws and shall obtain and/or pay all permits, notices, fees, taxes, and duties as may be required. Likewise, it is the responsibility of contractor to comply with Workplace Safety and Insurance Board (WSIB).
- .6 Before commencing any work, Contractor shall submit, in writing, confirmation of good standing with Workplace Safety and Insurance Board (WSIB).
- .7 Submit proposed schedule showing phasing and scheduling.

- .8 Submit proof satisfactory to Owner's Consultant that suitable arrangements have been made to dispose of lead containing waste in accordance with requirements of authority having jurisdiction.
- .9 Instruction and Training
 - .1 Before commencing work provide satisfactory proof that every worker has had instruction and training in hazards of lead exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.
 - .2 Instruction and training on respirators includes:
 - .1 Limitations of equipment,
 - .2 Inspection and maintenance of equipment,
 - .3 Fitting of equipment, and disinfecting of equipment.
- .10 The Abatement Contractor to post on the job bulletin board instructions, procedures and information pertaining to abatement work.

1.8 WORKER AND VISITOR PROTECTION

- .1 **Instructions:** Before entering lead removal work area(s), instruct workers and Authorized Visitor(s) in use of respirators, and all aspects of Work procedures and protective measures. Provide instruction by competent person as defined by The Occupational Health and Safety Act.
- .2 Provide disposable full body coveralls and approved respiratory protection to authorized visitors.
- .3 **Respirators:** Provide workers with personally issued and marked half face air purifying respirators with P100 high efficiency (HEPA) cartridge filters. Provide approved respirators to Authorized Visitor(s). Provide sufficient filters and cartridges so workers can install new filters and cartridges following disposal of used filters and cartridges before re-entering contaminated areas. Respirators shall be acceptable to Occupational Health Branch of Ministry of Labour.
 - .1 The Maximum Use Concentration (MUC) of a APR fitted with P100 filters for all work performed inside removal work area is 0.50 mg/m^3 . Should airborne lead concentrations exceed this value, all work must stop and work practices modified to reduce exposure to acceptable levels.
 - .2 Provide instruction in use of respirators, including qualitative fit testing. No worker or Authorized Visitor(s) may have facial hair which prevents proper contact between respirator face-piece and skin. Alternatively, supplied air positive pressure respirator or supplied air positive pressure hood or helmet may be provided. Maintain respirators in proper functioning and clean condition, or remove from Site.
- .4 **Protective Clothing:** Workers and Authorized Visitor(s) shall wear disposable full body personal protective apparel including attached head covering. In addition workers are expected to wear nitrile gloves and protective eye goggles as is required by Ministry of Labour construction regulations. Once worn, protective coveralls shall be discarded and disposed of as lead contaminated waste

- .5 Do not eat, drink, smoke or chew gum or tobacco in lead removal work area.
- .6 Workers and Authorized Visitors shall wash hands and face when leaving lead removal work area. Contractor to provide workers with a designated washroom facility.

Part 2 Products

2.1 MATERIALS

- .1 **Polyethylene:** 0.15 mm (6 mil) minimum thickness unless otherwise specified; in sheet size to minimize joints.
- .2 **Rip-Proof Polyethylene:** 0.20 mm (8 mil) fabric made up from 0.13 mm (5 mil weave and 2 layers 0.04 mm (1.5 mil) poly laminate, in sheet size to minimize joints.
- .3 **Tape:** Tape suitable for sealing polyethylene to surface encountered, under both wet conditions using amended water, and dry conditions.
- .4 **Waste Receptors:** Two separate containers of which 1 shall consist of 0.15 mm (6 mil) minimum thickness sealable polyethylene bag. Other container may be 0.15 mm (6 mil) minimum thickness polyethylene bag. Other container shall be adequate to prevent perforating rips, or tears during filling, transport or disposal. Containers must be acceptable to disposal site selected, and Ministry of Environment.
- .5 **Sprayer:** Garden type, portable manual sprayer, low velocity, capable of producing fine spray.
- .6 **Ground Fault Panel:** Portable electrical panel equipped with ground fault circuit interrupters (5 mA protection) of sufficient capacity to power all electrical equipment and lights in Lead work enclosure. Panel complete with ground fault interrupter lights, test switch to ensure unit is working, and reset switch. Installed by licensed electrician.
- .7 **HEPA Vacuum:** Vacuum with all necessary fittings, tools and attachments. Air must pass HEPA filter before discharge.
- .8 **Protective Coveralls:** Disposable full body coveralls complete with elasticized hoods made of spun polyolefin material Tyvek by Dupont or nonwoven material Kleenguard by Kimberley Clark.
- .9 **Power Sprayer:** Graco Maxi-wetter or equivalent, from Hazmasters Environmental, Pickering, Ontario.

Part 3 Execution

3.1 PREPARATION

- .1 Seal off openings such as doorways, windows, vents, service holes in walls and grilles to non-operating ducts with polyethylene sheeting sealed with tape or with polyurethane foam as appropriate.
- .2 Request building personnel to shut off air handling and ventilation systems supplying or exhausting from asbestos work area enclosure(s). Ensure air-handling systems remain shut off for duration of work.

- .3 Before disturbing lead-containing materials, install polyethylene drop sheets as appropriate to control spread of dust.
- .4 Establish ropes, barriers and/or partial enclosures in order to prevent unauthorized personnel from enter designated work areas.
- .5 If significant concentrations of dust are being generated the work should be re-evaluated by a qualified person and additional procedures should be implemented such as: a full enclosure should be erected using polyethylene sheeting (or in the event that the sheeting needs support, wood framing may also be used) in order to separate lead work area(s) from remaining building areas. The Ontario Ministry of Labour Guideline – Lead on Construction Projects dated September 2011. The Environmental Abatement Council of Ontario (EACO) “*Lead Guideline*” (October 2014) and/or the Ministry of Labour “*Lead on Construction Projects*” guideline should be consulted for all additional recommended requirements.
- .6 Maintain emergency and fire exits from Lead work area, or establish alternative exits satisfactory to authorities having jurisdiction.
- .7 Temporary lighting in silica work area(s) has been provided (if necessary) to level that will permit work to be done safely and well where necessary.
- .8 Signs are displayed in areas where access to sealed Lead work area is possible. Signs shall read:
 CAUTION
 Lead Hazard Area
 No Unauthorized Entry
 Wear assigned protective equipment
 Breathing Lead dust may cause serious bodily harm.
- .9 Provide fire extinguisher at each emergency exit, and in decontamination facilities. Protect extinguishers with polyethylene sheeting in manner that will not hamper emergency use.
- .10 Provide soap, water and towels for washing of worker's face and hands when exiting lead work area.
- .11 Owner’s Consultant has been notified of intention to proceed and has reviewed enclosures, equipment and procedures.

3.2 REMOVAL

- .1 Remove lead containing paint using hand methods. Dust and debris to be HEPA vacuumed to remove all lead containing material.
- .2 Hand tools may also be used to perform required cutting of lead sheeting and/or pipe.
- .3 For areas where lead paint cannot be effectively removed using hand methods, utilize the Peel Away 1 System manufactured by Dumond Chemical Inc. 1501 Broadway, New York, NY 10036 or equivalent.

- .4 If HEPA vacuuming, place full vacuum bags into waste receptors. Double polyethylene bags are to be used, inner bag shall be cleaned of gross contamination and placed in a clean 6 mil outer polyethylene bag in container cleaning room immediately prior to transfer from Site.

3.3 CLEAN-UP

- .1 Clean surfaces from which lead has been removed with brushes and HEPA vacuum or wet-sponge to remove visible dust and debris. HEPA vacuum all surfaces to ensure free of dust and debris.
- .2 Remove sealed and labeled lead waste receptors and dispose of to authorized disposal area in accordance with requirements of disposal authority.
- .3 After brushing and wet sponging to remove visible lead dust, damp clean entire work area including equipment and access area, polyethylene sheeting and equipment used in process.
- .4 Request visual inspection and acceptance. There should be no dust on ducts, scaffold or platform, sills, building surfaces or enclosure, where applicable. Following inspection and acceptance, allow minimum of 2 hours flushing time with no disturbance of work area.

3.4 TEAR DOWN OF PROTECTION

- .1 Remove polyethylene sheeting exposed during contaminated work including upper surfaces plus any underlying sheeting contaminated by water leaks, rips, tears, or exposed by failure of upper layer. Wear half face piece respirator and disposable coveralls during removal of sheeting. Carefully roll sheeting away from walls to center of lead work area. As sheeting is rolled away from walls and corners, HEPA vacuum visible debris.
- .2 Place polyethylene sheeting, seals, tape, cleaning material, clothing, and other contaminated waste in Lead waste receptors for transport. Remove any debris fallen behind sheeting with HEPA vacuum.
- .3 Clean up lead work area(s), equipment and access area, washing and other enclosures that may have been contaminated during work.
- .4 Clean up lead waste receptors and equipment used in work and remove from work area(s) via drum and equipment decontamination enclosure system, at an appropriate time in sequence.
- .5 Remove hoardings, temporary lighting, equipment and facilities provided for work.
- .6 A final review may be carried out by Owner's Consultant to ensure that no dust or debris remains.
- .7 Worker to properly decontaminate him/herself before each break and before going home at completion of work shift. Wash centre to have plenty of soap and hot water, and towels. Instruction to be provided for proper hygiene practices.
- .8 Perform work in manner to reduce dust creation to lowest levels practicable. Work is subject to visual inspection and air monitoring. Any contamination of surrounding areas indicated by visual inspection or air monitoring shall require complete enclosure and clean up of affected areas.

3.5 CLEAN-UP

- .1 Frequently during work and immediately after completion of work, clean up dust and waste containing lead using HEPA vacuum or by damp mopping.
- .2 Place dust and waste containing lead in sealed dust-tight waste bags. Treat drop sheets as lead waste. Wet and fold drop sheets to contain dust and then place in waste bags.
- .3 Immediately before their removal from work area, and disposal, clean each filled waste bag using damp cloths or HEPA vacuum.
- .4 Seal and remove from Site. Dispose of in accordance with requirements of Provincial authority having jurisdiction. Supervise dumping and ensure dump operator is fully aware of hazardous nature of material being dumped and that guidelines and regulations for lead disposal are followed.
- .5 Perform final clean up of work areas and adjacent areas affected by work using HEPA vacuum.

3.6 DISPOSAL

- .1 Conform to requirements of Regulation 347 (as amended) under Environmental Protection Act for Waste Management, transporting and disposal of hazardous waste.
- .2 Dispose of lead waste in accordance with requirements of Provincial and federal authority having jurisdiction.
- .3 Cooperate with Ministry of Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Owner.
- .4 Provided Owner's Consultant with original copy of waste shipping manifest for disposed lead containing waste issued by dump operator. Contractor is responsible for completing all required manifest documentation for each load leaving the site.

END OF SECTION

Part 1 General

1.1 GENERAL REQUIREMENTS

- .1 Comply with requirements of Division 1 as applicable.

1.2 RELATED SECTIONS

- .1 Section 01 35 29.06 - Health and Safety Requirements
 .2 Section 02 83 13 – Lead Disturbance Precautions

1.3 DESCRIPTION OF WORK

- .1 Removing/demolishing of building materials suspected to contain silica including but not limited to: brick, concrete, concrete block, cement, and mortar following Type 1, Type 2, and/or Type 3 operations and procedures as outlined in the Ontario Ministry of Labour Guideline – Silica on Construction Projects dated April 2011.
- .2 Materials identified to contain designated substances can be found within the following reports titled:
- .1 **Hazardous Building Materials Assessment (Pre-construction) Roof Project Woodlands Operations Centre 1179 Bronte Road, Oakville, Ontario issued by Pinchin dated February 5, 2024.**
- .2 **Crystalline silica is present in concrete and other materials such as masonry, drywall, and ceiling tiles.**
- .3 All work may be subject to inspection and/or air sampling (clearance and/or exposure monitoring) inside and outside work areas by Client’s Consultant. Any contamination of surrounding areas, indicated by visual inspection or air monitoring, shall necessitate complete clean-up of affected areas.

1.4 DEFINITIONS

- .1 **Silica:** means crystalline silica in a respirable form. Silica is the primary component of many construction materials. The best-known and most abundant type of crystalline silica is quartz. Other forms of crystalline silica include cristobalite, tridymite and tripoli. Some commonly used construction materials containing silica include: abrasives used for blasting, brick, refractory brick, plaster, concrete, concrete block, cement, mortar, granite, sandstone, quartzite, slate, gunite, mineral deposits, rock and stone, sand, fill dirt, top soil and asphalt containing rock or stone.
- .2 **Silica Work Area:** Area where work takes place, which will, or may, disturb silica-containing material.
- .3 **Authorized Visitors:** Client’s Consultant and/or person(s) representing regulatory agencies, and person(s) authorized by them.
- .4 **HEPA Filter:** High Efficiency Particulate Aerosol filter, at least 99.97% efficient in collecting a 0.3 micron aerosol. Each filter should be individually tested and certified to have an efficiency of not less than 99.97 percent when challenged with 0.3 micron

dioctylphtalate (DOP) particles. DOP test must be conducted immediately prior to commencement of work and certificate presented to owner and/or consultant.

- .5 **Effective:** implies that the dust collection system should be capable of controlling airborne silica concentration levels to below 0.05 milligrams per cubic metre (mg/m³).
- .6 **Competent Person:** A worker who is qualified because of knowledge, training, and experience to perform work, is familiar with relevant acts and regulations that apply to the work, and has knowledge of all potential or actual dangers to health or safety in work.

1.5 REGULATIONS, GUIDELINES, & INDUSTRY STANDARDS

- .1 Contractor shall:
 - .1 Comply with Federal, Provincial, and local requirements pertaining to silica, provided that in any case of conflict among these requirements or with these specifications, most stringent requirements shall apply.
 - .2 Carry out measures and procedures prescribed under the Ontario Regulation 490/09, Designated Substance – Silica.
 - .3 Protect health and safety of workers by ensuring compliance with the specific occupational exposure limits (OELs) for silica. The OEL for cristobalite silica is 0.05 mg/m³ of air as an 8-hour daily or 40 hour weekly time-weighted average. The OEL for quartz and tripoli silica is 0.10 mg/m³. Measures and procedures that ensure construction workers receive the same standard of protection as workers covered by O. Reg. 490 should be implemented on construction projects where exposure to silica is a hazard. Such measures and procedures are deemed to be in compliance with section 25(2) (h) of the OHS Act, as taking “every precaution reasonable in the circumstances for the protection of a worker.
 - .4 Carry out measures and procedures prescribed under the Ontario Regulation 213/91 (as amended) – Regulation for Construction Projects; Ontario Regulation 860/90 – Workplace Hazardous Materials Information System (WHMIS); and Ontario Ministry of Labour Guideline – Silica on Construction Projects dated April 2011.
 - .5 Comply with Ontario Environmental Protection Act Regulation 347/90 (as amended) - General-Waste Management.
 - .6 Ensure every employee and every worker on project complies with applicable acts and regulations.
 - .7 Provide instruction and training by a competent person to every worker in the following subjects: WHMIS training, hazards of silica exposure, recognition of typical operations containing silica, personal hygiene, the use, cleaning and disposal of respirators and personal protective equipment.
 - .8 Protect health and safety of workers and public.
- .2 Contractor may:
 - .1 Be requested to provide information on their health and safety record.
 - .2 Be required to provide a copy of their respiratory protection program.
 - .3 Be requested to provide periodic medical examinations for all workers who may be exposed to respirable crystalline silica.

1.7 INTERNAL POLICIES & PROCEDURES

- .1 Ensure that internal policies and procedures of the clients are complied with including, but not limited to the following:
 - .1 All contractors/consultants will not enter designated areas unless trained and appropriately garmented, including appropriate medical clearance which may include medical monitoring and immunization.
 - .2 Have a competent supervisor onsite at all times to supervise work of their employees/subcontractors for large projects.
 - .3 Provide sufficient number of workers trained in first aid on large projects.
 - .4 Do not modify, shut down, open, tap into or alter facilities systems without permission.

1.8 QUALITY ASSURANCE

- .1 Ensure work proceeds on schedule, and meets all requirements of this Section.
- .2 Pay cost to Client for inspection performed as a result of failure to perform work satisfactorily regarding quality, safety, or schedule.
- .3 Use only skilled and qualified workers for all the trades required for this work.

1.9 SUBMITTALS

- .1 Before commencing work:
 - .1 Laws of the province of Ontario shall govern this work. Contractor shall observe all such laws and shall obtain and/or pay all permits, notices, fees, taxes, duties as may be required.
 - .2 Submit names of supervisor personnel who will be responsible for silica work area(s).
 - .3 Contractor shall submit, in writing, confirmation of good standing with Workplace Safety and Insurance Board and transcription of insurance.
 - .4 Submit documentation including test results for fire and flammable data and Material Safety Data Sheets for materials and chemicals to be used.

1.10 WORKER AND VISITOR PROTECTION

- .1 **Instruction and Training:** Before commencing work, provide to owner and/or consultant satisfactory proof that every worker has had instruction and training in WHMIS; hazards of silica exposure, including health effects and symptom recognition; personal hygiene; respirator requirements; work measures and procedures; and use, cleaning and disposal of respirators and protective equipment by a competent person as defined by Occupational Health and Safety Act.
- .2 **Respirators:** NIOSH-approved respirators may be worn during silica removal activities as per Ontario Regulation 490/09. Silica dust on personal respirators should be removed by damp wiping or HEPA vacuuming. Respirators should be selected in accordance with the NIOSH assigned protection factors. A summary of respirator requirements based on anticipated concentration of airborne silica can be found in Table 1. Maintenance and care for respirators should be conducted as per Canadian Standards Association Z94.4-02

Selection, Use, and Care of Respirators Guideline. If Contractor can demonstrate that the silica exposure levels are below the OEL, respirators may not be required.

Table 1: Respirator Requirements

Silica Removal Operations	Required Respirator
<p>Type 1 Silica Removal Operations (> 0.05 to 0.50 mg/m³ of silica in the form of cristobalite and tridymite) (> 0.10 to 1.0 mg/m³ of silica in the form of quartz and tripoli)</p> <ul style="list-style-type: none"> The drilling of holes in concrete or rock that is not part of a tunneling operation or road construction. Milling of asphalt from concrete highway pavement. Charging mixers and hoppers with silica sand (sand consisting of at least 95% silica) or silica flour (finely ground sand consisting of at least 95% silica) Any other operation at a project that requires the handling of silica-containing material in a way that may result in a worker being exposed to airborne silica. Entry into a dry mortar removal or abrasive blasting area while airborne dust is visible for less than 15 minutes for inspection and/or sampling. Working within 25 metres of an area where compressed air is being used to remove silica-containing dust outdoors. 	<p>NIOSH APF = 10</p> <ul style="list-style-type: none"> Half-mask particulate respirator with N-, R-, or P-series filter and 95, 99, or 100 percent efficiency.
<p>Type 2 Silica Removal Operations (> 0.50 to 2.5 mg/m³ of silica in the form of cristobalite and tridymite) (> 1.0 to 5.0 mg/m³ of silica in the form of quartz and tripoli)</p> <ul style="list-style-type: none"> Removal of silica containing refractory materials with a jackhammer. The drilling of holes in concrete or rock that is part of a tunneling operation or road construction. The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials. The use of a power tool to remove silica-containing materials. The use of a power tool indoors to chip or break and remove concrete, masonry, stone, terrazzo or refractory materials. Tunneling (operation of the tunnel boring machine, tunnel drilling, or tunnel mesh installation). Tuckpointing and surface grinding. Dry method dust clean-up from abrasive blasting operations. Dry mortar removal with an electric or pneumatic cutting device. The use of compressed air outdoors for removing silica dust. Entry into area where abrasive blasting is being carried out for more than 15 minutes. 	<p>NIOSH APF = 50</p> <ul style="list-style-type: none"> Full-facepiece air-purifying respirator with any 100-series particulate filter. Tight-fitting powered air-purifying respirator with any 100-series particulate filter. Full-facepiece supplied-air respirator operated in demand mode. Half-mask or full-facepiece supplied air respirator operated in continuous-flow mode.
<p>Type 3 Silica Removal Operations (> 2.5 mg/m³ of silica in the form of cristobalite and tridymite) (> 5.0 mg/m³ of silica in the form of quartz and tripoli)</p> <ul style="list-style-type: none"> Abrasive blasting with an abrasive that contains ≥ 1% silica. Abrasive blasting of a material that contains ≥ 1% silica. 	<p>NIOSH APF ≥ 1000</p> <ul style="list-style-type: none"> Type CE abrasive-blast supplied air respirator operated in a positive pressure mode with a tight-fitting half-mask facepiece. Type CE abrasive-blast supplied air respirator operated in a pressure demand or positive pressure mode with a tight-fitting facepiece.

- .3 **Protective Clothing:** Provide workers and visitors in silica work area(s) with disposable and/or washable work clothes, including shoe covers. Work clothes that are contaminated with silica dust should not be worn outside the work area(s). Silica dust on washable work clothes should be removed by damp wiping or HEPA vacuuming and washed in

facilities suitable for handling silica contaminated laundry before reusing. Provide or have access to appropriate washing facility equipped with clean water, soap, and individual towels for washing hands and face of workers. The washing facility shall be used by every worker when leaving silica work area(s) and if feasible, the washing facility should include a shower.

- .4 Workers who may be exposed to silica on a regular basis should undergo a pre-placement medical assessment and periodic medical examinations.
- .5 A worker shall not eat, drink, chew gum, or use tobacco products in work area(s).

Part 2 Products

2.1 MATERIALS

- .1 **HEPA Vacuum:** High Efficiency Particulate Air filtered vacuum equipment with a filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.
- .2 **Polyethylene sheeting sealed with tape:** Polyethylene sheeting of type and thickness specified sealed with tape along all edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide a continuous polyethylene membrane to protect underlying surfaces from water damage or damage by sealants, and to prevent escape of silica dust through sheeting into a clean area.
- .3 **Tape:** Tape suitable for sealing polyethylene to surfaces under both dry and wet conditions using amended water.

Part 3 Execution

3.1 PREPARATION

- .1 Equipment, tools, furnishings, and stored materials which can be moved, without disturbing silica-containing materials have been moved by Contractor.
- .2 Seal all opening or voids in work area(s), such as vents, service holes in walls and air handling ducts as appropriate with plugs and/or tape and/or caulking and/or polyethylene sheeting sealed with tape.
- .3 Building personnel have shut off air handling and ventilation systems (if applicable) supplying or exhausting from silica work area(s)/enclosure(s). Ensure air handling systems remain shut off during duration of work.
- .4 Before disturbing silica-containing material, install polyethylene drop sheets as appropriate to control spread of dust.
- .5 Establish ropes, barriers and/or partial enclosures in order to prevent unauthorized personnel from entering work area(s).
- .6 If significant concentrations of dust are being generated the work should be re-evaluated by a qualified person and additional procedures should be implemented such as: a full enclosure should be erected using polyethylene sheeting (or in the event that the sheeting needs support, wood framing may also be used) in order to separate silica work area(s)

from remaining building areas. The Ontario Ministry of Labour Guideline – Silica on Construction Projects dated September 2011 should be consulted for all additional recommended requirements.

- .7 Emergency and fire exits are established from silica work area(s), or alternative exits have been established satisfactory to authorities having jurisdiction.
- .8 Temporary lighting in silica work area(s) has been provided (if necessary) to level that will permit work to be done safely and well where necessary.
- .9 Signs are displayed in all areas where access to Type 2 or Type 3 silica work area(s) is possible. Signs should be at least 500 mm x 350 mm and state the date and place of the silica removal project. Such signs shall read in large, clearly visible letters:
 CAUTION
 Silica Dust Hazard
 No Unauthorized Entry
 Wear Assigned Personal Protective Equipment
- .10 Arrangements have been made with Client for work area security.
- .11 Client's Consultant has been notified of intention to proceed and has reviewed equipment and procedures.

3.2 **REMOVAL**

- .1 Seal opening to polyethylene enclosure with tape or ensure appropriate barriers are in place after entry of worker(s).
- .2 Perform work required within silica enclosure(s)/work area(s) using appropriate dust control measures, including a mechanical ventilation system and/or wetting, and/or the use of a dust collection system if practical. Compressed air or dry sweeping should be avoided.
- .3 The work area(s) should be thoroughly wetted prior to and/or during all silica removal operations.
- .4 Continuous cleaning during removal work operations should be conducted to control the spread of silica dust.

3.3 **CLEAN-UP**

- .1 Clean all surfaces by washing down with water and vacuuming with a HEPA vacuum until no visible residue remains to prevent dust-containing silica from spreading.
- .2 Workers exposed to silica should be provided with or have access to washing facilities equipped with clean water, soap, and individual towels.
- .3 Silica dust on personal protective clothing and equipment should be removed by damp wiping or HEPA vacuuming.
- .4 When exiting the enclosure(s)/area(s), dispose of contaminated disposable work clothes as construction waste.
- .5 All workers and visitors in the silica work area(s) must properly decontaminate themselves prior to leaving the work area.

3.4 **RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS**

- .1 Reconstruct items demolished (if required) which are to remain and reinstall objects and items in their proper positions which were removed to facilitate silica removal operations. Reconstruction and reinstallation shall be done by tradesmen qualified in work being reinstalled or reconstructed.
- .2 Re-establish mechanical and electrical systems (if required) to remain operative in proper working order. Arrange for, and pay costs of, electrical or mechanical repairs needed due to this work.

3.5 **DISPOSAL OF WASTE**

- .1 Conform to requirements of Ontario Environmental Protection Act Regulation 374/90 (as amended) – General Waste Management.

END OF SECTION

1.0 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Sheet Metal Flashing & Trim
- .2 Section 09 01 90.63 - Exterior Re-Painting.

1.2 **REFERENCES**

- .1 American Society for Testing and Materials, (ASTM)
 - .1 ASTM A53/A53M, Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Steamless.
 - .2 ASTM A269, Specification for Seamless and Welded Austenitic Stainless-Steel Tubing for General Service.
 - .3 ASTM A307, Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB 1.153, High-Build, Gloss Epoxy Coating.
- .3 Canadian Standards Association (CSA)
 - .1 CAN/CSA-G40.20/G40.21, General Requirements for Rolled or Welded Structural Quality Steel.
 - .2 CAN/CSA-G164, Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CSA S16, Design of Steel Structures.
 - .4 CSA W48, Filler Metals and Allied Materials for Metal Arc Welding (Developed in co-operation with the Canadian Welding Bureau).
 - .5 CSA W59, Welded Steel Construction (Metal Arc Welding).
- .4 The Environmental Choice Program
 - .1 CCD-047, Architectural Surface Coatings.
 - .2 CCD-048, Surface Coatings - Recycled Water-borne.
- .5 Green Seal Environmental Standards (GS)
 - .1 GS-11, Paints and Coatings.

- .6 The Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual.

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet
 - .2 Submit two copies of WHMIS SDS - Safety Data Sheets. Indicate VOC's:
 - .1 For finishes, coatings, primers and paints.
- .2 Shop Drawings:
 - .1 Non-Penetrative Guardrails:**
 - .1 Dimensions of guardrail system
 - .2 Weight of guardrail system
 - .3 Compliance with loading requirements.
 - .3 Layout of guardrail system including any additional guardrail requirements (such as returns/outriggers where required by the manufacturer).

1.4 QUALITY ASSURANCE

- .1 Test Reports: Submit Certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: Submit Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Cover exposed stainless-steel surfaces with pressure sensitive heavy protection paper or apply strippable plastic coating, before shipping to job site.
- .3 Leave protective covering in place until final cleaning of building. Provide instructions for removal of protective covering.

2.0 PRODUCTS

2.1 MATERIALS

- .1 Steel sections and plates: to CAN/CSA-G40.20/G40.21, Grade 300W.
- .2 Steel pipe: to ASTM A53/A53M standard weight, galvanized finish.
- .3 Welding materials: to CSA W59.
- .4 Welding electrodes: to CSA W48 Series.
- .5 Bolts and anchor bolts: to ASTM A307.
- .6 Grout: non-shrink, non-metallic, flowable, 15 MPa at 24 hours.

2.2 FABRICATION

- .1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Use self-tapping shake-proof flat round oval headed screws on items requiring assembly by screws or as indicated.
- .3 Where possible, fit and shop assemble work, ready for erection.
- .4 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.3 FINISHES

- .1 Galvanizing: hot dipped galvanizing with zinc coating 600 g/m² to CAN/CSA-G164.
 - .1 **Optional Finish** for exterior steel angle lintels: stainless steel to ASTM A276, S304.
- .2 Shop coat primer: in accordance with chemical component limits and restrictions requirements and VOC limits of GS-11.
- .3 Zinc primer: zinc rich, ready mix: in accordance with chemical component limits and restrictions requirements and VOC limits of GS-11.
- .4 High Build Epoxy Coating: to CAN/CGAB – 1.153.

2.4 ISOLATION COATING

- .1 Isolate aluminum from following components, by means of bituminous paint:

- .1 Dissimilar metals except stainless steel, zinc, or white bronze of small area.
- .2 Concrete, mortar and masonry.
- .3 Wood.

2.5 SHOP PAINTING

- .1 Apply one shop coat of primer to metal items, with exception of galvanized or concrete encased items.
- .2 Use primer unadulterated, as prepared by manufacturer. Paint on dry surfaces, free from rust, scale, grease. Do not paint when temperature is lower than 7 degrees C.
- .3 Clean surfaces to be field welded; do not paint.

2.6 ANGLE LINTELS

- .1 Steel angles: galvanized prime painted sizes indicated for openings. Provide 150 mm minimum bearing at ends.
 - .1 **Optional:** stainless steel finish for exterior steel angle lintels.
- .2 Weld or bolt back-to-back angles to profiles as indicated.
- .3 For non-stainless-steel angle lintels, apply one shop coat of primer and finish to *Section 09 01 90.62 – Exterior Painting*.

2.7 PIPE RAILINGS

- .1 Steel pipe: 30 to 40 mm nominal outside diameter for handrails. For other handrails, formed to shapes and sizes as indicated.
- .2 Shop coat prime interior railings after fabrication. Apply high build epoxy coating after fabrication. Shop coat prime exterior railings after fabrication and finish to *Section 09 01 90.62 – Exterior Painting*.

2.8 ACCESS LADDERS INTERIOR/EXTERIOR

- .1 Design Access Ladders to OHS Standards for Stage Access.
- .2 Stringers: 55 x 55 x 6 mm thick, steel angle.
- .3 Steel Rungs: 20 mm diameter, welded to stringers at 300 mm on centre.
- .4 Brackets: sizes and shapes as indicated, weld to stringers at 1200 mm c.c., complete with fixing anchors.

- .5 Shop coat prime interior ladders after fabrication. Shop coat prime exterior ladders after fabrication and apply a high build epoxy coating finish to *Section 09 01 90.62 – Exterior Painting*.

2.9 TRENCH COVERS AND FRAMES

- .1 Fabricate from 6 mm thick steel set in L 55 x 55 x 6 frame. Include anchors at 1200 mm on centre for embedding in concrete. Supply trench covers in 1200 mm removable lengths.
- .2 Finish: galvanized.
- .3 Paint as per *Section 09 01 90.62 – Exterior Painting*.

2.10 CHANNEL FRAMES

- .1 Fabricate frames from steel, sizes of channel and opening as indicated.
- .2 Weld channels together to form continuous frame for jambs and head of openings, sizes as indicated.
- .3 Shop coat prime interior channel frames after fabrication. Shop coat prime exterior channel frames after fabrication and apply a high build epoxy coating finish Section 09 01 90.62 – Exterior Painting.

2.11 NON-PENERATIVE GUARDRAIL SYSTEMS

- .1 Loading Requirements:
- .1 To meet 2012 OBC, NBC 2020, and OSHA O.Reg. 231/91, S.26.3(4,5).
- .2 To withstand at minimum
- .1 675N (152 lbs) point load laterally on the top rail.
- .2 450N (101 lbs) point load vertically down on the top rail.
- .3 450N (101 lbs) point load laterally/vertically down on the mid rail.
- .3 Rail Tube: minimum 50 KSI Yield strength
- .4 Provide sufficient spacing and sizing of ballast base plates to adequately support the railing system.
- .2 To guardrail regulatory requirements: OSHA O.Reg. 213/91, S26.31(1)(4)(5-8)
- .1 Top Rail: To sit at 0.9m to 1.1m above the surface of planed installation.
- .2 Intermediate Rail: To be located midway between top rail and base.
- .3 Supporting Posts: To be spaced no more than 2.4m apart.

- .3 Material: Aluminum or steel with corrosion resistant finish (Powder coating or approved alternative).
- .4 Pads: Provide appropriately sized rubber mats to sit below each base plate.
- .5 Submit shop drawings to consultant for review/approval. Include:
 - .1 Dimensions of guardrail system
 - .2 Weight of guardrail system
- .6 Layout of guardrail system including any additional guardrail requirements (such as returns/outriggers where required by the manufacturer).

3.0 EXECUTION

3.1 ERECTION

- .1 Do welding work in accordance with CSA W59 unless specified otherwise.
- .2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .3 Provide suitable means of anchorage acceptable to Owner such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.
- .4 Exposed fastening devices to match finish and be compatible with material through which they pass.
- .5 Provide components for building by other sections in accordance with shop drawings and schedule.
- .6 Make field connections with bolts to CAN/CSA-S16, or weld.
- .7 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.
- .8 Touch-up rivets, field welds, bolts and burnt or scratched surfaces after completion of erection with primer.
- .9 Touch-up galvanized surfaces with zinc rich primer where burned by field welding.
- .10 Touch-up high build epoxy coated finishes.

3.2 PIPE RAILINGS

- .1 Install pipe railings to stairs as indicated.
- .2 Set railing standards in concrete. Grout to fill hole. Trowel surface smooth and flush with adjacent surfaces.

3.3 ACCESS LADDERS

- .1 Install access ladders in locations as indicated.
- .2 Erect ladders 200mm clear of wall on bracket supports.

3.4 TRENCH COVERS

- .1 Install trench covers in locations as indicated.

3.5 CHANNEL FRAMES

- .1 Install steel channel frames to openings as indicated.

3.6 NON-PENERATIVE GAURDRAIL SYSTEMS

- .1 **Install new guardrail system at Roofs B, C1 and D at the top landing of each access ladder and at the two indicated skylights at Roof Area B as per drawings and approved shop drawings.**
- .2 Assemble and install as per manufacture instructions and approved shop drawings.
- .3 Place rubber mats under all base plates to protect roof membrane.

3.7 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.8 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by metal fabrications installation

END OF SECTION

1.0 **GENERAL**

1.1 **GENERAL CONDITIONS**

- .1 All conditions of the contract Division 1, General Requirement apply to this section.
- .2 All work shall meet the requirements of the Latest Editions of the Ontario Building Code and the Canadian Roofing Contractors Association (C.R.C.A.), including all amendments up to project date.

1.2 **RELATED WORK SPECIFIED ELSEWHERE**

- | | | |
|----|--------------------------------------|------------------|
| .1 | Selective Site Demolition | Section 02 41 13 |
| .2 | Modified Bituminous Membrane Roofing | Section 07 52 00 |
| .3 | EPDM Roofing | Section 07 53 23 |
| .4 | Sheet Metal Flashings & Trim | Section 07 62 00 |
| .5 | Sealants | Section 07 92 00 |

1.3 **SCOPE OF WORK**

- .1 Supply all materials, labour and equipment required to complete all carpentry work specified in *Section 01 11 00 - Summary of Work* to the full extent of the Drawings and Specifications.

1.4 **SOURCE QUALITY CONTROL**

- .1 Identify lumber by grade stamp of an agency certified by Canadian Lumber Standards Administration Board.
- .2 Plywood identification: by grade mark in accordance with applicable CSA Standards.

1.5 **DELIVERY AND STORAGE**

- .1 Deliver and store materials to manufacturer's instructions.
- .2 Do not store materials on roof in a manner which may overload the structure.
- .3 Store materials under cover on elevated platforms, protected from weather and construction activities.
- .4 Remove and replace damaged or broken materials.
- .5 Store materials away from open flame or ignition sources.
- .6 Do not transport any materials through the building.

1.6 REFERENCES

- .1 CSA O80.1-M89; Preservative Treatment for all Timber Products by Pressure Processes.
- .2 CSA O121-M1978; Douglas Fir Plywood.
- .3 CSA O151-M1978 Canadian Softwood Plywood.
- .4 CAN/CSA O141-91; Softwood Lumber.
- .5 CSA B111-1974; Wire Nails, Spikes and Staples.

2.0 PRODUCTS

2.1 MATERIALS

- .1 Pressure treated wood: Grade No. 2, Northern softwood species in accordance with the "Standard Grading Rules for Canadian Lumber" issued by the N.L.G.A. Wood to be pressure treated in accordance with CSA 080.1-M89 to a net retention of 4.0 kg/m³. Sizes as specified and noted on Drawings. Moisture content not to exceed 19%.
- .2 Pressure treated plywood: exterior grade, solid one side, meeting CSA 0121-M1978 or CSA 0151-M1978. Plywood to be pressure treated in accordance with CSA 080.9-M89 to an average net retention of 4.0 kg/m³. Size and thickness as specified and noted on Drawings. Moisture content not to exceed 19%.
- .3 Wood preservative: Copper, Zinc Napthanate or Ammonium Copper Quarternary preservative to CSA 080.1-M89, green colour.
- .4 Nails: Galvanized spiral steel Ardox nails.
- .5 Fasteners for wood: Galvanized steel wood screws with countersunk heads of size and length to provide secure anchorage.
- .6 Fasteners for steel substrates: Flat head, self-tapping steel screw with galvanized finish as supplied by Fastening House, or approved equivalent. Length: to suit material thickness.
- .7 Fasteners for masonry and concrete substrates: "Tapcon" fasteners with "Climaseal" corrosion resistant finish, as manufactured by Buildex/Red Head, or approved equivalent. Length to suit material thickness.
- .8 Batt insulation: Unfaced, friction fit fibrous glass batt insulation conforming to CAN/ULC-S702 and CSA-A101-M1983. Thickness to suit application.
- .9 Bolts, Washers & Nuts: to meet ASTM A307-82a. Size as indicated on Drawings with hot dipped galvanized or approved equivalent corrosion resistant finish.

3.0 EXECUTION

3.1 INSTALLATION

- .1 Comply with the requirements of the latest version of the Ontario Building Code, supplemented with the following paragraphs.
- .2 Work shall be performed by skilled carpenters.
- .3 Install continuous cants, plywood sheathing, continuous shims and wood nailers where required and/or detailed on Drawings. Shims to be of sufficient height to ensure a minimum five percent positive slope is provided on all parapet walls and under cap flashings.
- .4 Securely anchor wood blockings, cants, nailers and shims in-place at 300 mm on centre in a staggered pattern. Fasten wood blockings cants, nailers and shims together and to the existing substrate with appropriate screw fasteners.
- .5 Fasten plywood sheathing to existing masonry substrate at a maximum spacing of 450 mm vertically and horizontally. Fasten plywood to existing substrates with appropriate screw fasteners.
- .6 Fasten plywood along supported edges at a minimum of 150 mm on centre. Fasten plywood to framing members within the field of the plywood panel at a minimum of 300 mm on centre. Fasten plywood to wood framing and to existing substrates with appropriate screw fasteners.
- .7 Refasten loose existing wood blockings, plywood, shims, cants with screw fasteners as required and to the satisfaction of the Consultant.
- .8 Co-ordinate work to keep cutting and remedial work to a minimum.
- .9 Treat cut ends of all wood which is saw-cut on site with wood preservative.
- .10 Fastenings shall be of size and spacing required to assure secure anchorage. The fastener spacing of wood blocking to the substrate and to each other shall not exceed 300 mm unless otherwise accepted in writing by the Consultant. Provide the Consultant, if requested, with shop drawings, stamped by a Professional Engineer, if a greater fastener spacing is to be used.

3.2 CLEANING

- .1 Remove all surplus materials and debris resulting from the foregoing work daily as the work proceeds and on completion.

END OF SECTION

1.0 GENERAL

1.1 SECTION INCLUDES

Materials and installation for modified bituminous roofing for conventional build up roofing (BUR).

1.2 REFERENCES

- .1 Use latest editions of referenced codes and standards.
- .2 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM C 1177/C1177M, Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
 - .2 ASTM C1549, Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer
 - .3 ASTM D41, Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
 - .4 ASTM D312, Asphalt Used in Roofing.
 - .5 ASTM D1863, Standard Specification for Mineral Aggregate Used on Built-Up Roofs
 - .6 ASTM D2178, Asphalt Glass Felt Used in Roofing and Waterproofing.
 - .7 ASTM D6162, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fibre Reinforcements.
 - .8 ASTM D6163, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fibre Reinforcements.
 - .9 ASTM D6164, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
 - .10 ASTM E1980, Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces
- .3 Canadian Roofing Contractors Association (CRCA).
 - .1 CRCA Roofing Specifications Manual.
- .4 Canadian General Standards Board (CGSB).
 - .2 CAN/CGSB-37.5, Cutback Asphalt Plastic Cement.
 - .3 CGSB 37-GP-9Ma, Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
 - .4 CGSB 37-GP-15M, Application of Asphalt Primer for Asphalt Roofing, Dampproofing and Waterproofing.
 - .5 CGSB 37-GP-19M, Cement, Plastic, Cutback Tar.
 - .6 CAN/CGSB-37.29, Rubber-Asphalt Sealing Compound.
 - .7 CGSB 37-GP-56M, Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing.
 - .8 CAN/CGSB-51.33, Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction.

- .5 Canadian Standards Association (CSA International).
 - .1 CAN/CSA-A123.3, Asphalt Saturated Organic Roofing Felt.
 - .2 CAN/CSA-A123.4, Asphalt for Use in Construction of Built-Up Roof Coverings and Waterproofing Systems.
- .6 Department of Justice Canada (Jus).
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .7 Factory Mutual (FM Global).
 - .1 FM Approvals - Roofing Products.
- .8 Health Canada / Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .9 Transport Canada (TC).
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .10 Underwriters Laboratories' of Canada (ULC).
 - .1 CAN/ULC-S701, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
 - .2 CAN/ULC-S704, Thermal Insulation, Polyurethane & Polyisocyanurate Boards,
 - .3 CAN/ULC-S706, Standard for Wood Fibre Thermal Insulation for Buildings.

1.3 QUALITY ASSURANCE

- .1 Compatibility between components of roofing system is essential. All roof system components shall be obtained from a single manufacturer. Provide written declaration to Consultant stating that materials and components, as assembled in system, meet this requirement (including secondary products that may be required).
- .2 Roofing component manufacturer shall have not less than 20 years experience in the manufacture of the products specified in this section and shall have ISO 9001 certification.
- .3 Installation contractor shall have a minimum of 5 years experience in modified bituminous roofing installation and shall be authorized by the roofing system component manufacturer as qualified to install their product.
- .4 The installation contractor shall maintain a qualified, full time supervisor/foreman on the job site at all times while the roofing is in progress.
- .5 Convene a pre-installation conference before the scheduled commencement of the roofing installation to be attended by the installation contractor, roof manufacturers' inspector/representative, the Owner and the consultant. The agenda to include but not be limited to the following.
 - .1 Review work methods and procedures including set up and mobilization areas for stored material and work area.
 - .2 Review roofing system requirements, submittals and schedules.
 - .3 Review existing conditions.

- .4 Review required testing and inspection.
- .5 Review weather conditions and procedures for coping with unfavourable conditions including temporary roofing.
- .6 Review notification procedures for weather or non-working days.
- .7 Record and distribute minutes to all attendees.

1.4 SUBMITTALS

- .1 Submit three copies of most recent technical data sheets for all roofing components describing materials' physical properties.
- .2 Submit WHMIS MSDS - Material Safety Data Sheets for all roofing components.
- .3 Submit sketch detail drawings to illustrate roof assembly at parapets, drains, stacks, curbs, and any other roof projection. Manufacturer's Installation Instructions for installing the membranes.
- .4 Specimen of Warranty.
- .5 Manufacturer's Certificates:
 - .1 Certifying the roof system meets the requirements of ASTM E108, Class A for external fire as determined by a third-party testing facility.
 - .2 Certifying the materials conform to these specifications, are chemically & physically compatible & suitable for inclusion in the specified roof system
 - .3 Provide manufacturer's ISO 9001 compliance certificate.
 - .4 Certifying the installation contractor is currently authorized for the installation of the specified roof system.
- .6 Manufacturer's field reports in accordance with Section 1.5.

1.5 MANUFACTURER'S INSPECTIONS

- .1 The roofing manufacturer shall provide the following:
 - .1 Regular job site visits and report (written) on progress and quality as observed (visits twice weekly).
 - .2 Report (written) to the Owner any failure of the installation contractor to correct unacceptable practices called to the installation contractor's attention.
 - .3 Confirm (written) after completion that the manufacturer has observed no application procedures contrary to the specifications other than those previously reported and corrected.
 - .4 Complete the required number of inspections in order to provide the 30-year warranty, outlined in Section 1.12.1.

1.6 HEALTH AND SAFETY

- .1 All work shall conform to the Occupational Health and Safety Act, Regulations for Construction Projects (O. Reg 213/91 as amended).

- .2 Provide the Owner with a copy of the installation contractor's Health and Safety Policy in digital format.

1.7 STORAGE AND HANDLING

- .1 Provide and maintain dry, off-ground weatherproof storage.
- .2 Store rolls of felt and membrane in upright position. Store membrane rolls with selvage edge up.
- .3 Remove only in quantities required for same day use.
- .4 Place plywood runways over completed Work to enable movement of material and other traffic.
- .5 Store sealants at +5 degrees C minimum.
- .6 Store insulation protected from daylight, weather and deleterious materials.
- .7 Handle roofing materials in accordance with manufacturer's written directives, to prevent damage or loss of performance. Roofing material is to be stored above 13°C (55°F) for a minimum of 24 hours before installation.

1.8 PROTECTION

- .1 Fire Extinguishers: maintain one stored pressure rechargeable type ULC labelled for A, B and C class protection.
- .2 Maintain fire watch for 1 hour after each day's roofing operations cease.

1.9 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for recycling.
- .2 Remove from site & dispose of packaging materials at appropriate recycling facility
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 All removed materials to be removed, transported off site, and disposed of off-site by the installation contractor at a facility approved by the Owner. All costs and tipping fees associated with this work shall be included in the bid price.

1.10 ENVIRONMENTAL REQUIREMENTS

- .1 Do not install roofing unless existing and forecasted weather conditions will permit an area of work to be installed in accordance with the manufacturers' written recommendations and warranty requirements.
- .2 Do not expose a greater area of roof deck than can be weatherproofed in one day.
- .3 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

1.11 CONTRACT CLOSEOUT SUBMITTALS

- .1 Provide specified warranty for the project, executed by the authorized agent of the manufacturer.
- .2 Provide manual of manufacturer's maintenance recommendations.

1.12 WARRANTY

- .1 Upon completion of the Work and acceptance by the Owner, the manufacturer shall provide a 20 year, no dollar limit, non-prorated labour and material warranty.
- .2 The installation contractor shall submit a 2-year warranty to the manufacturer with a copy to the Owner.

1.13 SEQUENCING AND SCHEDULEING

- .1 Sequence installation of roofing with related units of work specified in other sections to ensure that roof assemblies including roof accessories, flashing, trim and joint sealers are protected against damage from effects of weather, corrosion and adjacent construction activity.
- .2 **Construction must allow for the Complete all roofing field assembly work each day.**
- .3 Coordinate work with installing associated metal flashings as work of this section proceeds

2.0 PRODUCTS

2.1 GENERAL

- .1 Specified materials, manufacturer's product designations and/or names shall be regarded as the minimum standard of quality for the work of this section.
- .2 Products proposed as equal to products specified in this section shall be accompanied by a copy of the manufacturer's standard specifications and references from three projects of similar type.
- .3 Equivalency of performance criteria and warranty terms will constitute the basis of acceptance. The owner's decision shall be final. No unauthorized substitutions will be accepted.
- .4 The roof base is wood decking, so open flames are not permitted in contact with combustible roof deck.

2.2 VAPOUR RETARDER

- .1 Two-ply bituminous membrane consisting of:
 - .1 No. 15 perforated asphalt saturated organic roofing felts to CAN/CSA A123.3
 - .2 Type III asphalt to CAN/CSA A123.4. Provide EVT, FBT and Flash Point Temperature.

2.2 POLYISOCYANURATE INSULATION

- .1 Polyisocyanurate insulation from a PIMA (Polyisocyanurate Insulation Manufacturers Association) member or affiliate. Thickness as indicated.
- .2 **Tapered insulation to be installed as per approved shop drawings.**

2.3 OVERLAY BOARD

- .1 Overlay Board: 12.5 mm high density fibre board, asphalt coated fibre board to CAN/ULC-S706, Type I.

2.4 HOT APPLIED MEMBRANE

- .1 Felt Plies: Glass fibre felt to ASTM D2178, Type IV, Asphalt saturated fibreglass felt, which meets or exceeds ASTM D 2178 Type IV Performance Criteria.
- .2 Base flashing: to ASTM D 5147
 - .1 40 mil Styrene-Butadiene-Styrene (SBS) elastomeric polymer, fiberglass reinforcement.
 - .2 Sheet membrane properties: to ASTM D5147
 - .1 Tensile Strength
50 mm/min @23 +/- 2⁰ C MD 37.5 kN/m XD 37.5 kN/m
 - .2 Tear strength
50 mm/min @23 +/- 2⁰ C MD 1223 N XD 1223 N
 - .3 Elongation at Maximum Tensile
50 mm/min @23 +/- 2⁰ C MD 4.5% XD 4.5%
 - .3 Cap sheet membrane: to ASTM 6162, Type III, Grade G.
 - .1 145 mil SBS and SIS (Styrene-Butadiene-Styrene and Styrene-Isoprene-Styrene) rubber modified membrane incorporating post-consumer recycled rubber and reinforced with a fiberglass and polyester composite scrim. ASTM D 6162, Type III Grade G.
 - .4 Sheet membrane properties: to ASTM D5147
 - .1 Tensile Strength, ASTM D 5147
50 mm/min @23 +/- 2⁰ C MD 175kN/m XD 175 kN/m
 - .2 Tear strength
50 mm/min @23 +/- 2⁰ C MD 7,117N XD 6,672N
 - .3 Elongation at Maximum Tensile
50 mm/min @23 +/- 2⁰ C MD 16.0% XD 16.0%
 - .4 Low Temperature Flexibility, Passes -40⁰ C
 - .5 Interply Adhesive:
 - .1 Generic Type III Asphalt: Hot Bitumen, ASTM D 312, Type III steep asphalt having the following characteristics:
 - .1 Softening Point 185 deg. F - 205 deg. F
 - .2 Flash Point 500 deg. F
 - .3 Penetration @ 77 deg. F 15-35 units
 - .4 Ductility @ 77 deg. F 2.5 cm

- .6 Bitumen:
- .1 Asphalt primer: to ASTM D41
 - .2 Asphalt roofing mastic: to ASTM D4586, Type II.
 - .3 Interply adhesive: to ASTM D312, Type III

2.6 SEALERS

All sealants (including tapes) to be recommended and furnished by the membrane manufacturer for the specific application within the roofing system.

2.7 WALKWAYS

Manufactured specifically for adhering to modified bituminous membrane roofing as a protection course for foot traffic, 19 mm thick, adhered with adhesive as recommended by membrane manufacturer.

2.8 CANT STRIPS

Continuous triangular cross section made of inorganic fibreglass used as a cant strip as recommended and furnished by the membrane manufacturer.

2.9 FLASHING BOOT

Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane supplier.

2.10 ROOF DRAINS

Reuse existing drain bodies, adjust to accommodate new roofing depth, if required.
 Drain flashing shall be 1.8 kg sheet lead, formed and rolled.

3.0 EXECUTION

3.1 GENERAL

- .1 The membrane manufacturer and contractor shall provide the consultant with sketches detailing the roof system construction at curbs, drains, parapets, walls, equipment supports, plumbing and heat stacks, pitch pockets, roof hatches and other appurtenances that require special detailing.
- .2 The membrane manufacturer shall inspect the installation contractor's work to ensure compliance with these details.
- .3 All examination, preparation, and roofing Work shall be completed in accordance with CRCA Roofing Specification Manual.
- .4 Staging: The contractor shall perform the work in a logical sequence, such that all requirements in the contract documents are satisfied.

3.2 REMOVAL OF EXISTING ROOFING

- .1 The existing roofing shall be removed in a manner such that adjacent fixtures and finishes that are to remain are not damaged. Fixtures or finishes damaged during the course of the work shall be reinstated to pre-construction condition or better at the installation contractor's expense.
- .2 Removal work shall proceed so that no area of the roof is unprotected at the end of the working day. Provide a temporary waterproofing membrane as necessary.

3.3 EXAMINATION OF ROOF DECKS

- .1 Inspect deck condition with consultant and membrane manufacturer's inspector including parapets, construction joints, roof drains, plumbing vents and ventilation outlets to determine readiness to proceed.
- .2 Prior to beginning of work ensure:
 - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.
 - .2 Curbs have been built.
 - .3 Existing roof drains have been adjusted to the proper elevations relative to finished roof surface.
 - .4 Plywood and lumber nailer plates have been installed to deck, walls and parapets as indicated. Build-up the existing parapet with additional wood blocking as required.
- .3 Do not install roofing materials during rain or snowfall.

3.4 PROTECTION

- .1 Cover walls, walks and adjacent work where materials hoisted or used.
- .2 Use warning signs and barriers. Maintain in good order until completion of Work.
- .3 Clean off drips and smears of bituminous material immediately.
- .4 Dispose of rain water off roof and away from face of building until roof drains or hoppers installed and connected.
- .5 Protect roof from traffic and damage. Comply with precautions deemed necessary by the consultant.
- .6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.
- .7 Metal connectors and decking will be treated with rust proofing or galvanization.

3.5 GENERAL INSTALLATION REQUIREMENTS

- .1 Cooperate with the manufacturer, inspection and testing agencies engaged or

required to perform services in connection with installing the roof system.

- .2 Coordinate installation so that insulation and roofing plies are not exposed to overnight precipitation.
- .3 Provide cut offs at the end of each day's work to protect exposed edge of unprotected or incomplete work consisting of two plies of #15 perforated organic roofing felt set in full moppings of bitumen with joints and edges sealed with roofing cement. Remove cut-offs immediately before resuming work.
- .4 Heat and apply bitumen in accordance with the Equiviscous Temperature (EVT) Method as recommended by the CRCA and the manufacturers' written recommendations.
- .5 Asphalt bitumen mopping rate.
 - .1 Interply mopping: 25 lbs. (11.36 kg.) per roof square.
 - .2 Modified membrane mopping: 30 - 35lbs. (13.6 kg.) per roof square
 - .3 Flood coat: 60 to 70 lbs (27 to 31 kg.) per roof square (plus or minus 25% over the entire roof).

3.6 PRIMING METAL DECK

- .1 After roofing removals are complete and before proceeding with any further work on the deck, the contractor shall coordinate with the Site Representative and Consultant to have the deck inspected. The Consultant will inspect and assess the condition of the steel roof deck at the Water Filtration Plant. The contractor's schedule shall accommodate these inspections.
- .2 After inspecting the exposed roof decks, the consultant will determine whether any structural rehabilitation is necessary before proceeding with the installation of the new roofing assembly.
- .3 Prime metal decks where required, in accordance with the requirements and recommendations of the primer and deck manufacturer.
- .4 Mechanically fasten gypsum board to steel deck as indicated on the contract drawings. Prepare the gypsum board surface for the built-up roof assembly in accordance with the manufacturer's specifications and recommendations.

3.7 PRIMING WOOD DECK

- .1 After roofing removals are complete and before proceeding with any further work on the deck, the contractor shall coordinate with the Site Representative and Consultant to have the deck inspected. The Consultant will inspect and assess the condition of the roof decks. The Contractor's schedule shall accommodate these inspections.
- .2 Decks shall be clean, dry, and free of flaws and attached securely to the supporting

structure as recommended by the deck manufacturer. There should not have any irregular presence of screws or nails.

- .3 Any knotholes, large cracks or imperfections that excess 6mm (1/4") should be covered with a nailed metal sheet.
- .4 Prime wood with a CSA-A123.21 primer. Ensure that it is applied to manufacturers coverage and drying time specifications.

3.8 VAPOUR RETARDER

- .1 Embed two plies of #15 perforated felt in Type III asphalt shingled uniformly to achieve two plies over the entire prepared substrate.
- .2 Lap ends minimum 200 mm, stagger end laps minimum 300 mm.
- .3 Extend plies 50 mm beyond top edges of walls, roof projections/equipment bases.
- .4 Install base flashing ply to all perimeter and projection details. Properly seal all curbs, penetrations and perimeter prior to application of remaining roofing.

3.9 INSULATION

- .1 Install 4.5" (a 2.5" sheet, plus a 2.0" sheet) of polyisocyanurate insulation in full mopping's of hot type III asphalt. Step in place to ensure tight adhesion. Ensure no gaps between sheets.
- .2 Install tapered insulation as required to create the roof slopes indicated on the approved tapered insulation shop drawings and place in full mopping of type III asphalt. Step in place to ensure tight adhesion. Ensure no gaps between sheets. Additionally, install Crickets as required to create roof slope toward drains around rooftop penetrations.
- .3 Install cover board in full mopping of type III asphalt. Step in place to ensure tight adhesion. Ensure no gaps between sheets. Stagger and offset joints from insulation.

3.10 EXPOSED MEMBRANE ROOFING APPLICATION

- .1 Install fibreglass cants in full mopping of type III asphalt.
- .2 Felt ply installation:
 - .1 Install two plies of fibreglass sheets in hot bitumen shingled uniformly to achieve two plies over the entire prepared substrate. Do not step on felt until asphalt has cooled.
 - .2 Lap ends minimum 200 mm, stagger end laps minimum 300 mm.
 - .3 Lightly broom plies to assure complete adhesion.

- .4 Extend plies 200 mm (min.) beyond top edges of cants at walls, roof projections and equipment bases, or as shown on contract drawings.
 - .5 Install base flashing ply to all perimeter & projection details. Properly seal all curb, penetration & perimeter prior to application of remaining roofing
 - .6 Application to be free of blisters, wrinkles and fish-mouths.
- .3 Modified membrane application:
- .1 The outdoor temperature must be above 7.2°C (45°F) to apply membrane. Unless the manufactures cold-weather application instructions are being followed.
 - .2 Solidly bond the modified membrane to the base layers with type III asphalt. The membrane roll must push a puddle of asphalt in front of it with asphalt slightly visible at all side laps. Exercise care to eliminate entrapped air under the membrane.
 - .3 Ensure seams are solidly bonded.
 - .4 Install subsequent rolls of membrane in a similar manner with 100 mm side laps, 200 mm end laps. End laps to be staggered. Ensure end laps do not coincide with the base layer end laps.
 - .5 Apply asphalt no more than 1.5 m ahead of each roll being embedded.
 - .6 Extend plies 200 mm (min.) beyond top edges of cants at walls, roof projections and equipment bases, or as shown on contract drawings.
 - .7 Application to be free of blisters, fish-mouths and wrinkles.
 - .8 Apply membrane in accordance with manufacturer's recommendations.
- .4 Flashing membranes:
- .1 Seal all curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not allow moisture to enter behind, around or under the roof or flashing membrane.
 - .2 Prepare all areas to receive flashing with primer as recommended by the membrane manufacturer.
 - .3 Use modified membrane as the flashing membrane. Adhere to the underlying base flashing ply with type III asphalt. Extend a minimum 200 mm above the finished roof surface or as noted on the membrane manufacturers' approved details. Fasten as recommended by the membrane manufacturer.
 - .4 Solidly adhere flashing to the substrate and the field as recommended by the membrane manufacturer.

- .5 Properly secure flashings to their support, without sags, blisters, fish-mouths or wrinkles.
- .6 Install counter flashing and cap flashing and other sheet metal work in conformance with the membrane manufacturer's approved details.
- .5 Roof penetrations:
 - .1 Install roof drain pans, vent stack covers and other roof penetration flashings and seal to membrane in accordance with manufacturer's recommendations and approved details.

3.11 WALKWAYS

- .1 Install walkway membrane in accordance with manufacturer's instructions.

3.12 CLEANING

- .1 Remove bituminous markings from finished surfaces.
- .2 In areas where finished surfaces are soiled caused by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their instructions.
- .3 Repair or replace defaced or disfigured finishes caused by the work.

3.13 FINAL INSPECTION

- .1 At completion of the work, meet with owner, consultant and manufacturer's representative to walk roof surface areas of the building. Inspect perimeter, flashings at curbs, roof penetrations, walls and equipment. Prepare deficiency list and distribute to all parties.
- .2 Cooperate with the membrane manufacturer if thermographic scans are requested to determine if damp or wet materials have been installed. Installation contractor to provide thermographic scan.
- .3 If core cuts verify the presence of wet materials, replacement shall be at the installation contractor's expense.
- .4 Installation contractor shall repair or replace defective work found at the time of the inspection as required to produce an installation free of damage and deterioration at the time of substantial completion and according to the warranty requirements.
- .5 Notify the Owner upon completion of corrections and provide written notice of acceptance of the installation from the roofing Manufacturer.

3.14 DEMONSTRATION AND TRAINING

- .1 At a time and date agreed to by the Owner, instruct the Owner's representative on the following procedures:
 - .1 Roof troubleshooting procedures;
 - .2 Notification procedures for reporting leaks or other apparent roofing problems;
 - .3 Roofing maintenance;
 - .4 The Owner's obligations for maintaining the roofing to allow the warranty to remain in effect and force; and
 - .5 The Manufacturer's obligations for maintaining the roofing warranty in effect and force.

END OF SECTION

1.0 GENERAL

1.1 RELATED SECTIONS

- .1 Section 06 10 00 - Rough Carpentry
- .2 Section 07 62 00 - Sheet Metal Flashing and Trim

1.2 REFERENCES

- .1 ASTM C 1177/C 1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2006.
- .2 ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2013.
- .3 ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.
- .4 ASTM D 4637 - Standard Specification for EPDM Sheet used in Single-Ply Roof Membrane; 2004.
- .5 ASTM D 4811 - Standard Specification for Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing; 2004.
- .6 ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.
- .7 ASTM E 136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2012.
- .8 FM 1-28 - Design Wind Loads; Factory Mutual System; 2007.
- .9 FM 1-29 - Roof Deck Securement and Above Deck Roof Components; Factory Mutual System; 2006.
- .10 FM 4470 - Approval Standard - Class I Roof Covers; current version.
- .11 PS 1 - Construction and Industrial Plywood; 2009.
- .12 PS 20 - American Softwood Lumber Standard; 2010.
- .13 SPRI ES-1 - Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems; 2007. (ANSI/SPRI ES-1).
- .14 CSA B79-2008 (R2018) Commercial & Residential Drains & Cleanouts

1.3 SUBMITTALS

- .1 Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
- .2 Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option is used.
- .3 Submit digital copies of most recent technical data sheets for all roofing components describing materials' physical properties.
- .4 Submit WHMIS MSDS - Material Safety Data Sheets for all roofing components.

- .5 **Submit sketch detail drawings to illustrate roof assembly at parapets, drains, scuppers, stacks, curbs, and any other roof projection, as needed or where manufacture's recommendations differ from the Detail Drawings.**
- .6 **Provide shop drawing indicating proposed layout for tapered insulation.**
- .7 Manufacturer's Installation Instructions for installing the membranes.
- .8 Specimen of Warranty.

1.4 QUALITY ASSURANCE

- .1 Applicator Qualifications: Roofing installer shall have the following:
 - .1 At least five years' experience in installing specified system.
 - .2 Capability to provide payment and performance bond to building owner.
- .2 Kickoff Meeting: before start of roofing work, Contractor shall attend a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
 - .1 Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.
 - .2 Notify Owner & Consultant well in advance of meeting.
- .3 **Contractor to provide a two year (starting from the date of substantial completion) labour and material warranty.**
- .4 **Manufacturer to provide a no dollar limit, 20 year warranty on the Roofing System.**

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- .2 Store materials clear of ground and moisture with weather protective covering.
- .3 Keep combustible materials away from ignition sources.

2.0 PRODUCTS

2.1 MANUFACTURERS

- .1 Roofing systems manufactured by others may be acceptable provided the roofing system is completely equivalent in materials and warranty conditions and the manufacturer meets the following qualifications:
 - .1 Specializing in manufacturing the roofing system to be provided.
 - .2 Minimum ten years of experience manufacturing proposed roofing system.
 - .3 **Able to provide a no dollar limit, single source roof system 20 year warranty.**
 - .4 ISO 9002 certified.
 - .5 Able to provide polyiso insulation that is produced in own facilities.

- .2 Insulation and Cover Boards: Must be compatible with roof membrane.
- .3 Metal Roof Edging: see Section 07 62 00 - Sheet Metal Flashing & Trim
- .4 Substitution Procedures: Submit evidence that the proposed substitution complies with the specified requirements.

2.2 ROOFING SYSTEM DESCRIPTION

- .1 Roofing System:
 - .1 Membrane: Ethylene propylene diene monomer (EPDM).
 - .2 Thickness: 90 Mil Min.
 - .3 Membrane Attachment: Fully adhered.
 - .4 Slope: Install tapered insulation as required to create min. 2% roof slopes toward drains, **at sump areas the slope is to be a minimum of 3%..**
 - .5 Provide assembly having Underwriters Laboratories, Inc. (UL) Class A Fire Hazard Classification.
 - .6 Provide assembly complying with Factory Mutual Corporation (FM) Roof Assembly Classification, FM DS 1-28 and 1-29, and meeting minimum requirements of FM 1-60, wind uplift rating.
- .2 Roof Sheathing: Gypsum Board
 - 1. Thickness: 0.5 inch (12.7mm)
 - 2. Compatibility: must be compatible with Vapour Barrier.
 - 3. Attachment: Mechanical fastening, or Low-rise polyurethane adhesive.
- .2 Vapor Barrier:
 - 1. Membrane: High density polyethylene sheet
 - 2. Attachment: Self adhering.
 - 3. Provide fiberboard Cant strip as required by manufacturer.
- .3 Insulation:
 - 1. Total System R Value: 30 or greater. (achieved by system show in drawings)
 - 2. Maximum Board Thickness: 3 inches (75 mm); use as many layers as necessary; stagger joints in adjacent layers.
 - 3. Base Layer / Top Layer: Polyisocyanurate foam board, non-composite.
 - 4. Attachment: Low-rise polyurethane adhesive.

- .4 Cover Board: High Density Polyisocyanurate or fiberboard Cover Board:
 - 1. Thickness: 0.5 inch (12.7mm).
 - 2. Compatibility: must be compatible with adhesive and EPDM membrane.
 - 3. R-Value: 2.5 based on ASTM tests C158 and C177.
 - 4. Attachment: Low-rise polyurethane adhesive.

2.3 EPDM MEMBRANE MATERIALS

- .1 Roofing and Flashing Membrane: cured synthetic single-ply membrane composed of ethylene propylene diene terpolymer (EPDM) with the following properties:
 - .1 Reinforcement: None; membrane complying with ASTM D 4637 Type I.
 - .2 Thickness: 0.090 inch (2.2 mm).
 - .3 Nominal Thickness Tolerance: Plus/minus 10 percent.
 - .4 Sheet Width: Provide the widest available sheets to minimize field seaming.
- .2 Membrane Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.
- .3 Use accessories and flashings of like color to the primarily specified field EPDM membrane.
- .4 Flashing Membrane: Self-curing, non-reinforced membrane composed of non-vulcanized EPDM rubber, complying with ASTM D 4811 Type II.
 - .1 Thickness: 0.055 inch (1.4 mm) min.
- .5 Self-Adhesive Flashing Membrane: Semi-cured 45 mil EPDM membrane laminated to 35 mil (0.9 mm) EPDM tape adhesive;
- .6 Pre-Molded Pipe Flashings: EPDM, molded for quick adaptation to different sized pipes; EPDM Pipe Flashing.
- .7 Self-Adhesive Lap Splice Tape: 35 mil (0.9 mm) EPDM-based, formulated for compatibility with EPDM membrane and high-solids primer.
- .8 Splice Adhesive: Synthetic polymer-based, formulated for compatibility with EPDM membrane and metal surfaces.
- .9 Bonding Adhesive: Acrylic-based, water-borne, formulated for compatibility with EPDM membrane and wide variety of substrate materials, including masonry, wood, and insulation facings; Water-Based Bonding Adhesive.
- .10 Adhesive Primer: Synthetic rubber based primer formulated for compatibility with EPDM membrane and tape adhesive, with VOC content less than 2.1 lb/gal (250 g/L).

- .11 Low Rise Foam Adhesive: Two-component, low-rise polyurethane adhesive designed to attach fleece backed roofing membranes to a variety of acceptable substrates.
- .12 Seam Edge Treatment: EPDM rubber-based sealant, formulated for sealing exposed edges of membrane at seams.
- .13 Pourable Sealer: Two-part polyurethane, two-color for reliable mixing.
- .14 Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed.
- .15 Metal Plates and Strips Used for Fastening Membrane and Insulation: Steel with Galvalume coating; corrosion-resistance meeting FM 4470 criteria.
- .16 Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches (33 mm) wide by 0.10 inch (2.5 mm) thick.
- .17 Roof Walkway Pads: EPDM, 0.30 inch (7.6 mm) thick by 30 by 30 inches (760 by 760 mm) with EPDM tape adhesive strips laminated to the bottom.

2.4 ROOF INSULATION AND COVER BOARDS

- .1 Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminated to faces, complying with ASTM C 1289 Type II Class 1, with the following additional characteristics:
 - .1 Thickness:
 - .1 **126mm (5") (50mm & 76mm layers)** at Roofs A2, B, C1, & D
 - .2 **100mm (4") (50mm & 50 mm layers) plus tapered** at Roofs A1 & C2
 - .2 Size: 48 inches (1220 mm) by 48 inches (1220 mm), nominal.
 - .3 R-Value (LTTR): 1.0 inch (25 mm) Thickness: 5.7 R, minimum.
 - .4 Compressive Strength: 20 psi (138 kPa) when tested in accordance with ASTM C 1289.
 - .5 Ozone Depletion Potential: Zero; made without CFC / HCFC blowing agents.
 - .6 Recycled Content: 19% post-consumer & 15% post-industrial, average.
- .2 High Density Cover Board: high density, Fibreboard or closed cell polyisocyanurate core with coated glass mat facers.
 - .1 Size: 48 inches (1220 mm) by 48 inches (1220 mm), nominal.
 - .2 Thickness: 0.5 inch (12.7mm).
 - .3 Compressive Strength: 120psi, when tested in accordance with ASTM 1621.
 - .4 Density: 5pcf, when tested in accordance with ASTM 1622.
 - .5 Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
 - .6 **Coverboard must be compatible with EPDM Adhesive**

- .3 Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.
- .4 Adhesive for Insulation Attachment: Type as required by roof membrane manufacturer for roofing system and warranty to be provided; use only adhesives furnished by roof membrane manufacturer.

2.5 VAPOR BARRIER

- .1 Vapor Barrier Membrane: Comprised of SBS modified bitumen adhesive, factory-laminated to a tri-laminate woven, high-density polyethylene top surface. Release liner protecting adhesive.
 - .1 Intended for use as a direct to deck air/vapor barrier in roofing systems and may be used as a temporary roof membrane for up to ninety (90) days.
 - .2 Thickness: 0.0325" (0.826 mm) minimum, when tested in accordance with ASTM D 5147.
 - .3 Max Load at Break at 73 °F (23 °C): 64 lbf/in, MD (11 kN/m) 88 lbf/in, XMD (15 kN/m) when tested in accordance with ASTM D 5147.
 - .4 Low Temperature Flexibility: -30 °F (-34 °C) when tested in accordance with ASTM D 5147.
 - .5 Moisture Vapor Permeance, 0.02 perms (0.92 Ng/Pa•s•m²) maximum, when tested in accordance with ASTM E 96.
 - .6 Air Permeability: 0.00114 ft³/min•ft² (0.007 L/sec•m²) maximum, when tested in accordance with ASTM E 2178.

2.6 METAL ACCESSORIES

- .1 Metal Roof Edging, Fascia, & Parapet: *Section 076200-Sheet Metal Flashing & Trim*
- .2 Termination bars: 6063-T6 alloy aluminum extrusion with pre-punched slotted holes; miters welded; injection molded EPDM splices to allow thermal expansion.
- .3 Fasteners: Factory-provided corrosion resistant fasteners, with drivers; no exposed fasteners permitted.

2.7 ACCESSORY MATERIALS

- .1 Wood Nailers: PS 20 dimension lumber, Structural Grade No.2 or better Southern Pine, Douglas Fir; or PS1, APA Exterior Grade plywood; pressure preservative treated
 - .1 Width: 3-1/2 inches (90 mm), nominal minimum, or as wide as the nailing flange of the roof accessory to be attached to it.
 - .2 Thickness: Same as thickness of roof insulation.

3.0 EXECUTION AND INSTALLATION

3.1 GENERAL

- .1 Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.
- .2 Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- .3 Do not start work until Pre-Installation Notice has been submitted to manufacturer as notification that this project requires a manufacturer's warranty.
- .4 Perform work using competent and properly equipped personnel.
- .5 Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- .6 Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F (15 to 25 degrees C).
- .7 Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.
 - .1 Protect from spills and overspray from bitumen, adhesives, sealants & coatings.
 - .2 Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
 - .3 Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.
- .8 Until ready for use, keep materials in their original containers as labeled by the manufacturer.
- .9 Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

3.2 EXAMINATION

- .1 Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- .2 Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- .3 Examine roof substrate to verify that it is properly sloped to drains.
- .4 Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

3.3 PREPARATION

- .1 Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- .2 Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- .3 Fill all surface voids in the immediate substrate that are greater than 1/4 inch (6 mm) wide with fill material acceptable insulation to membrane manufacturer.
- .4 Seal, grout, tape deck joints, where needed, to prevent material seepage into building.

3.4 PRIMING METAL DECK

- .1 After roofing removals are complete and before proceeding with any further work on the deck, the contractor shall coordinate with the Site Representative and Consultant to have the deck inspected. The Consultant will inspect and assess the condition of the steel roof deck. The Contractor's schedule shall accommodate these inspections.
 - .1 Where corrosion is identified at the metal deck, it is to be scoured mechanically with a wirebrush to remove all loose rust, then two layers of corrosion resistant paint are to be applied.
- .2 After inspecting the exposed roof decks, the Consultant will determine whether any additional structural rehabilitation is necessary before proceeding with the installation of the new roofing assembly.
- .3 Prime metal decks where required, in accordance with the requirements and recommendations of the primer and deck manufacturer.
- .4 Mechanically fasten gypsum board to steel deck as indicated on the contract drawings. Prepare the gypsum board surface for the built-up roof assembly in accordance with the manufacturer's specifications and recommendations.

3.5 VAPOR BARRIER INSTALLATION

1. All deck/deck cover substrates must be primed prior to application. Use only primer supplied by membrane manufacturer.
2. Expanded Polystyrene, Extruded Polystyrene, Common Polyisocyanurate, Fiberglass, Wood Fiber, Perlite and existing single-ply roofs are not acceptable substrates for SBS bitumen adhesive.
3. Application can be made at ambient temperatures as low as 25 °F (-4 °C) as long as membrane has been stored in a heated area so that it will be between 50 °F (10 °C) and 100 °F (38 °C) at the time of application.
4. Install with minimum 3" (76.2 mm) side laps and 6" (152.4 mm) end laps.
5. Roll in with a 75 lb (34 kg) roller to fully mate each roll to substrate, including all lap areas.

3.6 INSULATION AND COVER BOARD INSTALLATION

- .1 Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.
- .2 Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- .3 Lay roof insulation in courses parallel to roof edges.
- .4 Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch (6 mm). Fill gaps greater than 1/4 inch (6 mm) with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch (6 mm).
- .5 Mechanical Fastening: Using specified fasteners and insulation plates engage fasteners through insulation into deck to depth and in pattern required by Factory Mutual for FM Class specified and membrane manufacturer, whichever is stricter.
- .6 Adhesive Attachment: Apply in accordance with membrane manufacturer's instructions and recommendations; "walk-in" individual roof insulation boards to obtain maximum adhesive contact.

3.7 SINGLE-PLY MEMBRANE INSTALLATION

- .1 Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.

- .2 Lay out the membrane pieces so that field & flashing splices are installed to shed water
- .3 Install membrane without wrinkles & without gaps or fishmouths in seams; bond and test seams & laps in accordance with membrane manufacturer's instructions & details.
- .4 Install membrane adhered to the substrate, with edge securement as specified.
- .5 Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.
 - .1 Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches (1:6) using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
 - .2 Exceptions: Round pipe penetrations less than 18 inches (460 mm) in diameter and square penetrations less than 4 inches (200 mm) square.
- .6 Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

3.8 FLASHING AND ACCESSORIES INSTALLATION

- .1 Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
- .2 Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
 - .1 Follow roofing manufacturer's instructions3..
 - .2 Remove protective plastic surface film immediately before installation.
 - .3 Install water block sealant under the membrane anchorage leg.
 - .4 Flash with manufacturer's recommended flashing unless otherwise indicated.
 - .5 Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
 - .6 If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
 - .7 When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.
- .3 Scuppers: Copper scupper box set in sealant & secure to structure; flash as recommended by manufacturer.

- .4 Flashing at Walls, Curbs, and Other Vertical and Sloped Surfaces: Install weathertight flashing at all walls, curbs, parapets, curbs, skylights, and other vertical and sloped surfaces that the roofing membrane abuts to; extend flashing at least 8 inches (200 mm) high above membrane surface.
- .1 Contractor to perform a mock-up of the Parapet & Curb installations, giving the Consultant & Manufacturer's representative notice to allow them to be on site to review the mock ups. Contractor not to proceed with further work until the mock up installation are approved.**
 - .2 Use the longest practical flashing pieces.
 - .3 Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacturer's recommendations.
 - .4 Complete the splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
 - .5 Provide termination directly to vertical substrate as shown on roof drawings.
- .5 Roof Drains:
- .1 Contractor to perform a mock-up of the drain installation, giving the Consultant & Manufacturer's representative notice to allow them to be on site to review the mock up drain installation. Contractor not to proceed with further drain installation until the mock up installation is approved.**
 - .2 Taper insulation around drain to provide smooth transition from roof surface to drain. Use specified pre-manufactured tapered insulation with facer or suitable bonding surface to achieve slope; slope not to exceed manufacturer's recommendations.**
 - .3 Position membrane, then cut a hole for roof drain to allow 1/2 to 3/4 inch (12 to 19 mm) of membrane to extend inside clamping ring past drain bolts.
 - .4 Make round holes in membrane to align with clamping bolts; do not cut membrane back to bolt holes.
 - .5 Apply sealant on top of drain bowl at clamping ring seats below the membrane.
 - .6 Install roof drain clamping ring and clamping bolts; tighten clamping bolts to achieve constant compression.
 - .7 Supply/install vandleproof aluminum strainer with an opening gate, compatible with drain connection, roof assembly and not obstructing the continuous slope towards the drain.

- .6 Flashing at Penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.
 - .1 Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
 - .2 Pipe Clusters and Unusual Shaped Penetrations: Provide penetration pocket at least 2 inches (50 mm) deep, with at least 1 inch (25 mm) clearance from penetration, sloped to shed water.
 - .3 Structural Steel Tubing: If corner radii are greater than 1/4 inch (6 mm) and longest side of tube does not exceed 12 inches (305 mm), flash as for pipes; otherwise, provide a standard curb with flashing.
 - .4 Flexible and Moving Penetrations: Provide weathertight gooseneck set in sealant and secured to deck, flashed as recommended by manufacturer.

3.9 CLEANING

- .1 Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- .2 Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- .3 Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

3.10 PROTECTION

- .1 Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

END OF SECTION

1.0 GENERAL

1.1 GENERAL CONDITIONS

- .1 All conditions of the contract and Division 1, General Requirement apply to this section.
- .2 All work shall meet the requirements of the Latest Editions of the Ontario Building Code and the Canadian Roofing Contractors Association (C.R.C.A.), CGSB 93-GP-3M Standard, and SSF-03-06, including all amendments up to project date.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- | | | |
|----|-----------------|------------------|
| .1 | Rough Carpentry | Section 06 10 00 |
| .2 | EPDM Roofing | Section 07 53 23 |
| .3 | Joint Sealants | Section 07 92 00 |

1.3 SCOPE OF WORK

- .1 Supply all materials, labour and equipment required to fabricate and install sheet metal flashings and membrane underlayment specified in *Section 01 11 00 – Summary of Work* to the full intent of Drawings and Specifications.

1.4 MOCK-UP

- .1 Construct full size mock-ups of the prefinished sheet metal cap and counter flashings for typical parapet, roof edge & mechanical curb conditions. Mock-ups to include all typical components, and specified colour.
- .2 Locate mock-ups at specific areas designated by the Consultant.
- .3 Mock-up will serve for initial review purposes by the Consultant and Owner's Representative and, when accepted, shall represent the minimum standard for work.
- .4 All materials used for mock-up must be in accordance with this Specification.

1.5 PROTECTION

- .1 Protect the work of this section from damage. Damaged work which cannot be satisfactorily repaired, restored or cleaned, shall be replaced at no cost to the Owner.

1.6 DELIVERY AND STORAGE

- .1 Deliver and store materials to manufacturer's instructions and CSSBI guidelines.
- .2 All material stored on the roof must be secured at all times when not in use.

- .3 Store materials under cover on elevated platforms, protected from weather and construction activities.
- .4 Remove and replace damaged material.

1.7 WARRANTY

- .1 **Refer to Section 07 53 23 – EPDM Roofing for warranty requirements.**
- .2 Provide all applicable material and material / labour warranties offered by the material manufacturers.
- .3 Defective sheet metal installation covered under the warranty shall include but not be limited to, loss of securement, corrosion, fading of finish, change of colour and staining of adjoining or adjacent materials or surfaces.
- .4 Carry out all replacement and repair work during the warranty period as directed by the Engineer and at no additional cost to the Owner.

1.8 REFERENCE STANDARDS

- .1 ASTM A653/A653M, Standard Specification for Sheet Steel, Zinc Coated (Galvanized) by the Hot Dipped Process, General Requirements.
- .2 ASTM A606, Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.
- .3 ASTM A792/A792, Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- .4 CGSB 93-GP-3M, Sheet, Steel, Galvanized Pre-finished Residential, Reaffirmed December 1985.
- .5 Canadian Sheet Steel Building Institute (CSSBI) SSF-03-06, Core and Maintenance of Pre-Finished Sheet Steel Building Products, August, 1983.
- .6 CAN/CGSB 93.1, Sheet, Aluminum Alloy, Prefinished, Residential.
- .7 SMACNA, Sheet Metal and Air Conditioning Contractors National Association – “Architectural Sheet Metal Manual”
- .8 Canadian Roofing Contractors Association (CRCA), Roofing Specifications Manual.
- .9 CSSBI Bulletin No. 9, Care and Maintenance of Prefinished Sheet Steel Building Products, August, 1983.
- .10 Ontario Building Code.

2.0 **PRODUCTS**

2.1 **MATERIALS**

- .1 Prefinished sheet metal: Galvanized steel, 0.71 mm (24 ga) core nominal thickness, to ASTM A653 Grade 230 with G90 zinc coating. Colour to be approved by the Owner from the 12 standard colours listed in CSSBI's General Colour Card.
- .2 Starter strips: Galvanized steel, 0.87 mm (22 ga) core nominal thickness, Z275 zinc coating to ASTM A653. Starter strips to be continuous.
- .3 Banding strip: hot dipped galvanized sheet steel, 3 mm core nominal thickness, Z275 coating designation to ASTM A653, 25 mm wide.
- .4 Isolation coating: Asphalt Primer
- .5 Nails: to CSA B111-1974, hot dipped galvanized steel flat head roofing nails of length and thickness to suit application.
- .6 Fasteners for masonry and concrete: Concrete and Masonry Anchors with corrosion resistant finish, of sufficient length to provide a minimum 38 mm penetration into substrate.
- .7 Split storm collar: 1.6 mm thick two-piece aluminum storm collar complete with neoprene gasket, stainless steel nuts and bolts. Diameter to suit application. Storm collar to be of sufficient size to extend a minimum of 25 mm below the top of copper sleeve flashing.
- .8 Touch-up paint: as recommended by the prefinished sheet metal manufacturer.

2.2 **MEMBRANE UNDERLAYMENT**

- .1 Membrane underlayment: Composite peel and stick membrane comprised of rubberized or modified asphalt and polyethylene
- .2 Membrane underlayment primer: as supplied or recommended by the membrane underlayment manufacturer.
- .3 Membrane underlayment sealant: as supplied or recommended by the membrane underlayment manufacturer.

2.3 **FABRICATION - GENERAL**

- .1 Fabricate cap flashings, counter flashings, closures, starter strips, and other miscellaneous sheet metal work with prefinished sheet metal in general accordance with applicable CRCA 'FL' series specifications and as indicated on Drawings.
- .2 Use competent mechanics and work accurately to details indicated as specified.

- .3 Fabricate cap flashings, starter strips, and base counter flashings less than 300 mm in height in 2400 mm maximum lengths. Form counter flashings between 300 mm and 600 mm in height in 1200 mm maximum lengths.
- .4 Provide a counter flashing and an intermediate vertical flashing where the cap flashing is greater than 600 mm above the top of the roofing membrane. Form vertical flashings in 1200 mm maximum lengths.
- .5 Provide an "S-Lock" joint at all end joints and at all horizontal joints between the cap flashing and the vertical flashing and between the vertical flashing and base counter flashing.
- .6 Mitre & form standing seams at all corners. Make allowance for movement at joints
- .7 Hem all exposed edges at least 12 mm for appearance and stiffness.
- .8 Form sections square, true, and accurate to size, free from distortion, oil canning and other defects detrimental to appearance or performance.
- .9 Apply isolation coating to metal surfaces to be embedded in concrete/mortar joints.
- .10 Ends of thru-cavity flashing to have 1/2" folded upturn, creating an end dam. Cutting and caulking of upturns will not be accepted.
- .11 Metal flashing shall be formed on a bending brake, shaping trimmed and hand seaming shall be done on a bench, as far as practicable, with proper sheet metal working tools. Angles of bends and folds for interlocking metal shall be made with full regard to expansion and contraction to avoid buckling and damage to metal.

2.4 METAL FLASHINGS

- .1 Form flashings, copings and fasciae to profiles indicated and as required to complement and finish membrane- roofing and wall systems.

2.5 SADDLE AND CAP FLASHINGS

- .1 Complete saddle flashing to be shop fabricated, one piece constructed with soldered seams. Seams to be ground smooth, primed and shop painted to match sheet stock.

2.6 RAIN GUTTER

- .1 Aluminum Coil Stock: Formed and coated aluminum coil stock; 3105 H24 aluminum.
- .2 Steel Coil Stock: Sheet stock meeting with G90 galvanized steel in accordance with ASTM A653 and A924.
- .3 Style A, 5 inches and continuous in length.

2.7 DOWNSPOUTS

- .1 Rectangular downspout, that is 3" by 4". In the same colour finish as the rain gutter and approved by owner prior to installation.
- .2 Set downspouts plumb, and anchor to wall with two anchor straps, located near top and bottom of each section of conductor. Strap at top shall be fixed to downspout, intermediate straps and be with aluminum rivets and fasteners. Cadmium plated fasteners shall not be accepted.
- .3 Install elbows, offsets and shoes where required. Slope not less than 45 degrees. All securement shall be with aluminum rivets and fasteners. Cadmium plated fasteners shall not be accepted.

3.0 EXECUTION

3.1 INSTALLATION

- .1 Supply and install new cap flashings, counter flashings, starter strips, and other miscellaneous sheet metal work in general accordance with applicable CRCA 'FL' series specifications and/or as detailed on Drawings.
- .2 Do not use exposed fasteners unless approved before installation or where shown on Drawings.
- .3 Provide membrane underlayment beneath sheet metal flashings at all locations, except where membrane flashings are present. Install membrane underlayment in accordance with Article 3.2 of this section.
- .4 Provide continuous starter strips where indicated or required to present a true, non-waving, leading edge. Fasten starter strips to substrate at a minimum of 300 mm on centre.
- .5 Provide continuous banding strips along top of membrane flashings where indicated on Drawings and at locations and where membrane flashings terminate at the base of a wall and no other means of mechanical securement is specified or indicated. Fasten banding strips to substrate at a minimum of 150 mm on centre.
- .6 End joints where adjacent lengths of metal flashing meet shall be made using an "S-lock" joint. This shall be executed by inserting the end of one length in a 25 mm deep "S" lock formed in the end of the adjacent length. Provide a full bead of sealant within the "S-lock" joint. Concealed portion of the "S" lock shall extend 25 mm outwards and shall be nailed to substrate. Face nailing of joints will not be permitted.

- .7 Insert top edge of sheet metal flashing under cap flashings to form weather tight junctions. Turn top edge of flashings into recessed reglets or mortar joints a minimum of 25 mm. Fasten sheet metal flashing into reglet joint at a minimum spacing of 450 mm.
- .8 Ensure fasteners are located a minimum of 300 mm above the surface of the roofing membrane, unless otherwise indicated on Drawings.

3.2 MEMBRANE UNDERLAYMENT

- .1 Install membrane underlayment under sheet metal flashings as indicated on Drawings and as per Manufacturer's printed instructions.
- .2 Ensure all surface areas are free from frost, dust, grease, oil, loose or spalled material.
- .3 Apply primer as per Manufacturer's printed instructions. Allow the primer to dry and install air barrier membrane on the same day as priming.
- .4 Proceed only when weather is favourable. Should installation be undertaken at temperature below 4°C, consult manufacturer regarding special procedures.
- .5 Maintain the recommended minimum sidelap and endlap as per the manufacturer's printed instructions.
- .6 Roll the membrane underlayment immediately after placement to ensure continuous adhesion. The roller to be of the type and size recommended by the manufacturer.
- .7 Ensure the continuity of the membrane underlayment is maintained at all penetrations and terminations. Apply membrane sealant as required to fill inaccessible gaps following the manufacturer's instructions.
- .8 Do not cover the membrane underlayment until it is reviewed and approved by the Engineer.

3.3 CLEANING

- .1 Daily as the work proceeds and on completion, remove all surplus materials and debris resulting from the foregoing work.
- .2 Remove all stains, caulking or other adhesive from all affected surfaces.

END OF SECTION

1.0 GENERAL

1.1 RELATED WORK

- | | | |
|----|--------------------------------|------------------|
| .1 | Rough Carpentry | Section 06 10 00 |
| .2 | EPDM Roofing | Section 07 53 23 |
| .3 | Sheet Metal Flashing and Trims | Section 07 62 00 |

1.2 REFERENCE STANDARDS

- .1 All Reference Standards are latest editions, unless noted otherwise.
- .2 Sealant, Waterproofing and Restoration Institute (SWRI) publication, *Sealants: The Professionals' Guide 1995*.
- .3 CAN/CGSB 19.13-M87, Sealing Compound, One-Component, Elastomeric, Chemical Curing
- .4 CGSB 19-GP-14M, Sealing Compound, One-Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing.
- .5 ASTM C 510 - Standard Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants.
- .6 ASTM C 1193 - Guide for Use of Joint Sealants.
- .7 ASTM C 794 - Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
- .8 ASTM C 920-05 - Elastomeric Joint Sealants.
- .9 ASTM C 1087 - Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
- .10 ASTM C 1184-05 – Structural Silicone Sealants
- .11 ASTM C 1311-02 – Solvent Release Sealants
- .12 ASTM C 1193 - Guide for Use of Joint Sealants

1.3 PERFORMANCE REQUIREMENTS

- .1 The system shall satisfy the following requirements for the duration of the warranty.
 - .1 The installed sealant shall be totally waterproof, flexible and thermally compatible with the substrate under applicable service conditions.
 - .2 The installed sealant shall provide a weather tight seal and shall not allow moisture penetration.

- .3 Where applicable, the system shall withstand active cyclical movements of 50% of the joint width and remain bonded and watertight.
 - .4 The system shall not debond, crack or craze.
 - .5 The sealed joints shall not leak.
- .2 Reference to products does not relieve the manufacturer of responsibility to comply fully with all specified criteria.

1.4 SUBMITTALS

- .1 Submittals to be made in accordance with *Section 01 33 00 – Submittals Procedures*
- .2 The Contractor and sealant manufacturer shall submit letters certifying that all areas and surfaces were inspected and found satisfactory to receive materials, as per the system manufacturer's requirements. Installation of sealant shall imply acceptance of surfaces. Any existing conditions not specified which may affect the bonding or performance of the caulking shall be brought to the attention of the Consultant, in writing, for resolution prior to installation of materials.
- .3 Maintenance: Leave one sealed tube of each sealant type and colour on site upon completion of project.

1.5 ENVIRONMENTAL AND SAFETY CONDITIONS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Labour Canada.
- .2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .3 Sealant and substrate materials to be minimum 5°C.
- .4 Should it become necessary to apply sealants below 5°C, consult with the sealant manufacturer and follow their recommendations.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, handle, store and protect materials as recommended by materials manufacturer.
- .2 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.

- .3 Maintain containers and labels in undamaged condition.

2.0 PRODUCTS

2.1 MATERIALS

- .1 Joint Cleaner: Xylol, methylethylketone, alcohol, or non-corrosive type recommended by sealant manufacturer and compatible with joint forming materials.
- .2 Primers: Types recommended by sealant manufacturer, if deemed necessary by Consultant.
- .3 Storm collar and roof penetrations sealant: Neutral cure one part polyurethane based sealant complying with CAN/CGSB 19.13-M87. Acceptable products:
- .4 Flashing termination sealant: Sealant complying with CAN/CGSB 19.13-M87. Acceptable products:
- .5 Colour of Sealants: Selected by the Owner and Consultant to match adjacent finishes. Contractor to provide colour samples to facilitate selection.

3.0 EXECUTION

3.1 PROTECTION

- .1 Protect installed work from staining or contamination.

3.2 PREPARATION

- .1 Ensure environmental and site conditions, as recommended by the manufacturer, are suitable for installation of work of this section.
- .2 Ensure all existing caulking and extruded tapes are removed and surfaces prepared and primed in accordance with the manufacturer's recommendations.
- .3 Preparation of surfaces is to be in strict accordance with the manufacturer's recommendations, including preparation and smoothing of rough surfaces, and detailing of cracks, joints and voids as required.
- .4 Joint surfaces are to be sound and free of all moisture, dust, oils and other materials that may adversely affect sealant bond. Minimum standard of cleaning shall be wire brush or equivalent for concrete surfaces to remove all traces of existing sealant and to expose clean concrete. Metal flashings and mullions to be cleaned so as not to damage surface finishes. After cleaning, joints must be thoroughly dry, dust free and frost free before applying sealant.
- .5 Examine joint sizes and correct to achieve depth ratio one-half (1/2) of joint width with minimum width and depth of 6.0 mm, maximum width 25 mm.

- .6 Install joint back-up to achieve correct joint depth.
- .7 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .8 Apply bond breaker tape where required to manufacturer's instructions.
- .9 Prime sides of joints to manufacturer's directions immediately prior to caulking.
- .10 Interior splines are to be installed prior to caulking of exterior glass bead.

3.3 APPLICATION

- .1 Apply sealants to manufacturer's instructions. Apply using gun with proper size nozzle. Use sufficient pressure to fill voids and joints solid. Superficial pointing with skin bead is not acceptable.
- .2 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities. Tool surface neatly to produce slight concave joint.
- .3 Application procedures that result in toxic fumes or flammable solvents collecting or endangering workers or building occupants are not permitted.
- .4 Cure sealants in accordance with sealant manufacturer's instructions. Caulked joints shall be protected by the Contractor until sufficiently cured.
- .5 Clean adjacent surfaces immediately and leave work neat and clean. Remove excess sealant and droppings, using recommended cleaners as work progresses. Remove masking tape after tooling of joints.

3.4 REVIEW AND TESTING

- .1 Periodic review of the various phases of the work is to be performed by the Consultant. Contractor is to provide safe access.
- .2 Contractor shall inform Consultant and any testing agency (as designated by the Consultant) 24 hours in advance of work to be performed under this section.
- .3 Contractor to repair at test locations.
- .4 Additional tests may be performed at the discretion of the Consultant to confirm in-situ material thickness.

END OF SECTION

1.0 GENERAL

1.1 RELATED WORK

.1	Rough Carpentry	Section 06 10 00
.2	EPDM Roofing	Section 07 53 23
.3	Sheet Metal Flashing & Trims	Section 07 62 00
.4	Joint Sealant	Section 07 92 00

1.2 SECTION INCLUDES

- .1 Dome unit skylight with curb counterflashing and easy carry extruded frames that come attached to specified curb, or that are prepared for mounting on site-built or prefabricated roof curbs, for flat, low-slope and steeper-slope roofing applications.

1.3 REFERENCE STANDARDS

- .1 General: Applicable edition of references cited in this Section is current edition published on date of issue of Project specifications, unless otherwise required by building code in force.
- .2 American Architectural Manufacturers Association, Window & Door Manufacturers Association, Canadian Standards Association
 - .1 AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/ Specification for Windows, Doors, and Skylights (NAFS)
- .3 ASTM International: ASTM D1003 – Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics
 - .1 ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings
 - .2 ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
 - .3 ASTM D635: Standard Test Method for Rate of Burning and/or Extent and time of Burning of plastics in a horizontal position
 - .4 ASTM D1929: Standard test method for determining ignition temperature of Plastic
 - .5 ASTM D2843: Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics
- .4 Code of Federal Regulations:
 - .1 29 CFR 1910.23 (e) (8) - Occupational Safety & Health Standards for Walking Working Surfaces to Guard Floor and Wall Openings and Holes.1 All Reference Standards are latest editions, unless noted otherwise.
- .5 Illuminating Engineering Society of North America–The Lighting Handbook
- .6 National Fenestration Rating Council: www.nfrccommunity.org:
 1. ANSI/NFRC 100 - Procedure for Determining Fenestration Product U-factors
 2. ANSI/ NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence

1.4 PERFORMANCE REQUIREMENTS

- .1 The system shall satisfy the following requirements for the duration of the warranty.
 - .1 The installed sealant shall be totally waterproof, flexible and thermally compatible with the substrate under applicable service conditions.
 - .2 The installed sealant shall provide a weather tight seal and shall not allow moisture penetration.
 - .3 Where applicable, the system shall withstand active cyclical movements of 50% of the joint width and remain bonded and watertight.
 - .4 The system shall not debond, crack or craze.
 - .5 The sealed joints shall not leak.
- .2 Reference to products does not relieve the manufacturer of responsibility to comply fully with all specified criteria.

1.4 COORDINATION

- .1 Coordinate dimensions, locations, and details of the existing skylight curbs with unit skylight curb flashings. Verify requirements for roofing system terminations.
- .2 Coordinate unit skylight interior termination locations with structural layout, ceiling layouts, and other ceiling-mounted items.

1.4 SUBMITTALS

- .1 Submittals to be made in accordance with *Section 01 33 00 – Submittals Procedures*
- .2 Product Data: For unit skylights. Include standard construction details, material descriptions, performance characteristics, dimensions of individual components and profiles, and finishes.
- .3 Shop Drawings: For unit skylight work. Include plans, elevations, sections, details, and connections to supporting structure and other adjoining work.
- .4 Warranty: Sample of special warranty.
- .5 Closeout Submittals: Operation and Maintenance Data

2.0 PRODUCTS

2.1 DOME UNIT SKYLIGHT

- .1 System Description: dome-style, curb mounted fixed skylight utilizing extruded aluminum frame counter-flashing with welded corners, an interior 100% thermally broken gasket for condensation drainage, structural sealant, and accessories, as required to meet installation and performance requirements indicated. Dome skylight units shall be suitable for installation on roof curbs ranging from 0 degrees up to 60 degrees from horizontal.

- .2 Aluminum Frame Counter-flashing: Maintenance-free, pre-finished extruded aluminum, grade 6063-T5, 0.06" (1.5 mm) thick. Counter-flashing frames completely welded in corners and counter flashes the curb to a minimum of 1.625 inches (41 mm). Includes a 0.75" (19 mm) continuous ledge for ease of shipping and manual handling.
 - 1. Unit Sizes: to be confirmed by site measurement.
- .3 Structural Sealant: Factory applied silicone sealant, gray color, bonding the dome to the aluminum frame and suitable for external exposure.

2.2 PERFORMANCE REQUIREMENTS

- .1 Unit Skylight Standard, tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 (NAFS-11) as follows:
 - 1. Design Pressure (DP): Minimum DP = 35 psf (+16.8 KPa).
 - 2. Negative Design Pressure = -45 psf (-21.6 KPa).
 - 3. Air Leakage Rate: Maximum 0.01 cfm/ft² (0.1 L/s/m²)
- .2 Daylighting: Provide daylighting photometric performance comparable to basis of design product at layout indicated, based upon daylighting profile of March 21, 9:00 am local time, at Project location by simulation in accordance with IESNA guidelines.
- .3 Air Infiltration: Maximum air leakage through tested size of 0.01 cfm/sq. ft. (0.1 L/s/sq. m) of fixed area as determined according to ASTM E 283 at a static-air-pressure differential of 1.57 lbf/sq. ft. (75Pa.)
- .4 Fire Testing for Roof Assemblies with Fire Classifications: Unit skylight tested in accordance with and listed as passing Class B Burning Brand test as described in ASTM E 108.
- .5 Dome Burn Rate: Tested in accordance with ASTM D 635 with a documented rating of CC1 for (polycarbonate).
- .6 Dome Smoke Density Rating: Testing in accordance with ASTM D 2843 with a documented performance value less than or equal to 75.
- .7 Dome Self-Ignition Temperature: Tested in accordance with ASTM D 1929 with a documented performance value greater than or equal to 650 degrees Fahrenheit.
- .8 Energy Performance ratings for any size commercial curb mounted unit skylight with dynamic dome as follows:
 - 1. Thermal Transmittance: ANSI/NFRC 100 maximum U-factor: 0.68
 - 2. Solar Heat-Gain Coefficient (SHGC): ANSI/NFRC 200 maximum SHGC:
- .9 Fall Protection Standard Compliance: 29 CFR 1910.23: Skylight dome, tested to support a minimum of 400 pounds over 1 square foot of the surface.

2.3 MATERIALS

- .1 Joint Sealants: As specified in Section 07 92 00 "Joint Sealants."
- .2 Mastic Sealants: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

2.4 MANUFACTURERS

- .1 Manufacturer Qualifications: A qualified manufacturer with minimum 20 years' experience in the manufacturing similar products in successful use on similar projects and able to provide unit skylights meeting requirements.

3.0 EXECUTION

3.1 INSTALLATION

- .1 Install unit skylights in accordance with manufacturer's written instructions and approved shop drawings. Coordinate installation of units with installation of substrates, air and vapor retarders, roof insulation, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that finished installation is weather tight.
 1. Anchor unit skylights securely to supporting substrates.
 2. Install unit skylights on curbs specified in another section with tops of curbs parallel to finished roof slope.
- .2 Where metal surfaces of unit skylights will contact incompatible metal or corrosive substrates, including preservative-treated wood, apply bituminous coating on concealed metal surfaces, or provide other permanent separation recommended in writing by unit skylight manufacturer.
- .3 For custom flashings, install unit skylight curb counter-flashing to produce weatherproof seal with curb and overlap with roofing system termination at top of curb.
- .4 Installation of the new skylight is to occur with the same day as removal of the existing unit. No opening in the roof is to be left exposed overnight.

3.2 CLEANING AND PROTECTION

- .1 Clean exposed unit skylight surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- .2 Replace glazing that has been damaged during construction period.
- .3 Protect unit skylight surfaces from contact with contaminating substances resulting from construction operations.

3.3 REVIEW AND TESTING

- .1 Periodic review of the various phases of the work is to be performed by the Consultant. Contractor is to provide safe access.
- .2 Contractor shall inform Consultant and any testing agency (as designated by the Consultant) 24 hours in advance of work to be performed under this section.
- .3 Contractor to repair at test locations.
- .4 Additional tests may be performed at the discretion of the Consultant to confirm in-situ material thickness.

END OF SECTION

1.0 **GENERAL**

1.1 **GENERAL**

- .1 All conditions of the contract and Division 01, General Requirements apply to this section.
- .2 All work shall meet the requirements of the Latest Edition of the National Building Code, including all amendments up to project date.
- .3 Execute work to the highest standards of workmanship in the industry, by fully trained applicators in strict accordance with the written application instructions from the manufacturer.

1.2 **RELATED SECTIONS**

- | | | |
|----|-----------------------------|------------------|
| .1 | Sheet Metal Flashing & Trim | Section 07 62 00 |
| .2 | Joint Sealant | Section 07 92 00 |

1.3 **SCOPE OF WORK**

- .1 Supply all labour, materials, and equipment necessary for of cleaning & preparation of the substrate. the application paint as well as any work necessary to facilitate the work previously noted.
- .2 **Clean, remove rust, prepare, prime and paint all areas of exposed existing metal which is being retained at the roof level (guardrails, structural supports, etc.).**
- .3 **During the preparation and rust removal process the Contractor is to document any areas where damage, defects, holes and other discrepancies observed and notify the Consultant. If the Consultant determines existing metal is damage beyond reusability, the asset is to be patched/replaced in accordant with their instructions.**

1.4 **LIST OF PROPOSED MATERIALS**

- .1 Verify in writing your intention to apply the proprietary products specified or submit for approval a list of comparable materials of another manufacturer within thirty (30) days of the award of Contract.
- .2 This submittal shall include product name, number and catalogue data sheets. A letter is also required from the new supplier confirming that the quality and performance characteristics as well as colour of the proposed products meet or exceed those specified. Products named in this specification need no further approval.

1.5 **DELIVERY AND STORAGE**

- .1 Deliver materials in the original containers with the seals unbroken and labels intact and with the Manufacturer's instructions printed thereon.

1.6 JOB CONDITIONS

- .1 Apply paint at air and substrate temperatures not less than the minimum recommended by the manufacturer.
- .2 Do not apply paint finishes in areas where dust is being generated.

2.0 PRODUCTS

2.1 MATERIALS

- .1 All primer and paint materials to be from one manufacturer.
- .2 Premium exterior metal paint.
 - .1 Primer: Supply and apply one coat of rust inhibitor primer 3-5 mils (75-12 Microns)
 - .2 Paint: Supply and apply 80-160 mils (2-4mm) coats of exterior metal paint. Complying with ASTM B-117 and ASTM D1654. Colour(s) to be approved by the Owner. Colour to match existing unless directly requested otherwise.
 - .3 Product Approval: Submit product information to Consultant for approval.

2.2 APPLICATION EQUIPMENT

- .1 Application equipment is not required to be new, but shall be adequate for the work and workmanship herein specified.

2.3 ACCESSORY MATERIALS

- .1 This work shall include all required ladders, drop cloths, masking, scrapers, tools, dusters, cleaning solvents to perform the work & achieve the results specified.

3.0 EXECUTION

3.1 EXAMINATION

- .1 Examine surfaces to receive paint finishes and report to the Consultant in writing all defects which cannot be corrected by the procedures specified in Paragraph 3.4 of this Section, before starting any work.
- .2 Examine work of other trades for defects and discrepancies and report them to the Consultant in writing and document them with photographs.
 - .1 **If the consultant determines a defects or discrepancy requires it then localized replacement or patching is to occur rather repainting.**
- .3 Do not proceed with work until surfaces are satisfactory.

- .4 Commencement of work in a specific area shall be construed as acceptance of the surfaces, and therefore the Contractor shall be fully responsible for satisfactory work as specified herein.

3.2 PROTECTION

- .1 Protect work at all times, and protect all adjacent work and materials by suitable covering or other method during progress of work.
- .2 Remove and protect factory finished work or similar items or provide adequate in place protection as directed by the Owner or Consultant. Upon completion of each space, carefully replace removed items.
- .3 **Ensure painting is done prior to skylight replacement, or skylights are protected during repainting.**

3.3 WORKMANSHIP GENERAL

- .1 Apply by brush, roller or spray, upon approval from the Consultant.
- .2 Apply materials under adequate illumination, evenly spread and flowed-on smoothly to avoid runs, sags, holidays, brush marks, air bubbles and excessive roller stipple.
- .3 Ensure complete coverage and hide. When colour, stain, dirt or undercoats show through final coat of paint, the surface shall be covered by additional coats until the paint film is uniform in colour, finish, and coverage at no additional cost to the Owner.

3.4 SURFACE PREPARATION

- .1 Surfaces shall be clean, dry and adequately protected from dampness.
- .2 Surfaces shall be free of any foreign materials which adversely affect adhesion or appearance of applied coating. Clean off all dust, dirt, wax, grease and other contaminants before painting.
- .3 Prepare Fill all minor cracks and surface irregularities or replace metal sheets as directed by the Consultant.
- .4 Prepare all other previously painted surfaces as follows:
 - .1 Wash all surfaces with soap and water. Scrub heavy chalk areas with soap and water. Rinse thoroughly with clean potable water and allow surfaces to dry.
 - .2 Remove any loose, peeling and cracked paint by scraping or sanding.
 - .3 Fill or patch over all minor surface irregularities, cracks and dents.

- .4 Remove all rust and scale with power sanders and/or hand wire brushes in accordance with SSPC-SP3, Power Tool Cleaning.
 - .1 Immediately cease the use of power tools if it is leading to damage of the existing surface.
- .5 Remove all oil and grease with solvents such as turpentine, mineral spirits or xylene in accordance with SSPC-SP1-82, Solvent Cleaning.
- .6 Feather edges of remaining sound paint by sanding.
- .7 Apply one coat of primer in accordance with the manufacturer's instructions on all exposed areas of substrate. Type of primer as specified in Paragraph 2.1.

3.5 PRIMER AND PAINT APPLICATION

- .1 Apply the specified primer and paint in accordance with the manufacturer's instructions.
- .2 Apply one coat of primer and two coats of paint. Allow coats to dry following Manufacturer's recommendations before applying succeeding coats.
- .3 Sand and dust between each coat to remove defects visible from a distance of 1.5 meters.
- .4 Ensure dry paint film thickness specified in paragraph 2.1 of this Section are maintained per coat.

3.6 CLEANING

- .1 Daily as the work proceeds and on completion, remove all surplus materials and debris resulting from the foregoing work.
- .2 Remove all paint from adjacent concrete, glass and all other surfaces, upon completion of the work.

END OF SECTION

1.0 GENERAL

1.1 GENERAL CONDITION

- .1 All conditions of the contract and Division 1, General Requirement apply to this section.
- .2 All work shall meet the requirements of the Latest Editions of the Ontario Building Code and the Ontario Plumbing Code, including all amendments up to project date.
- .3 Co-ordinate work under this section with work of related sections.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- | | | |
|----|------------------------------|------------------|
| .1 | Selective Site Demolition | Section 02 41 13 |
| .2 | Rough Carpentry | Section 06 10 00 |
| .3 | EPDM Roofing | Section 07 53 23 |
| .4 | Sheet Metal Flashings & Trim | Section 07 62 00 |
| .5 | Joint Sealants | Section 07 92 00 |

1.3 SCOPE OF WORK

- .1 Supply all materials, labour and equipment and services required to perform mechanical work specified in *Section 01 11 10 – Summary of Work* to the full intent of Drawings and Specifications.

1.4 PROTECTION

- .1 Protect finished roofing at work areas or access to work areas with minimum 13 mm plywood underlaid with 25 mm extruded polystyrene insulation board (Type 4) extending 900 mm beyond work area.

1.5 QUALIFICATIONS

- .1 All work shall be performed by a contractor with adequate plant, equipment and skilled licensed trades people to perform the work expeditiously and shall be known to have been responsible for satisfactory work similar to that specified during a period of at least the past 5 years.

2.0 PRODUCTS

2.1 MATERIALS

- .1 Cast iron pipe: DWV type cast iron piping to CAN3-B70-M86. Diameter as indicated on Drawings.
- .2 Fittings: Cast iron to CAN3-B70-M86 complete with neoprene gaskets and stainless steel bolts and nuts.
- .3 Drain Connector: Compatible couplings with 2 stainless steel gear clamps per end.

- .4 Pipe insulation: Mineral fibre pipe insulation to CAN/ULC-S702. Thickness to be 25 mm. Provide an all service jacket (ASJ) for concealed rainwater leaders and an aluminum jacket for all exposed rainwater leaders.
- .5 Mechanical joints: Neoprene or butyl rubber gasket with stainless steel clamp type joint to CGSB 77-GP-2a.
- .6 Fire stop and smoke seal: ULC design system No. SP375. All materials shall be ULC listed and labeled in accordance with CAN4-S115-M85. Materials shall not contain asbestos.

3.0 EXECUTION

3.1 EXAMINATION

- .1 Examine site conditions and surfaces to ensure that they are in satisfactory condition for the commencement of the work of this section.
- .2 Examine work of other trades for defects and discrepancies and report them to the Engineer in writing. Do not proceed with work until surfaces are satisfactory.

3.2 GENERAL INSTALLATION

- .1 Perform work as specified and in accordance the manufacturers' instructions.
- .2 Where manufacturers' printed instructions are not available, or a situation is ambiguous or unique, consult the Manufacturer's Technical Representative and the Engineer to review the situation and make clarifications. Instructions will be confirmed in writing by the Engineer.

3.3 MECHANICAL UNITS: MECHANICAL & ELECTRICAL COMPONENTS

- .1 Shut off, disconnect, remove, store for reinstallation or raise existing mechanical units and all related ductwork, piping and electrical components as required to permit roofing installation.
- .2 Disconnect all electrical conduits as required to permit installation of new sleeve flashings.
- .3 Modify or replace all related ductwork, piping and electrical components as required to accommodate the increased curb height.
- .4 Reinstall mechanical units onto existing raised curbs. Reconnect all ductwork, pipes and electrical conduits. Restart and check the operation of all equipment.
- .5 Perform this work promptly to minimize any disruption of service. Service shall not be interrupted without approval from the Owner and the Engineer.

3.4 VENT PIPES

- .1 Cut or extend existing vent pipes a standard 300 mm above height of new roofing membrane.
- .2 Extend cast iron pipes with an additional section of cast iron pipe of same diameter and wall thickness. Secure additional section of cast iron pipe to existing with clamping ring.
- .3 Copper pipes shall be extended by welding an additional section of copper pipe having the same diameter as the existing pipe.
- .4 Plastic pipes shall be extended by connecting an additional section of plastic pipe having the same diameter as the existing pipe using purpose made fittings and adhesives.
- .5 Cut pipes with approved cutters. Damaged pipes shall be repaired at no additional cost to the Owner.

3.5 DRAIN CONNECTION

- .1 Remove existing drains to below the deck level.
- .2 Ensure existing rainwater leader piping and insulation is not damaged during removal. Repair any damaged materials.
- .3 Connect new drains to existing piping with mechanical coupling as specified.
- .4 Reinstate insulation to the underside of the drain hub where required.

3.6 PIPE INSULATION

- .1 Insulate existing and new rainwater drainage piping with pipe insulation in accordance with the manufacturer's recommendations where installation of new drains requires additional piping.
- .2 Apply insulation with all side and end joints butted tightly. Seal side laps in all service jacket. Seal end joints in pipe insulation with reinforced vapour proof tape.
- .3 Insulate fittings and roof drain body with purpose made preformed fittings or mitred segments of pipe insulation. Seal with reinforced vapour proof tape.

3.7 FIRE STOPPING AND SMOKE SEALS

- .1 Notify the Engineer in writing of all penetrations made through existing walls, and ceiling assemblies.
- .2 Install fire stop and smoke seal assembly in accordance with ULC design system No. SP375. Prepare substrates in accordance with the manufacturer's recommendations. Center rainwater leader in opening and ensure joint sizes are not less than the minimum required by the ULC design. Apply sealant on both sides of opening.
- .3 Provide rigid supports for rainwater leader on both sides of wall assembly.
- .4 Review with the Engineer any situation which is ambiguous or unique. Instructions will be confirmed in writing by the Engineer.

3.8 CLEANING

- .1 Clean up and remove from the job site on a daily basis, all rubbish and surplus materials resulting from this work.

END OF SECTION

THE REGIONAL MUNICIPALITY OF HALTON

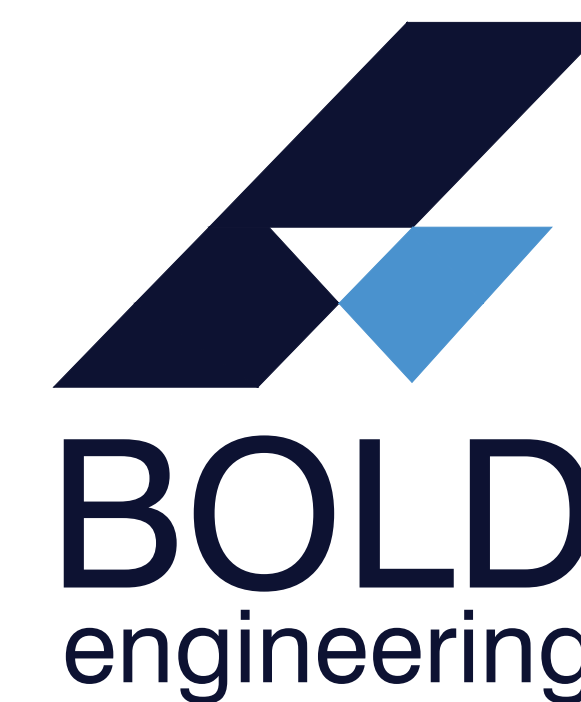
1179 Bronte Rd, Oakville, ON

WOODLANDS OPERATION CENTER ROOF REPLACEMENT

PROJECT NO.: T-683-24

DRAWING LIST

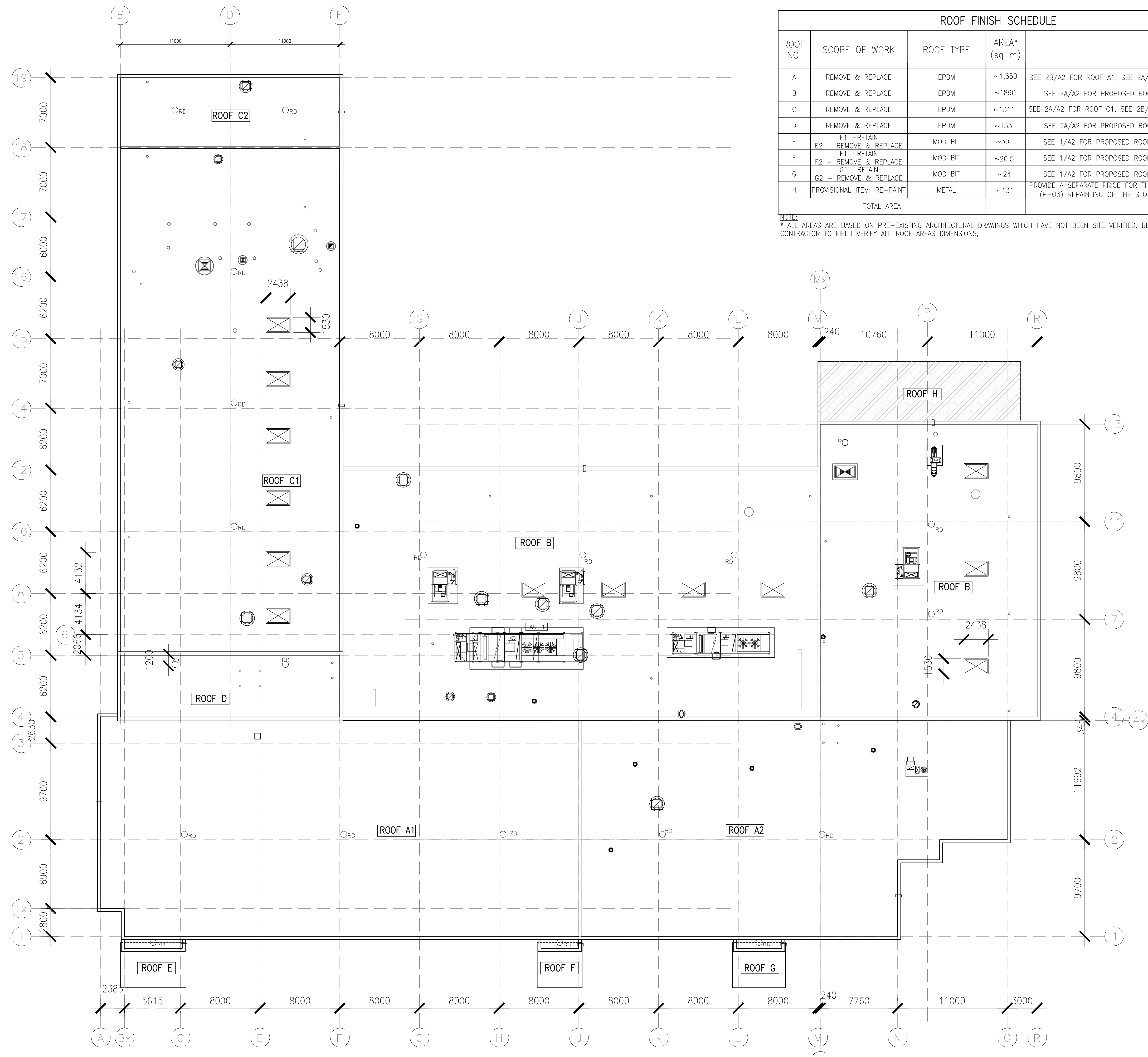
- A1 ROOF KEY PLAN
- A2 EXISTING/DEMO ROOF PLAN
- A3 PROPOSED ROOF PLAN
- A4 ROOF DETAILS I
- A5 ROOF DETAILS II



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ROOF FINISH SCHEDULE				
ROOF NO.	SCOPE OF WORK	ROOF TYPE	AREA* (sq m)	
A	REMOVE & REPLACE	EPDM	~1,650	SEE 2B/A2 FOR ROOF A1, SEE 2A/A2 FOR ROOF A2
B	REMOVE & REPLACE	EPDM	~1890	SEE 2A/A2 FOR PROPOSED ROOF ASSEMBLY
C	REMOVE & REPLACE	EPDM	~1311	SEE 2A/A2 FOR ROOF C1, SEE 2B/A2 FOR ROOF C2
D	REMOVE & REPLACE	EPDM	~153	SEE 2A/A2 FOR PROPOSED ROOF ASSEMBLY
E	E1 - RETAIN E2 - REMOVE & REPLACE	MOD BIT	~30	SEE 1/A2 FOR PROPOSED ROOF ASSEMBLIES
F	F1 - RETAIN F2 - REMOVE & REPLACE	MOD BIT	~20.5	SEE 1/A2 FOR PROPOSED ROOF ASSEMBLIES
G	G1 - RETAIN G2 - REMOVE & REPLACE	MOD BIT	~24	SEE 1/A2 FOR PROPOSED ROOF ASSEMBLIES
H	PROVISIONAL ITEM: RE-PAINT	METAL	~131	PROVIDE A SEPARATE PRICE FOR THE PROVISIONAL ITEM (P-03) REPAINTING OF THE SLOPED METAL ROOF
TOTAL AREA				

NOTE:
* ALL AREAS ARE BASED ON PRE-EXISTING ARCHITECTURAL DRAWINGS WHICH HAVE NOT BEEN SITE VERIFIED. BEFORE BIDDING THE CONTRACTOR TO FIELD VERIFY ALL ROOF AREAS DIMENSIONS.

ROOF LEGEND	
N.I.C.	DENOTES AREA NOT IN CONTRACT
A	ROOF DESIGNATION
RD	ROOF DRAIN
○	VENT STACK/PENETRATION
MAC-1	MECHANICAL UNIT (W/ NUMBER)
⊗	EXHAUST FAN
⊠	SKYLIGHT
⊥	SCUPPER
G	GAS LINE

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1.	ISSUED FOR REVIEW	2024-02-14	CS

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Project Name
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ROOF REPLACEMENT**

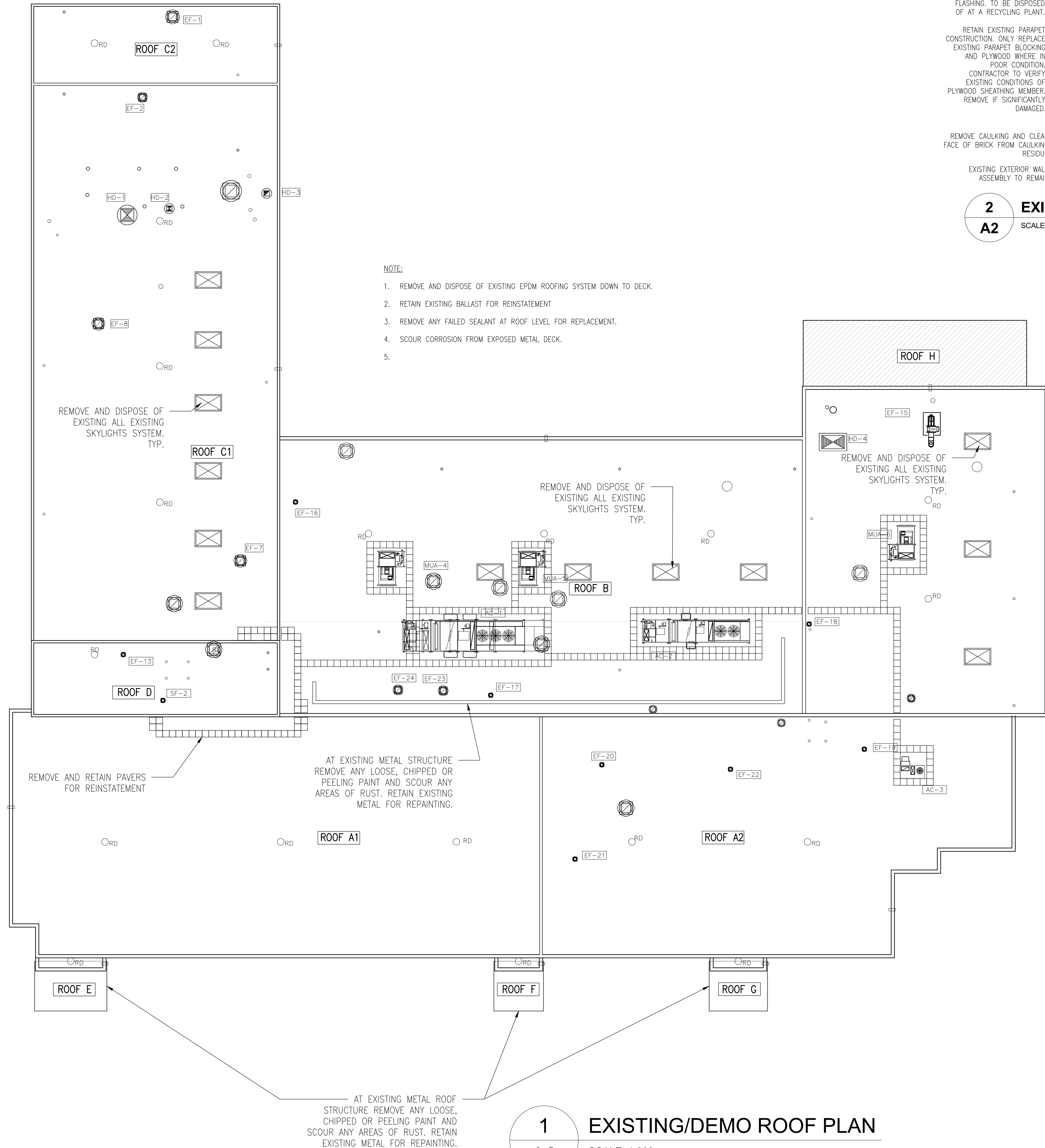
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Sheet Title
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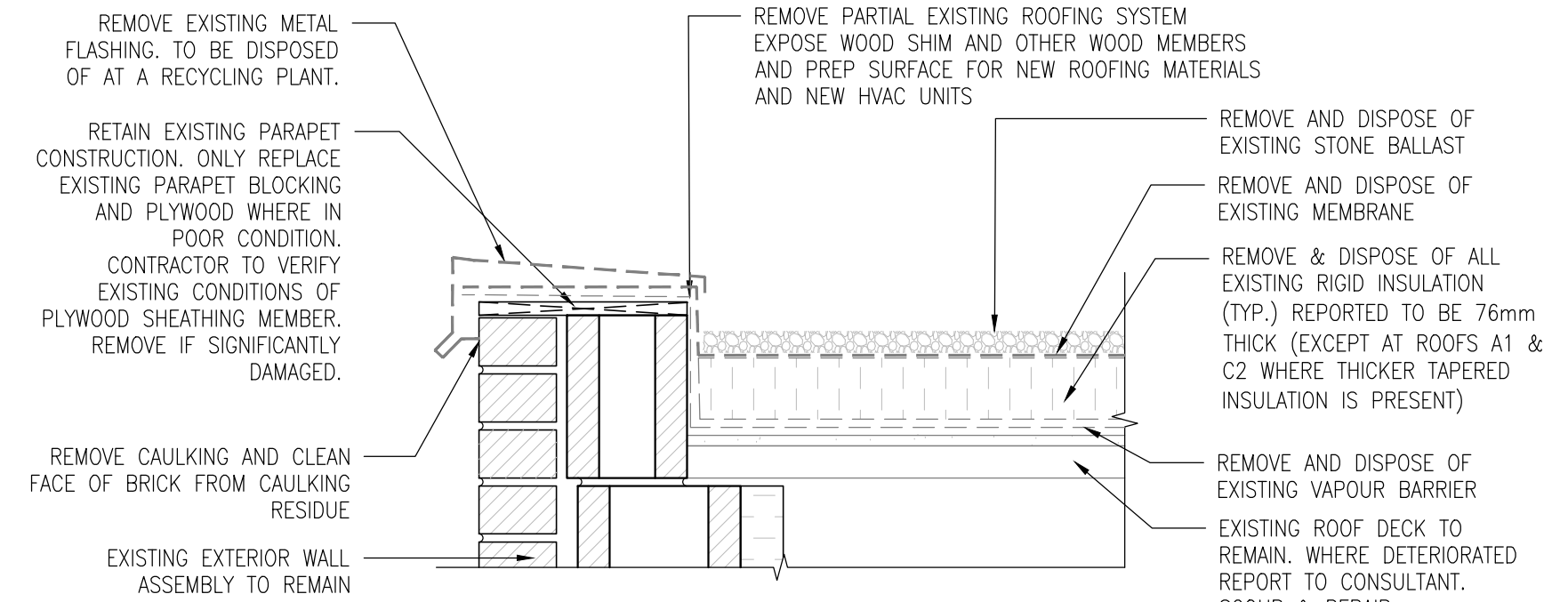
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Designed By CS Date MAR. 29th, 2024
Project Number T-683-24

Sheet Number **A1** Revision **1**

1 ROOF KEY PLAN
A1 SCALE: 1:200



1
A2 EXISTING/DEMO ROOF PLAN
SCALE: 1:200



2
A2 EXISTING/DEMO ROOFING DETAIL (TYP.)
SCALE: 1:8

ROOF LEGEND	
N.I.C.	DENOTES AREA NOT IN CONTRACT
A	ROOF DESIGNATION
RD	ROOF DRAIN
○	VENT STACK/PENETRATION
MUA-1	MECHANICAL UNIT (W/ NUMBER)
⊗	EXHAUST FAN
⊠	SKYLIGHT
⊕	SCUPPER
- G -	GAS LINE

- NOTE:
1. THE CONTRACTOR IS RESPONSIBLE FOR TESTING AND VERIFYING ALL EQUIPMENT ARE IN PROPER WORK CONDITION BEFORE DISCONNECTING THEM FOR ROOF REPLACEMENT WORK. TESTS AND VERIFICATION SHALL BE DONE BY CERTIFIED GAS TECHNICIAN, ELECTRICIAN, HVAC TECHNICIAN AND BAS TECHNICIAN.
 2. THE CONTRACTOR MUST REPORT TO THE OWNER WHEN AN EQUIPMENT IS FOUND TO BE OUT OF SERVICE DURING THE TESTS.
 3. RECONNECT ALL EQUIPMENT AFTER THE ROOF REPLACEMENT WORK IS COMPLETED. TESTS AND VERIFIES ALL THE EQUIPMENT ARE IN GOOD WORKING CONDITION AFTER RECONNECTING THEM.
 4. THE CONTRACTOR IS RESPONSIBLE FOR ANY MECHANICAL LIFTS REQUIRED TO PERFORM THE ROOF REPLACEMENT WORK.
 5. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL NECESSARY TEMPORARY ACCESS, SAFETY & DISPOSAL EQUIPMENT REQUIRED TO FACILITATE THE ROOFING WORK. THIS INCLUDES DISPOSAL CHUTES, OVERHEAD PROTECTION, SAFETY RAILINGS, LADDERS, SIGNAGE, ETC.
 6. THE FACILITY MUST REMAIN OPERATIONAL DURING THE ROOF REPLACEMENT WORK.
 7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE WORK AREA IS WATERTIGHT AT ALL TIMES. CONTRACTOR TO INSTALL ALL PROTECTIVE MEASURES DEEMED NECESSARY TO PREVENT WATER INFILTRATION INTO THE BUILDING DURING CONSTRUCTION.
 8. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL BY THE CONSULTANT PRIOR TO ORDERING MATERIAL.
 9. CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING SITE CONDITIONS BEFORE TENDER CLOSES. CONTRACTOR IS EXPECTED TO CARRY OUT ANY NECESSARY MODIFICATIONS TO INSTALL THE NEW IGUS. NO EXTRAS WHATSOEVER WILL BE ENTERTAINED FOR ANY ADDITIONAL WORK DUE TO SITE CONDITIONS NOT NOTED IN THE DOCUMENTS.

- Drawing Notes
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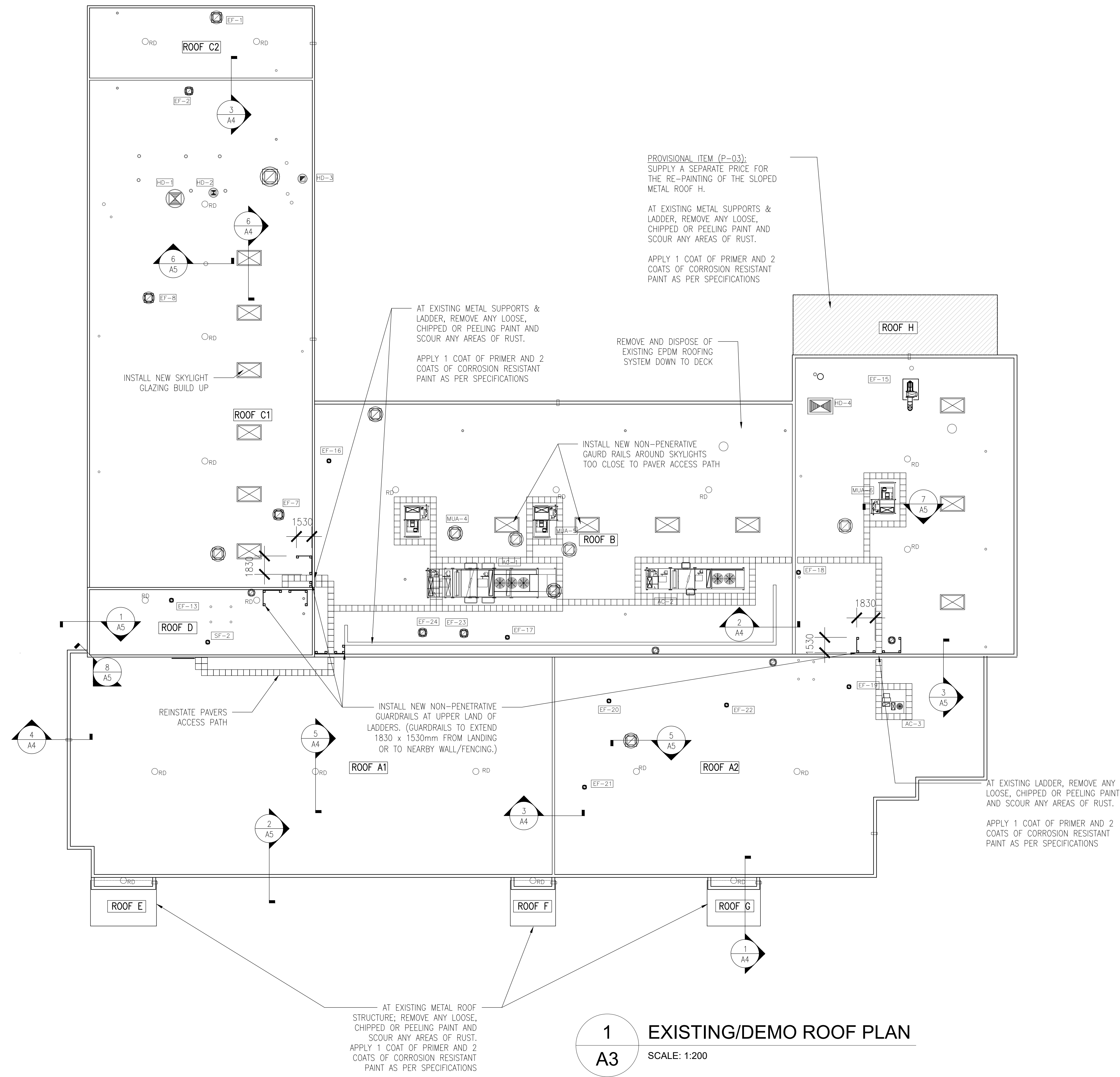
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EXISTING/DEMO ROOF PLAN

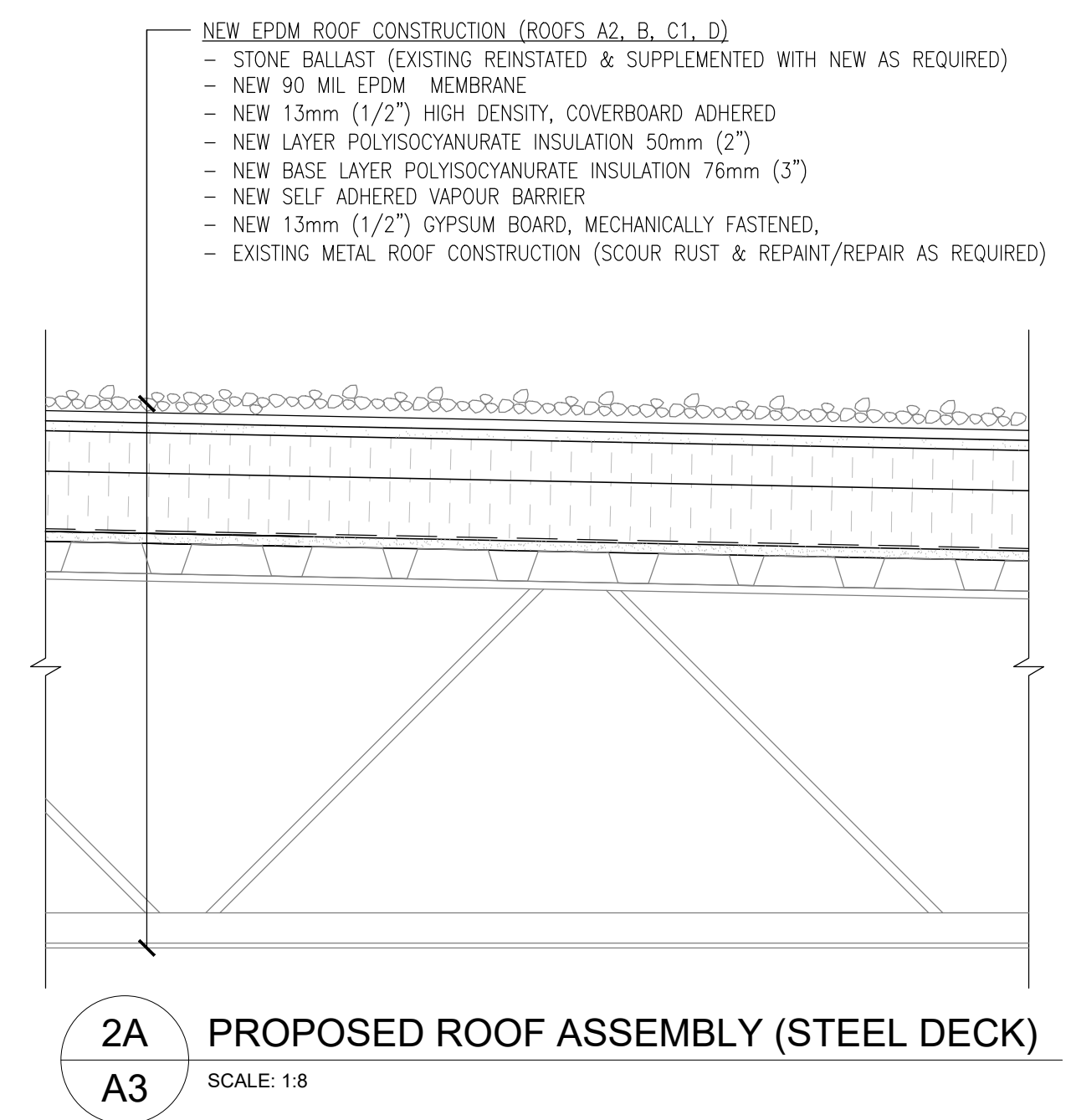
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Project Number	T-683-24		
Sheet Number	A2	Revision	1

Drawing Notes

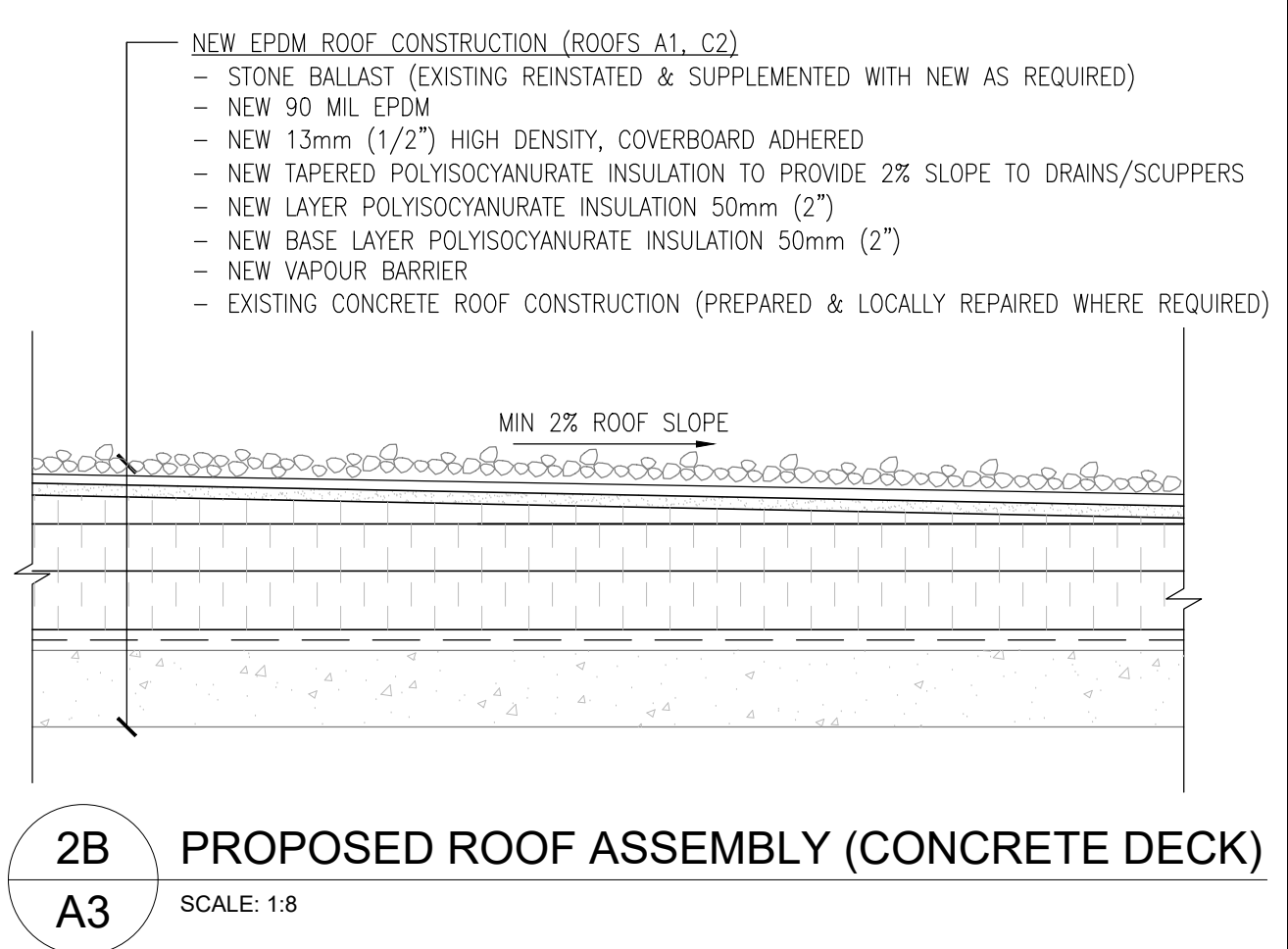
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1
A3 EXISTING/DEMO ROOF PLAN
SCALE: 1:200



2A
A3 PROPOSED ROOF ASSEMBLY (STEEL DECK)
SCALE: 1:8



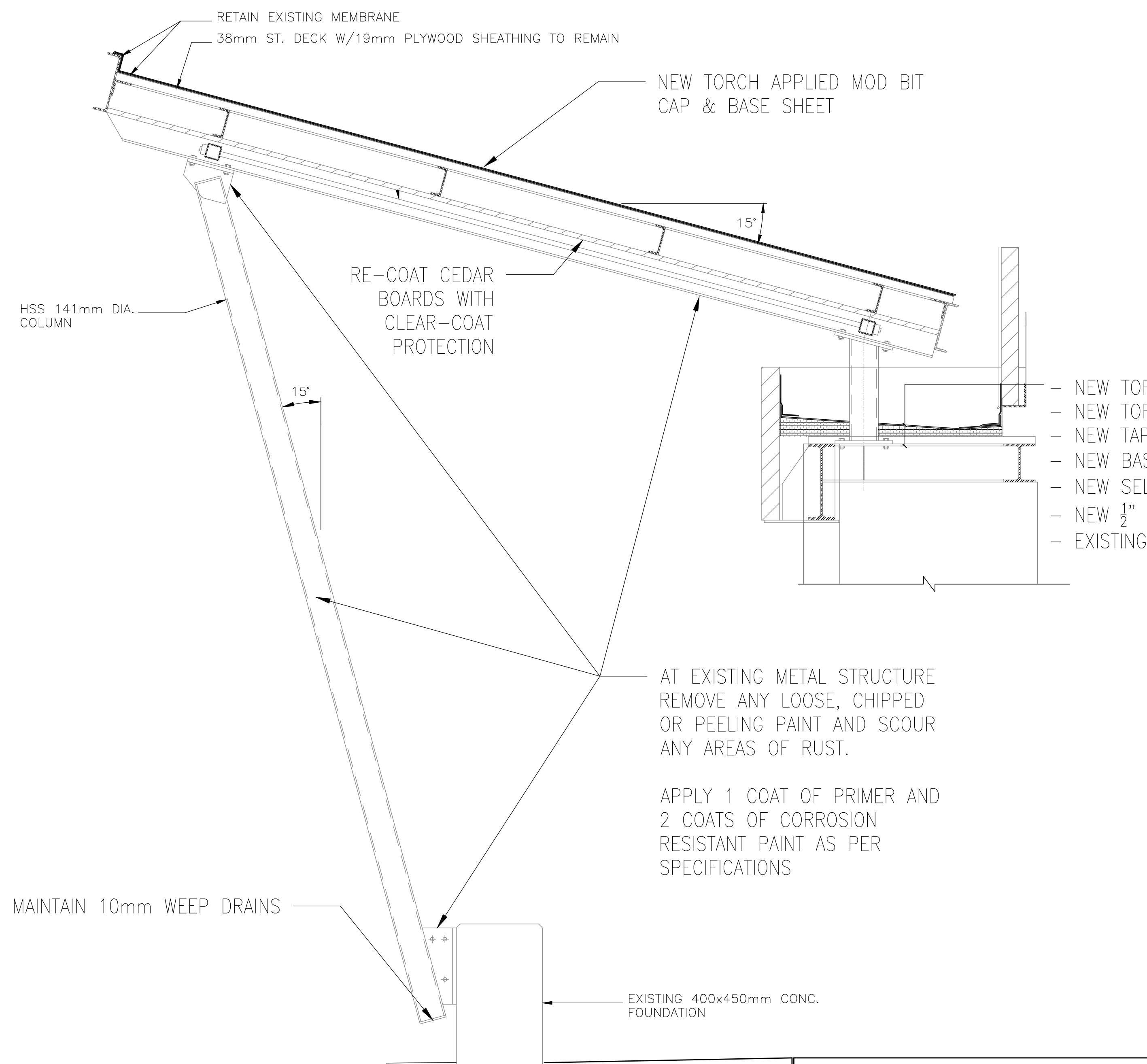
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A3 PROPOSED ROOF ASSEMBLY (CONCRETE DECK)
SCALE: 1:8

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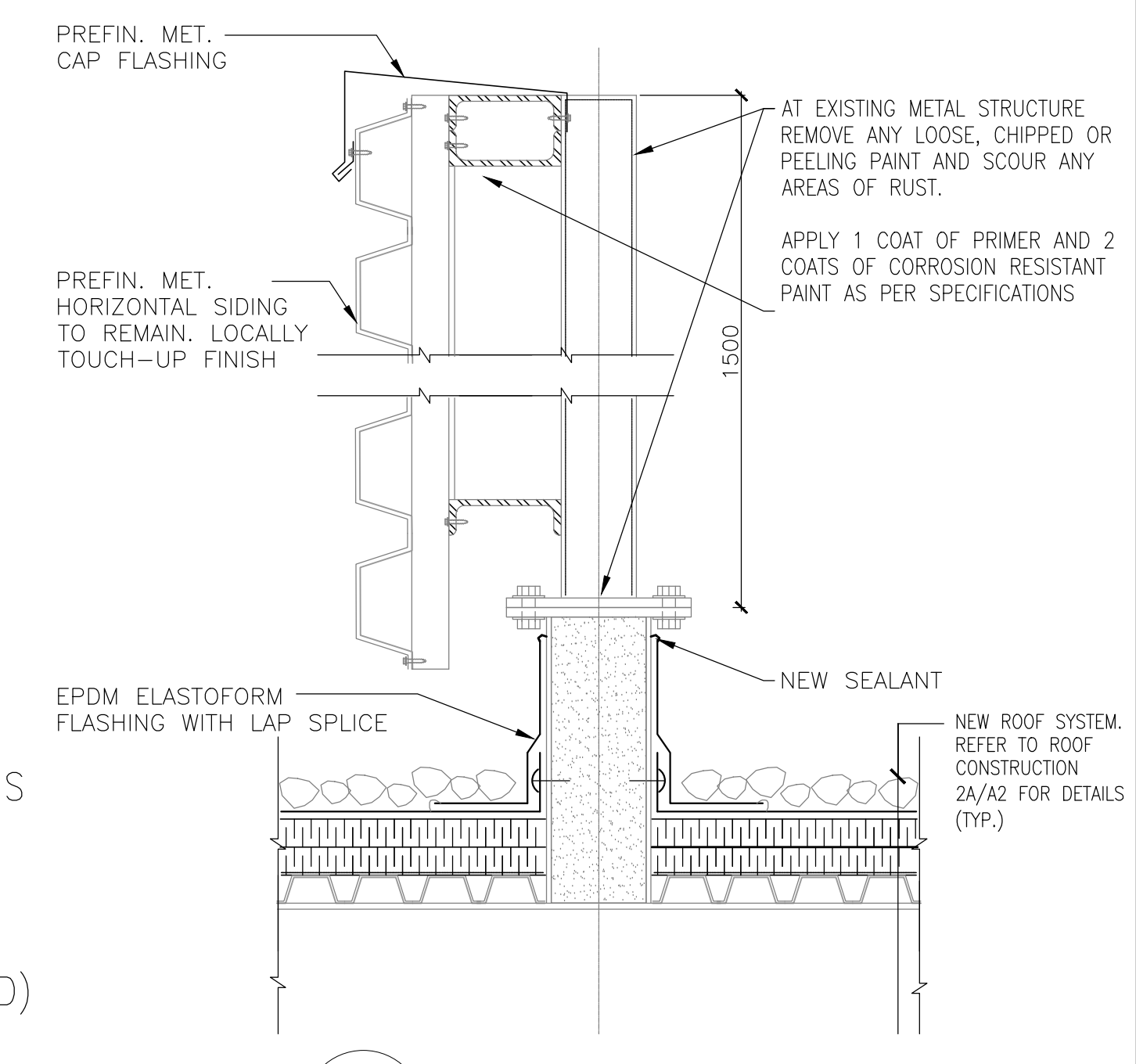
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**WOODLANDS OPERATIONS CENTER
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1179 BRONTE RD, OAKVILLE, ON
 Sheet Title
PROPOSED ROOF PLAN

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Sheet Number	Revision		
A3			1

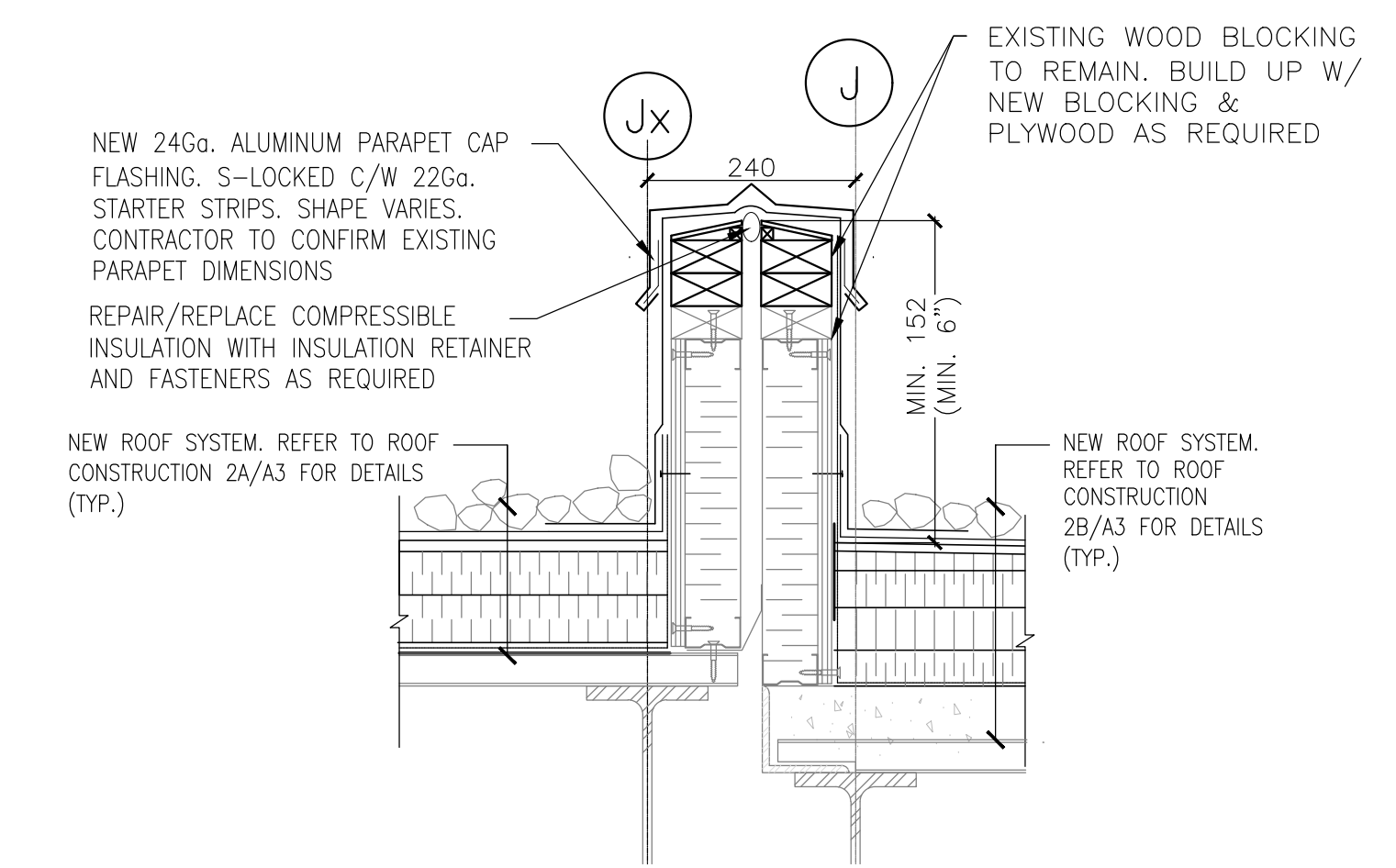


1 OVERHANG ROOF ASSEMBLY DETAIL
A4 SCALE: 1:16

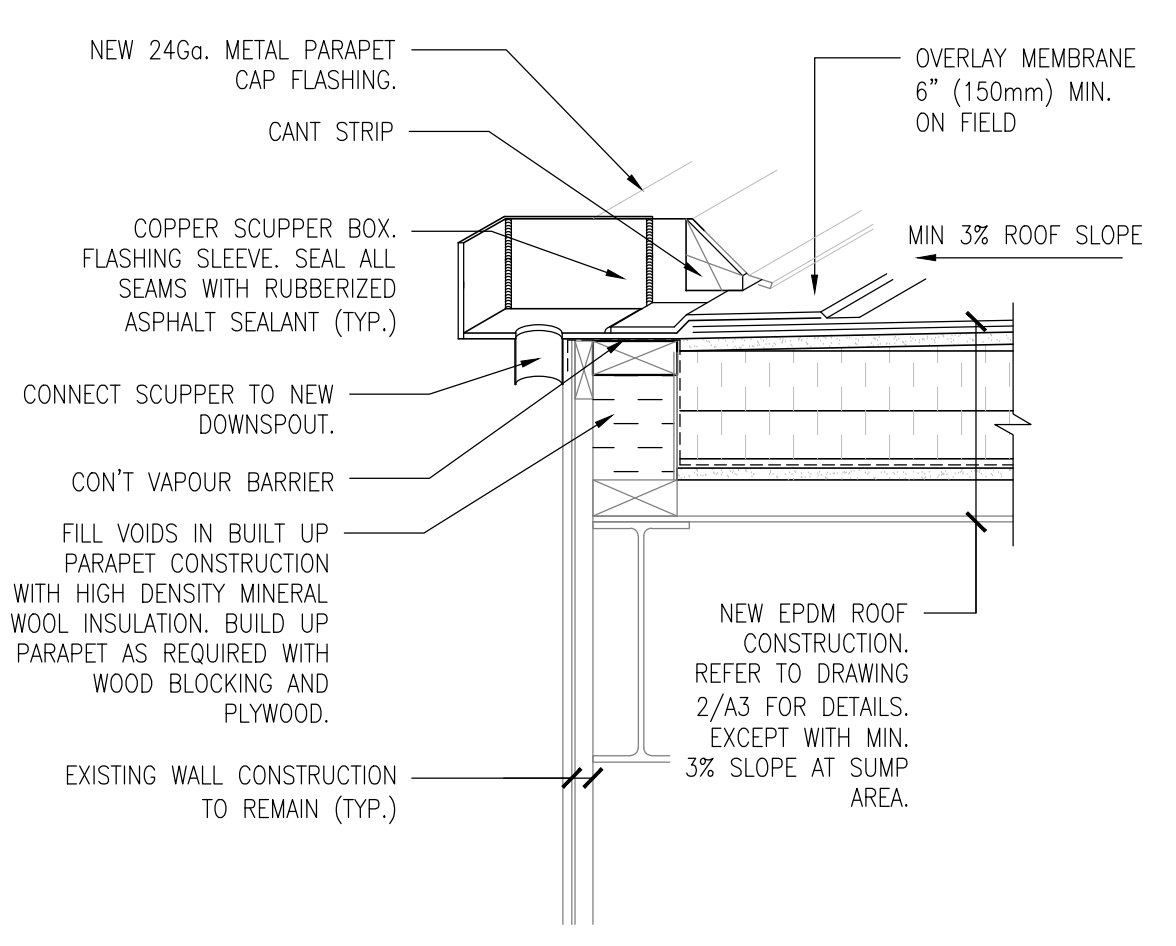
- NEW TORCH APPLIED MOD BIT. CAP SHEET
- NEW TORCH APPLIED MOD BIT BASE SHEET
- NEW TAPERED POLYISOCYANURATE TO PROVIDE 2% SLOPE TO DRAINS
- NEW BASE LAYERS OF POLYISOCYANURATE 114 mm (4.5")
- NEW SELF ADHERED VAPOUR BARRIER
- NEW 1/2" GYPSUM BOARD, MECHANICALLY FASTENED
- EXISTING METAL ROOF DECK (SCOUR RUST & REPAINT AS REQUIRED)



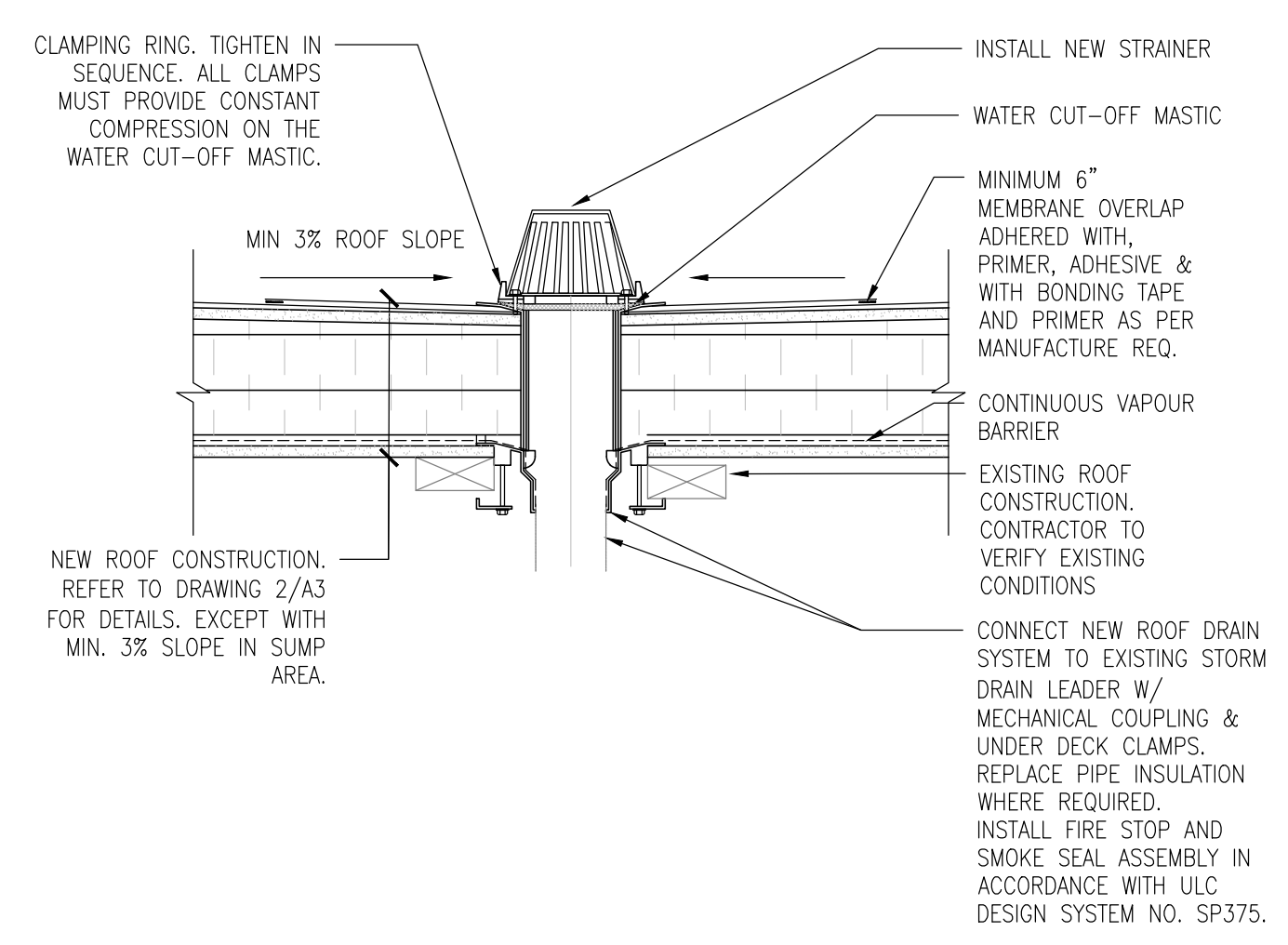
2 STRUCTURAL SUPPORT DETAIL
A4 SCALE: 1:8



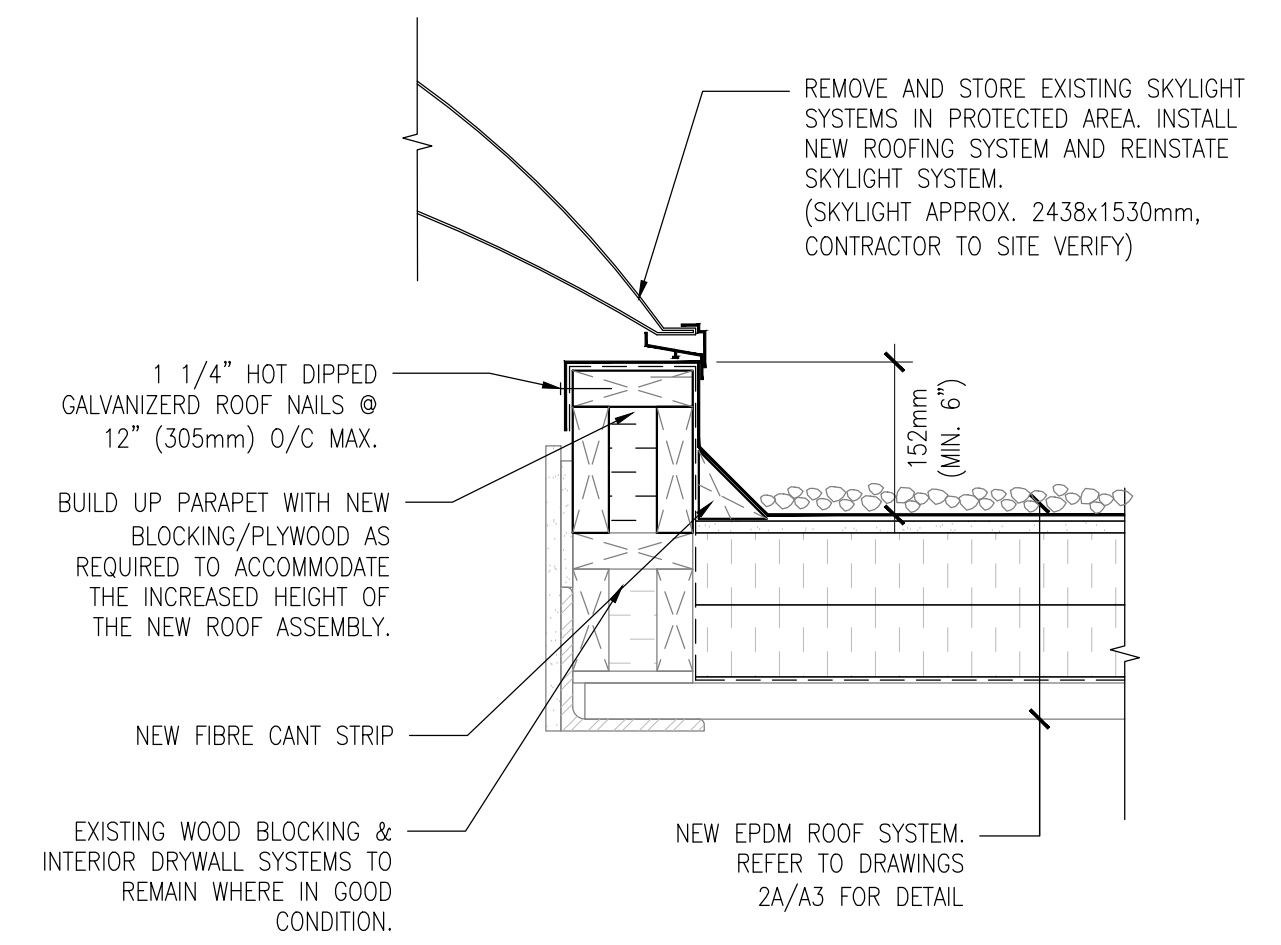
3 EXPANSION JOINT DETAIL (TYP.)
A4 SCALE: 1:8



4 SCUPPER DETAIL
A4 SCALE: 1:8



5 DRAIN DETAIL
A4 SCALE: 1:8



6 SKYLIGHT DETAIL
A4 SCALE: 1:8

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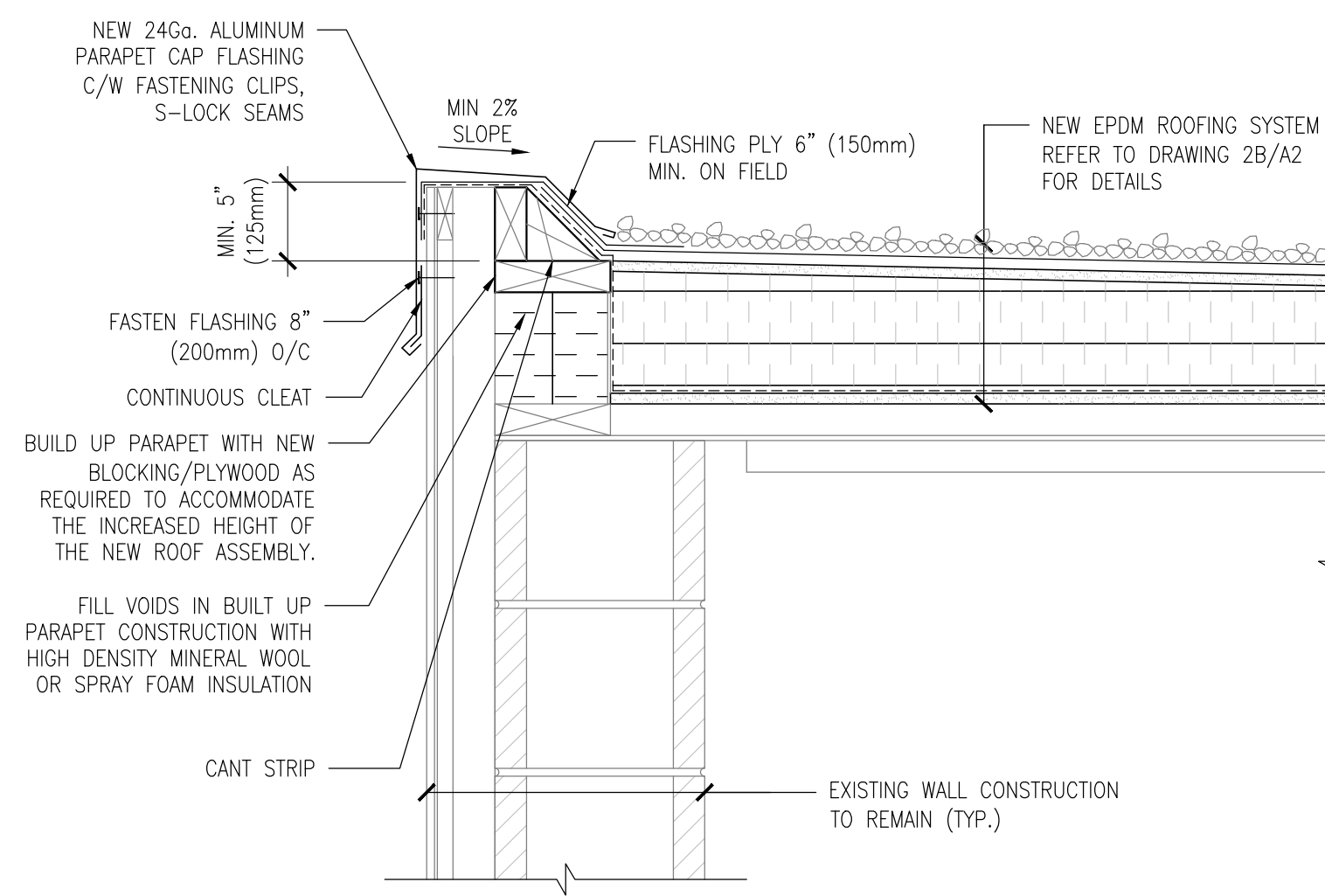
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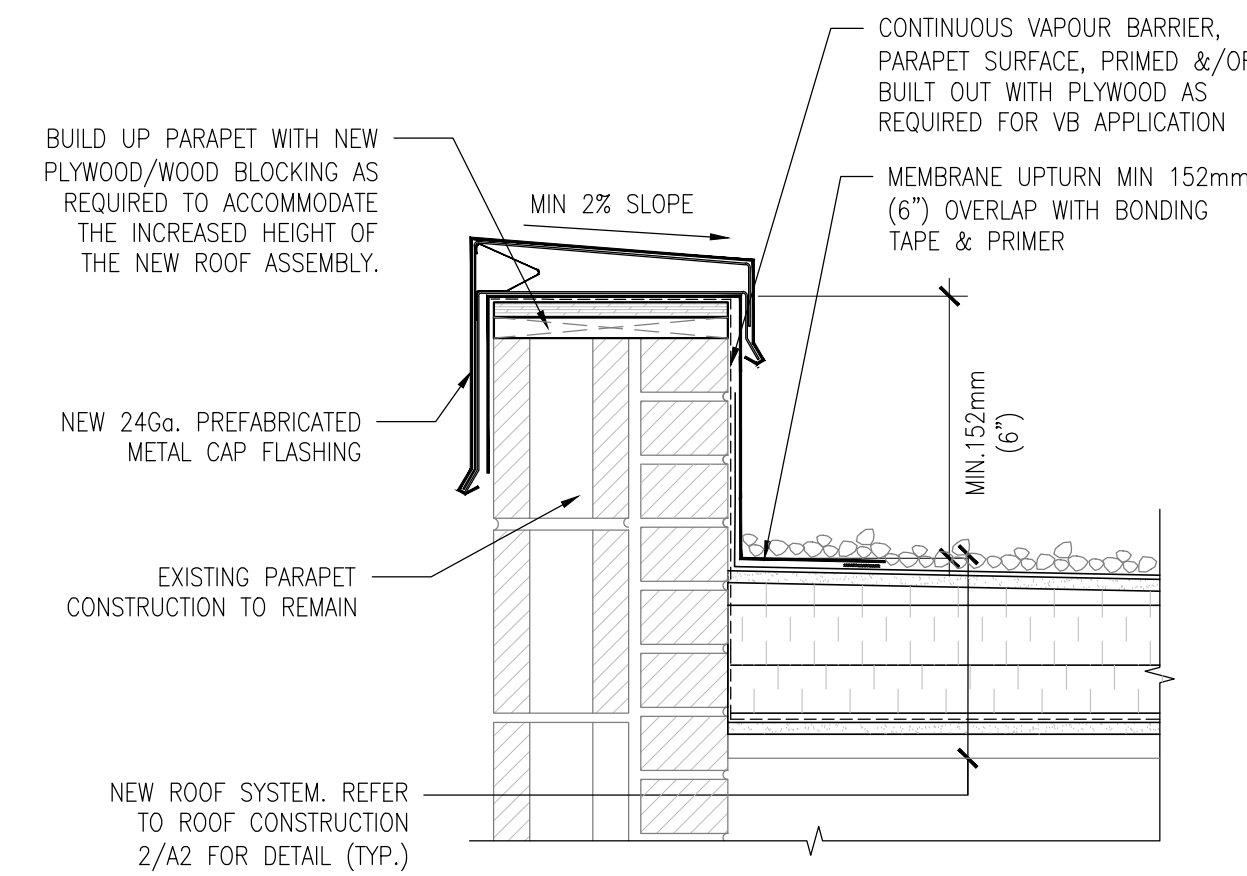
ROOF DETAILS

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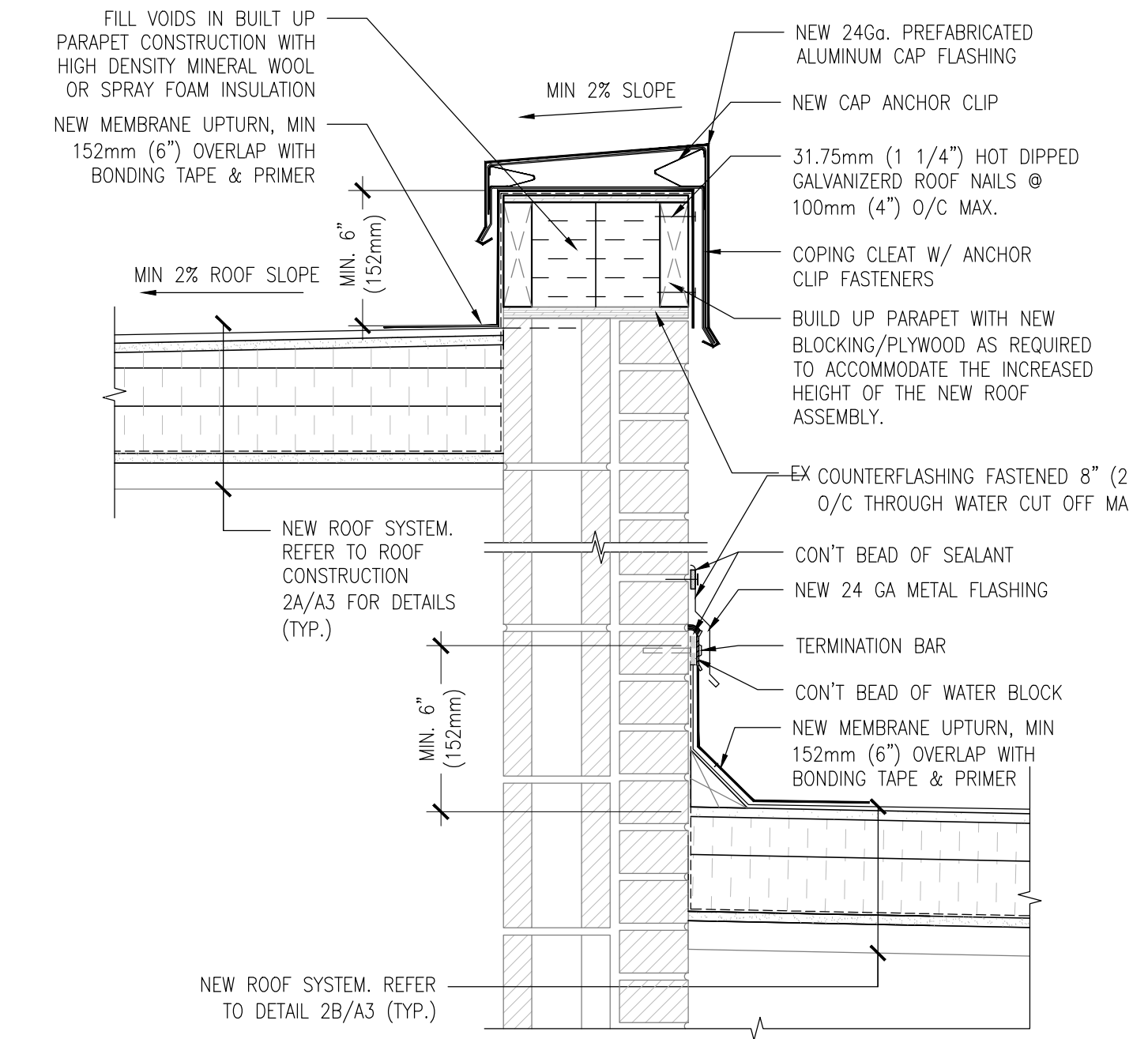
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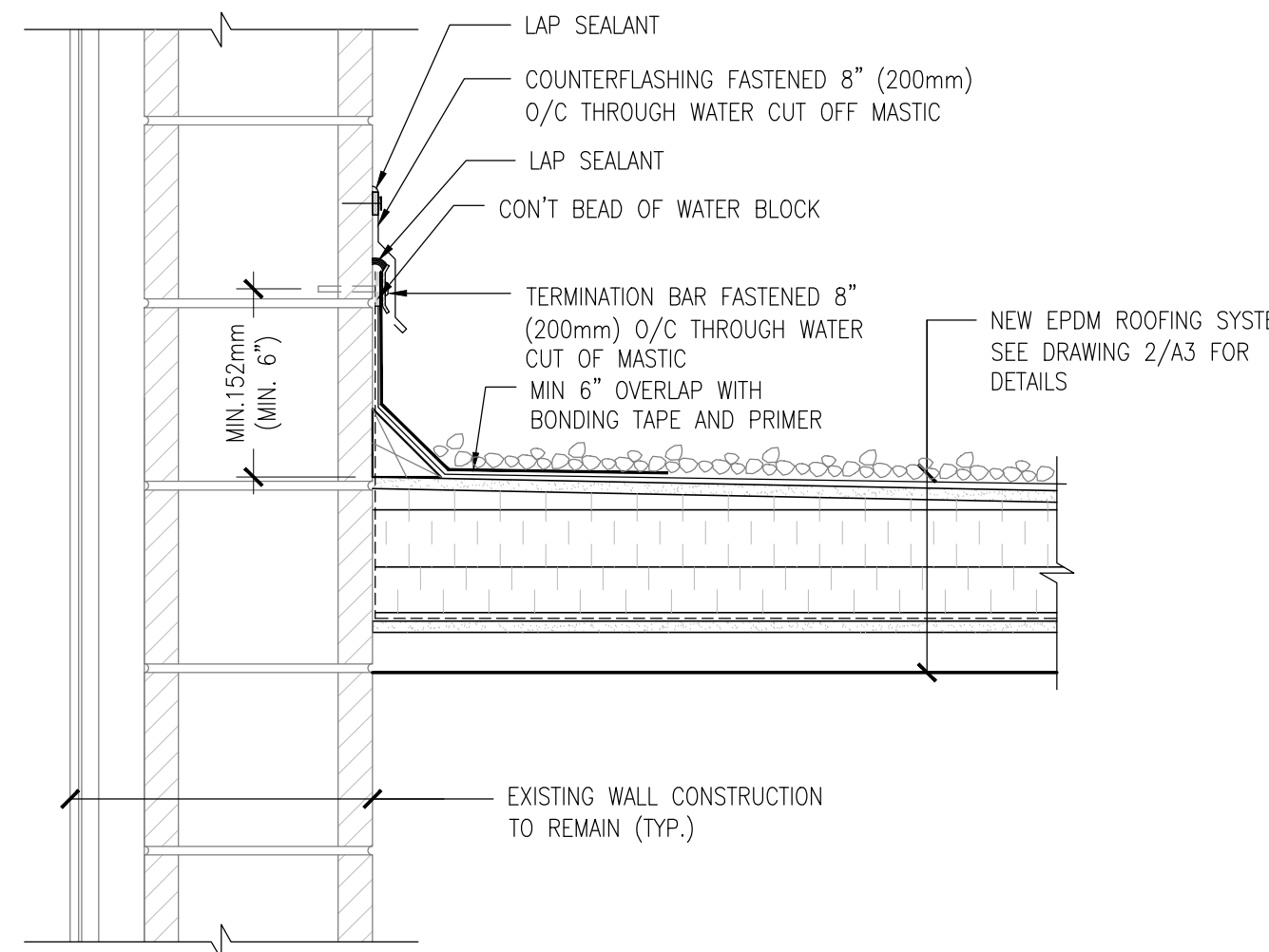
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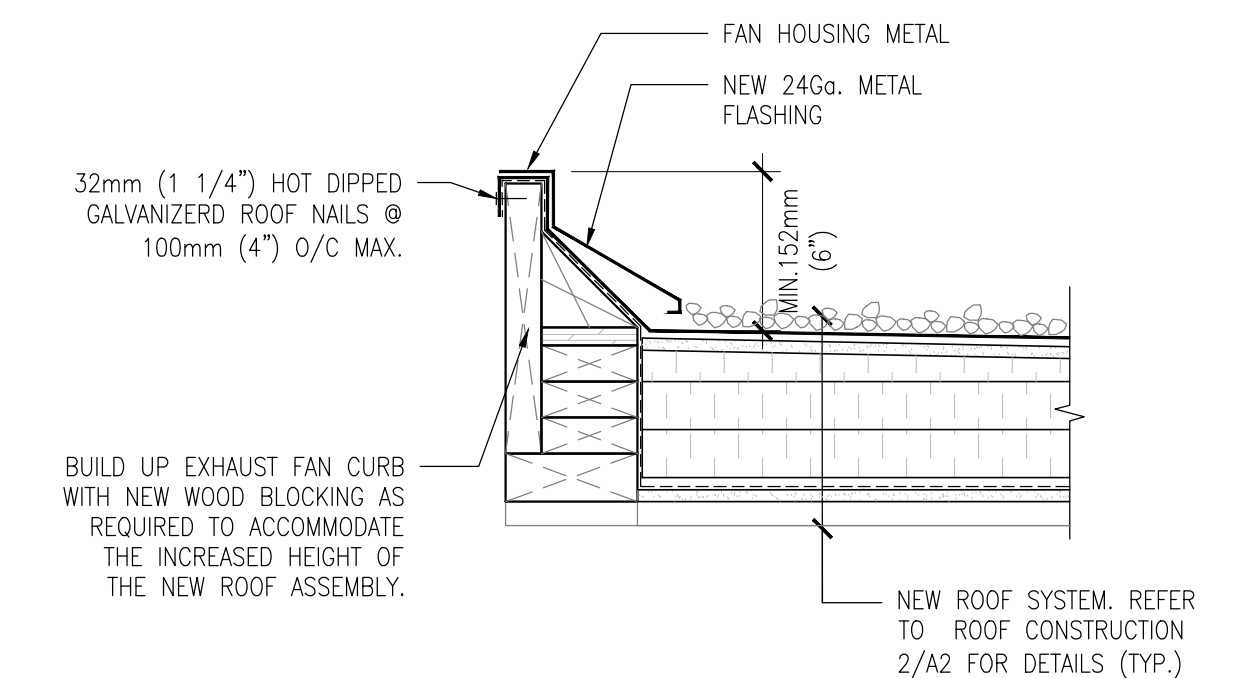
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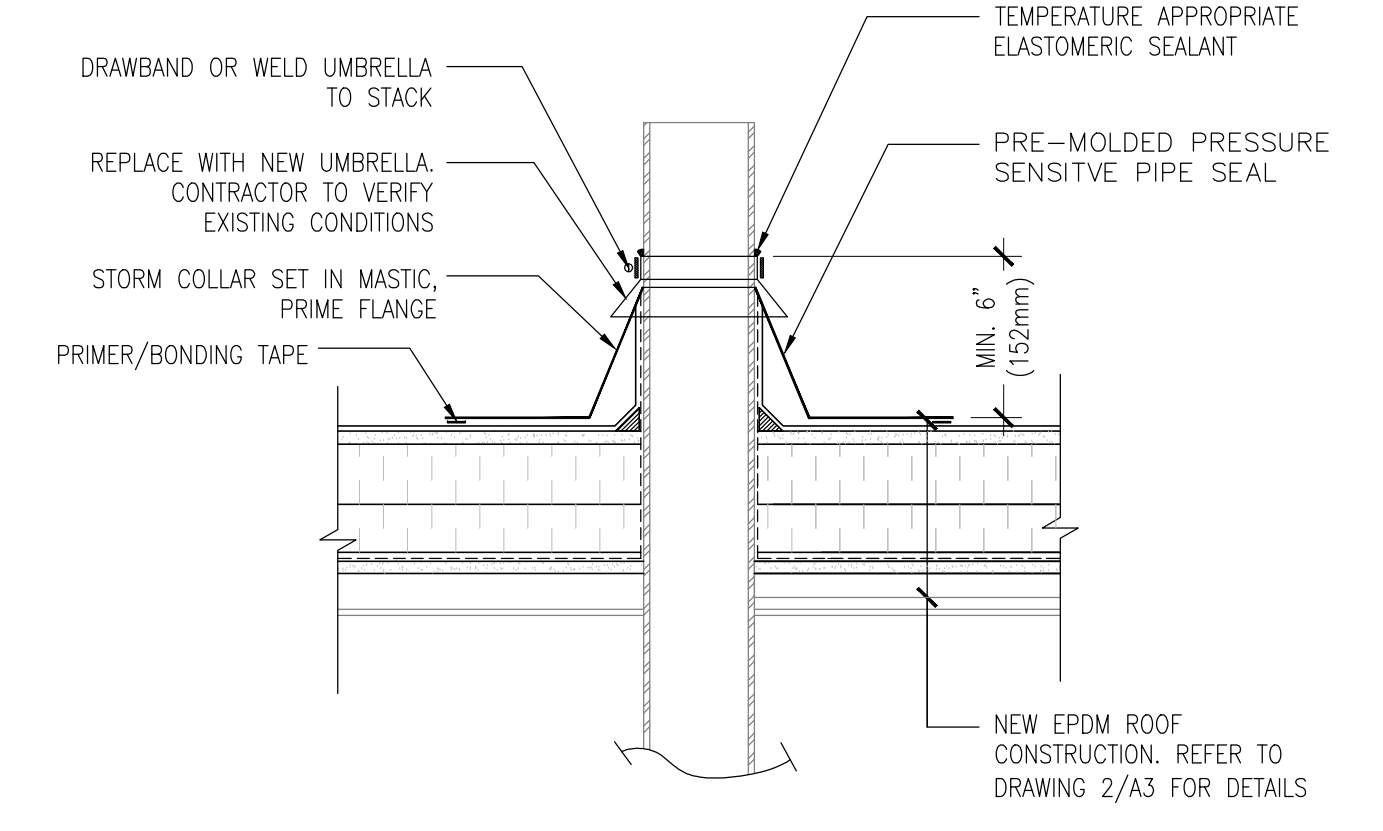
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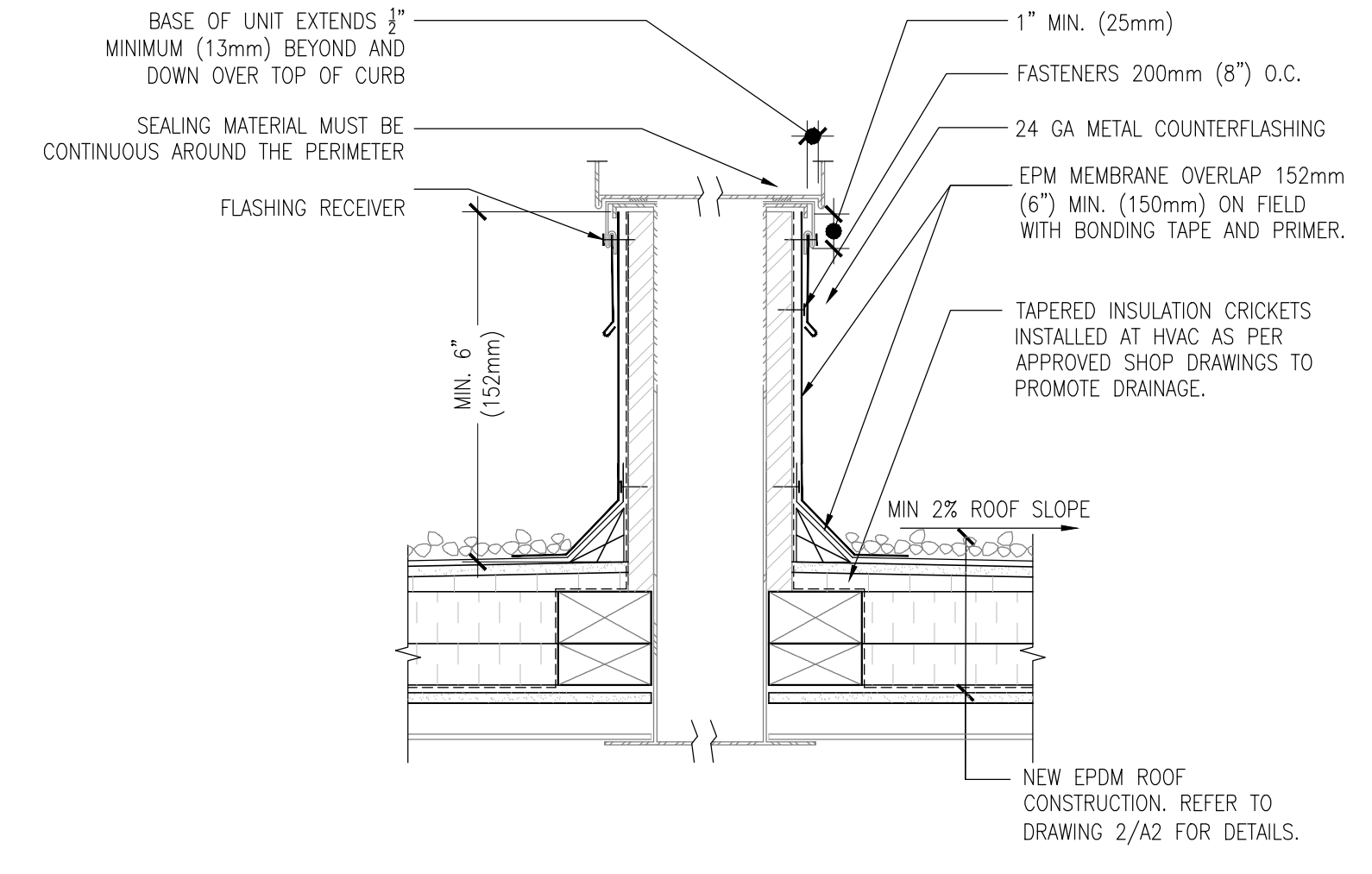
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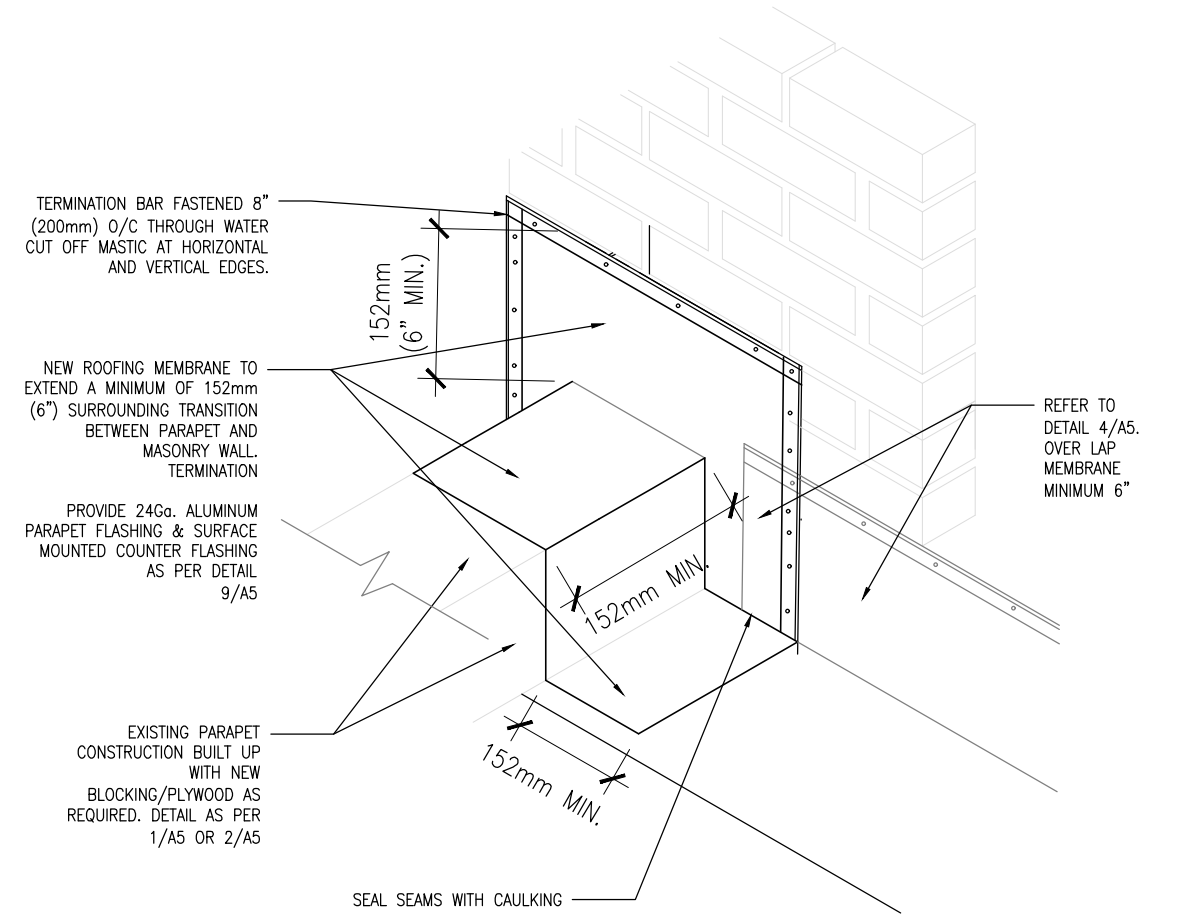
5 EXHAUST FAN DETAIL (TYP.)
A5 SCALE: 1:8



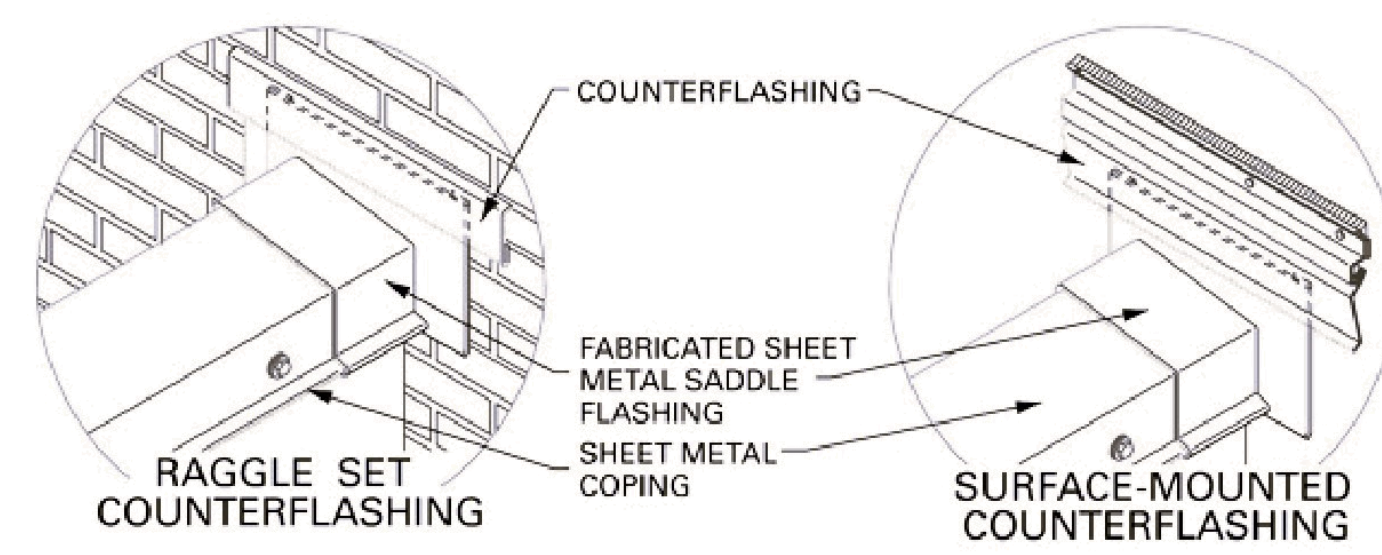
6 ROOF PENETRATION DETAIL (TYP.)
A5 SCALE: 1:8



7 ROOFTOP UNIT CURB DETAIL (TYP.)
A5 SCALE: 1:8



8 PARAPET TRANSITION MEMBRANE DETAIL
A5 SCALE: N.T.S.



9 PARAPET TRANSITION FLASHING DETAIL
A5 SCALE: N.T.S.

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 ROOF REPLACEMENT**

1179 BRONTE RD. OAKVILLE, ON
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ROOF DETAILS

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 Project Number T-683-24

Sheet Number Revision
A5 1

APPENDIX A

HAZARDOUS BUILDING MATERIALS ASSESSMENT (PRE-CONSTRUCTION)



Hazardous Building Materials Assessment (Pre-construction)

Roof Project

Woodlands Operations Centre
1179 Bronte Road, Oakville,
Ontario

Prepared for:

**The Regional Municipality of
Halton**

1151 Bronte Road
Oakville, Ontario, L6M 3L1

February 5, 2024

Pinchin File: 335441.000



Hazardous Building Materials Assessment (Pre-construction)
Woodlands Operations Centre, 1179 Bronte Road, Oakville, Ontario
The Regional Municipality of Halton

February 5, 2024
Pinchin File: 335441.000

Issued to: The Regional Municipality of Halton
Issued on: February 5, 2024
Pinchin File: 335441.000
Issuing Office: Hamilton, ON

A handwritten signature in black ink, appearing to read "Justin Appleby".

Author: Justin Appleby, ADip.T.(Arch)
Project Technologist
289.925.3875
jappleby@pinchin.com

A handwritten signature in black ink, appearing to read "Leslie Heywood".

Reviewer: Leslie Heywood, BEng Mgt
Senior Project Manager
289.237.4294
lheywood@pinchin.com



EXECUTIVE SUMMARY

The Regional Municipality of Halton (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at Woodlands Operations Centre located at 1179 Bronte Road, Oakville, Ontario. Pinchin performed the assessment on January 11, 2024.

The objective of the assessment was to identify specified hazardous building materials in preparation for building renovation. The proposed work as identified by the Client includes replacement and repairs to the roof.

SUMMARY OF FINDINGS

The following is a summary of significant findings; refer to the body of the report for detailed findings:

Asbestos:

Asbestos-containing materials (ACM) were not identified.

Lead:

- Lead is present in low levels in paints and coatings.

Silica: Crystalline silica is present in concrete and other materials such as masonry, drywall, and ceiling tiles.

Mercury: Mercury vapour is not present within the assessed area.

Mould and Water Damage: Visible mould and water damage was not observed.



SUMMARY OF RECOMMENDATIONS

The following is a summary of significant recommendations; refer to the body of the report for detailed recommendations.

1. Conduct further investigation of the following items, which was not completed during this assessment:
 - a. Any items listed as exclusions in this report, prior to disturbance.
2. Do not disturb suspected hazardous building materials discovered during the planned work, which have not been identified in this report and arrange for further evaluation and testing.
3. Follow appropriate safe work procedures when handling or disturbing lead, silica, and mould.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.



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APPENDICES

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APPENDIX II-A	Asbestos Analytical Certificates
APPENDIX II-B	Lead Analytical Certificates
APPENDIX III	Methodology
APPENDIX IV	Location Summary Report
APPENDIX V	Hazardous Materials Summary Report / Sample Log
APPENDIX VI	HMIS All Data Report



1.0 INTRODUCTION AND SCOPE

The Regional Municipality of Halton (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at Woodlands Operations Centre located at 1179 Bronte Road, Oakville, Ontario.

Pinchin performed the assessment on January 11, 2024. The surveyor was accompanied by a representative of the Client during the assessment. The assessed area was occupied at the time of the assessment.

The objective of the assessment was to identify specified hazardous building materials in preparation for building renovation.

The results of this assessment are intended for use with a properly developed scope of work or performance specification.

1.1 Scope of Assessment

The assessed area is limited to the portion(s) of the building to be renovated, as described by the Client, and identified in the drawings in Appendix I.

The assessment was performed to establish the type of specified hazardous building materials, locations and approximate quantities incorporated in the structure(s) and its finishes.

For the purpose of the assessment and this report, hazardous building materials are defined as follows:

- Asbestos
- Lead
- Silica
- Mercury
- Mould

The following Designated Substances are not typically found in building materials in a composition/state that is hazardous and were not included in this assessment:

- Arsenic
- Acrylonitrile
- Benzene
- Coke oven emissions
- Ethylene oxide



- Isocyanates
- Vinyl chloride monomer

2.0 METHODOLOGY

Pinchin conducted a an assessment to identify the hazardous building materials as defined in the scope. Demolition of exterior building finishes, masonry walls (chases, shafts etc.), and structural surrounds was not conducted.

Limited demolition of masonry block walls (core holes) was not conducted to investigate for loose fill vermiculite insulation. Sampling of roofing materials was conducted.

For further details on the methodology including test methods, refer to Appendix III.

3.0 BACKGROUND INFORMATION

3.1 Building Description

Description Item	Details
Use	Operations center
Number of Floors	The building is 2 storeys
Total Area	The total area of the building is approximately 58,000 square feet.
Year of Construction	The building was constructed in 2002.
Structure	Structural steel
Exterior Cladding	Brick and metal
HVAC	Forced air
Roof	Modified bitumen, ethylene propylene diene monomer
Flooring	N/A
Interior Walls	N/A
Ceilings	N/A

3.2 Existing Reports

Pinchin previously prepared the following reports, which have been reviewed as part of this assessment:

- "Asbestos Assessment, Woodlands Operations Centre, 1179 Bronte Road, Oakville, Ontario" dated July 28, 2023 (Pinchin File No. 320580.001).



4.0 FINDINGS

The following section summarizes the findings of the assessment and provides a general description of the hazardous building materials identified. For details on approximate quantities, condition, friability, accessibility, and locations of hazardous building materials; refer to the Hazardous Material Summary / Sample Log and All Data Report in Appendices V and VI.

Any quantities listed in this report or data tables are estimated based on visual approximations only and are subject to variation.

4.1 Asbestos

4.1.1 Pipe Insulation

Pipes in the assessed area are either uninsulated or insulated with non-asbestos fibreglass or other non-asbestos insulation such as mineral fibre or elastomeric foam insulation.

4.1.2 Duct Insulation and Mastic

Ducts are either uninsulated or insulated with non-asbestos fibreglass (foil-faced or canvas jacketing).


Mastic was not observed on exterior sections of ducts assessed.

4.1.3 Mechanical Equipment Insulation



Mechanical equipment is either uninsulated or insulated with non-asbestos fibreglass.

4.1.4 Caulking

The following is a summary of sealants, caulking, and putties sampled, for a complete list of locations, refer to Appendix V.

Material, Description and Application	Sample Location (Location #)	Sample Number	Asbestos	Photo
Caulking, white on ladder	Previously sampled	S0012A-C	None detected	



Material, Description and Application	Sample Location (Location #)	Sample Number	Asbestos	Photo
Caulking, black on roof vents	Previously sampled	S0013A-C	None detected	
Caulking, white around flashing	Roof (Location 16)	S0016A-C	None detected	

Remaining caulking/sealants not sampled were determined by visual assessment to be non-asbestos silicone products.

4.1.5 Roofing Products

The materials associated with the ethylene propylene diene monomer roof system do not contain asbestos (samples S0015A-C, photo 1).

The materials associated with the modified bitumen roof system over the canopies do not contain asbestos (samples S0017A-C, photo 2).



Photo 1



Photo 2

4.1.6 Excluded Materials


The following is a list of materials which may contain asbestos and was excluded from the assessment. These materials are presumed to contain asbestos until otherwise proven by sampling and analysis:

- Electrical components
- Mechanical packing, ropes, and gaskets
- Vermiculite
- Fire resistant doors
- Sealants on pipe threads


4.2 Lead

4.2.1 Paints and Surface Coatings

The following table summarizes the analytical results of paints sampled.

Sample Number	Colour, Substrate Description	Sample Location	Lead (%)	Photo
L0001	Blue, structural steel	Roof (Location 16)	0.097	



Sample Number	Colour, Substrate Description	Sample Location	Lead (%)	Photo
L0002	Yellow, gas pipe	Roof (Location 16)	0.00080	

Results less than or equal to 0.1% (1,000 mg/kg), but equal to or greater than 0.009% (90 mg/kg), are considered low-level lead paints or surface coatings in accordance with the EACC guideline.

Paint containing less than 0.009% (90 mg/kg) lead is assumed to be insignificant.

4.2.2 Lead Products and Applications

Lead products were not found during the assessment.

4.2.3 Excluded Lead Materials

Lead is known to be present in several materials which were not assessed or sampled. The following materials, where found, should be presumed to contain lead.

- Electrical components, including wiring connectors, grounding conductors, and solder
- Solder on pipe connections

4.3 Silica

Crystalline silica is assumed to be a component of the following materials where present in the building.

- Concrete
- Masonry and mortar
- Asphalt

4.4 Mercury

4.4.1 Lamps

Mercury vapour is present in fluorescent lamp tubes within the building.

4.5 Mould and Water Damage

Visible mould growth and water damage was not found during the assessment.



5.0 RECOMMENDATIONS

5.1 General

1. If suspected hazardous building materials are discovered during the planned work, which are not identified in this report, do not disturb, and arrange for further testing and evaluation.
2. Conduct further investigation of the following items, areas, or locations, which were not completed during this assessment:
 - a. Any items listed as exclusions in this report, prior to disturbance.
3. Provide this report to the contractor prior to bidding or commencing work.

5.2 Remedial Work

Remedial work is not recommended.

5.3 Building Renovation Work

The following recommendations are made regarding renovation involving the hazardous materials identified.

5.3.1 Lead

For paints identified as having low levels of lead (i.e., equal to or above 0.009% (90 mg/kg) but less than or equal to the EACC guideline of 0.1% (1,000 mg/kg) for lead-containing paints) special precautions are not recommended unless aggressive disturbance (grinding, blasting, torching) is planned. Exposure from construction disturbance of paints containing lead less than 0.009% (90 mg/kg) is assumed to be insignificant.

Items painted with paints containing elevated levels of lead may be a hazardous waste. Test lead-painted materials for leachable lead and other metals prior to disposal. Metallic components coated with lead paint do not require leachate testing and can be disposed of as non-hazardous construction and demolition (C&D) waste.

Dispose of painted materials exceeding the criteria for leachable lead as hazardous waste.

Lead-containing items should be recycled when taken out of service.

5.3.2 Silica

Construction disturbance of silica-containing products may result in excessive exposures to airborne silica, especially if performed indoors and dry. Cutting, grinding, drilling or demolition of materials



containing silica should be completed only with proper respiratory protection and other worker safety precautions that comply with applicable regulations and guidelines.

6.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

7.0 REFERENCES

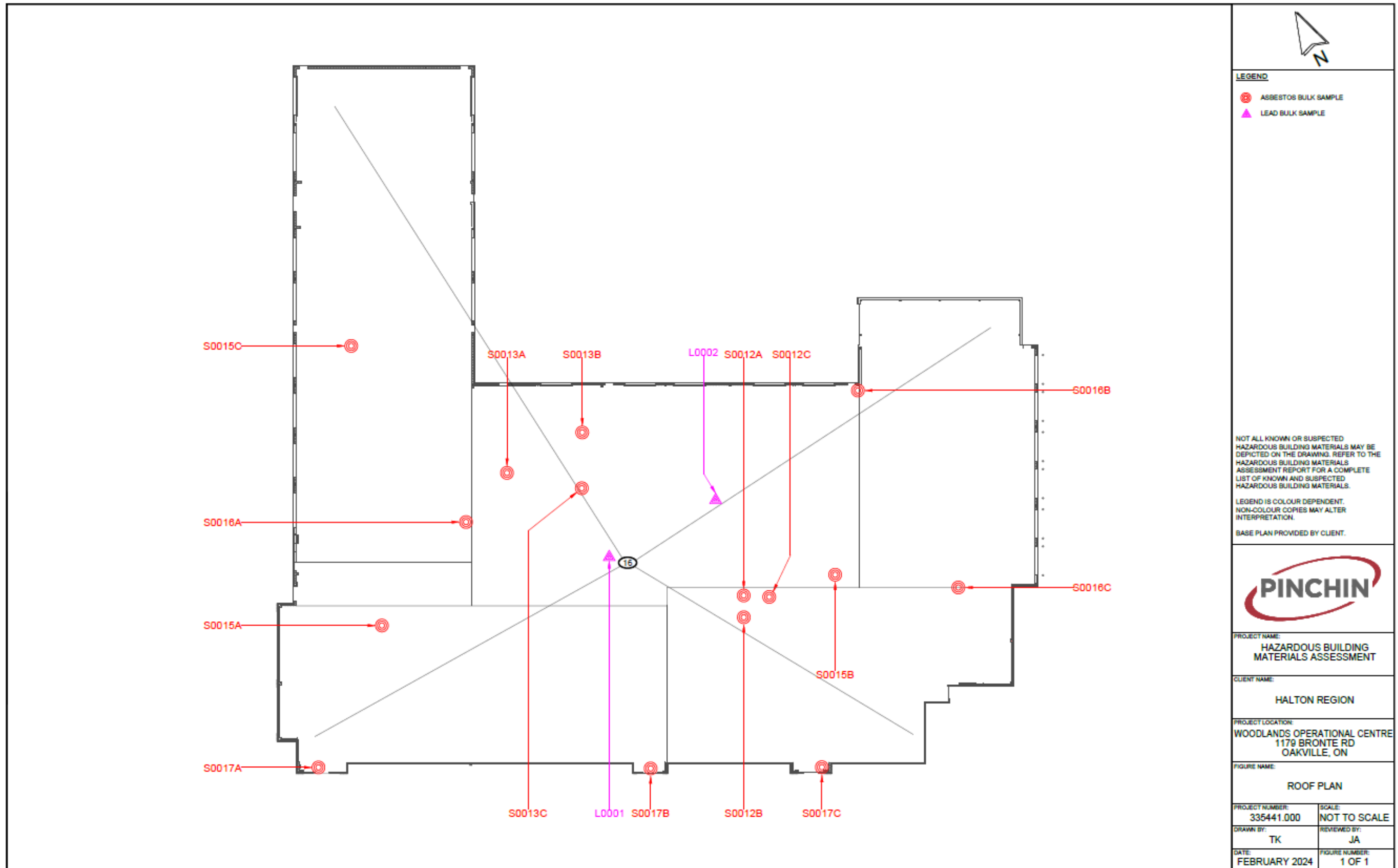
The following legislation and documents were referenced in completing the assessment and this report:

1. Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05.
2. Designated Substances, Ontario Regulation 490/09.
3. Lead on Construction Projects, Ministry of Labour Guidance Document.
4. The Environmental Abatement Council of Canada (EACC) Lead Guideline for Construction, Renovation, Maintenance or Repair.
5. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 347 as amended.
6. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 362 as amended.
7. Silica on Construction Projects, Ministry of Labour Guidance Document.
8. Alert – Mould in Workplace Buildings, Ontario Ministry of Labour.
9. Surface Coating Materials Regulations, SOR/2016-193, Canada Consumer Product Safety Act.
10. Consolidated Transportation of Dangerous Goods Regulations, including Amendment SOR/2019-101, Transportation of Dangerous Goods Act.
11. Mould Guidelines for the Canadian Construction Industry, Standard Construction Document CCA 82 – 2004 (Revised 2018), Canadian Construction Association.

\\PIN-HAM-FS02\job\335000s\0335441.000 HALTON,1179BronteRd,WOC,ROOF,HAZ,ASSMT\Deliverables\335441 Report HBMA Roof WOC-1179 Bronte Rd Oakville HALTON Feb 5 2024.docx

Template: Master Report for Hazardous Materials Assessment (Pre-Construction), HAZ, October 31, 2022

APPENDIX I
Drawings



LEGEND

- ASBESTOS BULK SAMPLE
- ▲ LEAD BULK SAMPLE

NOT ALL KNOWN OR SUSPECTED HAZARDOUS BUILDING MATERIALS MAY BE DEPICTED ON THE DRAWING. REFER TO THE HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT FOR A COMPLETE LIST OF KNOWN AND SUSPECTED HAZARDOUS BUILDING MATERIALS.

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

BASE PLAN PROVIDED BY CLIENT.



PROJECT NAME: HAZARDOUS BUILDING MATERIALS ASSESSMENT	
CLIENT NAME: HALTON REGION	
PROJECT LOCATION: WOODLANDS OPERATIONAL CENTRE 1179 BRONTE RD OAKVILLE, ON	
FIGURE NAME: ROOF PLAN	
PROJECT NUMBER: 335441.000	SCALE: NOT TO SCALE
DRAWN BY: TK	REVIEWED BY: JA
DATE: FEBRUARY 2024	FIGURE NUMBER: 1 OF 1

APPENDIX II-A
Asbestos Analytical Certificates



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	Halton, Woodlands Operations Centre, ON		
Project No.:	0335441.000		
Prepared For:	J. Appleby / L. Heywood		
Lab Reference No.:	b307010 Revision 1		
Analyst(s):	T. Ly		
Date Received:	January 16, 2024	Samples Submitted:	6
Date Analyzed:	January 22, 2024	Phases Analyzed:	10

The Pinchin Ltd. Mississauga asbestos laboratory is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0) for the 'EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples,' and the 'EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials'; and meets all requirements of ISO/IEC 17025:2017. The Pinchin asbestos laboratory uses the aforementioned methods of analysis.

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with provincial regulatory requirements where applicable. Multiple phases within a sample are analyzed and reported separately.

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

This report relates only to the items tested.

Revision History:

Revision 1 (2024-02-05)	Samples S0015D-F changed to S0017A-C
-------------------------	--------------------------------------

This report relates only to the items tested and is valid only when signed with a protected, authorized, electronic signature. This report may not be reproduced, except in full, without the written approval of Pinchin Ltd. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. Internal verification studies, quality assurance / control data and laboratory documentation on measurement uncertainty are available upon request.

PINCHIN LTD. | 2555 MEADOWPINE BLVD., UNIT 2, MISSISSAUGA, ON L5N 6C3 | TEL: (905) 363-0878



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Halton, Woodlands Operations Centre, ON
 Project No.: 0335441.000
 Prepared For: J. Appleby / L. Heywood

Lab Reference No.: b307010 Revision 1
 Date Analyzed: January 22, 2024

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0015A Roofing Material, Loc:16, Roof	2 Phases: a) Non-homogeneous, grey, paper.	None Detected	Cellulose > 75% Man-Made Vitreous Fibres 5-10% Non-Fibrous Material 5-10%
	b) Homogeneous, black, rubbery material.	None Detected	Non-Fibrous Material > 75%
Comments:	Foam blocks are present on the surface of this sample.		
S0015B Roofing Material, Loc:16, Roof	3 Phases: a) Homogeneous, brown, paper with tar.	None Detected	Cellulose > 75% Tar and other Non- Fibrous Material 10-25%
	b) Non-homogeneous, grey, paper.	None Detected	Cellulose > 75% Man-Made Vitreous Fibres 5-10% Non-Fibrous Material 5-10%
	c) Homogeneous, black, rubbery material.	None Detected	Non-Fibrous Material > 75%
Comments:	Foam blocks are present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Halton, Woodlands Operations Centre, ON
 Project No.: 0335441.000
 Prepared For: J. Appleby / L. Heywood

Lab Reference No.: b307010 Revision 1
 Date Analyzed: January 22, 2024

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0015C Roofing Material, Loc:16, Roof	2 Phases: a) Homogeneous, brown, layered, paper with tar.	None Detected	Cellulose 25-50% Tar and other Non-Fibrous Material 50-75%
	b) Non-homogeneous, grey, paper.	None Detected	Cellulose > 75% Man-Made Vitreous Fibres 5-10% Non-Fibrous Material 5-10%
Comments:	Foam blocks are present on the surface of this sample.		
S0017A Roofing Material, Canopy, Loc:16, Roof	Homogeneous, black, roofing material.	None Detected	Synthetic Fibres 25-50% Man-Made Vitreous Fibres 0.5-5% Tar and other Non-Fibrous Material 50-75%
S0017B Roofing Material, Canopy, Loc:16, Roof	Homogeneous, black, roofing material.	None Detected	Synthetic Fibres 25-50% Man-Made Vitreous Fibres 0.5-5% Tar and other Non-Fibrous Material 50-75%
S0017C Roofing Material, Canopy, Loc:16, Roof	Homogeneous, black, roofing material.	None Detected	Synthetic Fibres 25-50% Man-Made Vitreous Fibres 0.5-5% Tar and other Non-Fibrous Material 50-75%

Analysed by: *RL*
 Reviewed by: *HC*
 Report sent by: *HRB*

**Pinchin Ltd. - Asbestos Laboratory
 Internal Asbestos Bulk Sample Chain of Custody**

Client Name:	Halton		Project Address:	ON	
Portfolio/Building No:	Woodlands Operations Centre		Pinchin File:	335441	
Submitted by:	Justin Appleby		Email:	jappleby@pinchin.com	
CC Results to:	Leslie Heywood		CC Email:	lheywood@pinchin.com	
Date Submitted:	January	12	2024	Required by:	January 19 2024
# of Samples:	<i>6 Split 1/2</i>		Priority:	5 Day Turnaround	
Year of Building Construction (Mandatory, Years ONLY):	2002				
Do NOT Stop on Positive (Sample Numbers):					
Pinchin Group Company (Mandatory Field):	Pinchin				
HMIS2 Building Reference #:	129058/20240827469182				
To be Completed by Lab Personnel Only:					
Lab Reference #:	<i>63070104</i>		Time:	24 hour clock	
Received by:	<i>JAN 16 2024</i>		Date:	Month	Day Year
Name(s) of Analyst(s):	<i>RL</i>		<i>1 22 24</i>		
Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)		
S	0015	A	Roofing Material, Loc: 16, Roof <i>AND BND</i>		
S	0015	B	Roofing Material, Loc: 16, Roof <i>AND BND BND</i>		
S	0015	C	Roofing Material, Loc: 16, Roof <i>AND BND</i>		
S	0015	D	Roofing Material, Canopy, Loc: 16, Roof <i>ND</i>		
S	0015	E	Roofing Material, Canopy, Loc: 16, Roof <i>ND</i>		
S	0015	F	Roofing Material, Canopy, Loc: 16, Roof <i>ND</i>		
S	0016	A	Caulking, White Around Flashing/rfus, Loc: 16, Roof		

10



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Pinchin Ltd.
6-875 Main St West, Suite 200
Hamilton, ON L8S 4R9

Attn: Justin Appleby
Leslie Heywood

Lab Order ID: 10022108
Analysis: PLM
Date Received: 04/27/2023
Date Reported: 05/05/2023

Project: Halton Building 13

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0007A	Wall,Paint,Concrete Block,Loc:12,Vestibule / Office Space	None Detected		100% Other	White Non-Fibrous Heterogeneous
10022108_0001					Dissolved
S0007B	Wall,Paint,Concrete Block,Loc:12,Vestibule / Office Space	None Detected		100% Other	White Non-Fibrous Heterogeneous
10022108_0002					Dissolved
S0007C	Wall,Paint,Concrete Block,Loc:19,Training Room	None Detected		100% Other	White Non-Fibrous Heterogeneous
10022108_0003					Dissolved
S0007D	Wall,Paint,Concrete Block,Loc:10,Office Space	None Detected		100% Other	Beige Non-Fibrous Heterogeneous
10022108_0004					Dissolved
S0007E	Wall,Paint,Concrete Block,Loc:20,Mechanic Shop 2	None Detected		100% Other	White Non-Fibrous Heterogeneous
10022108_0005					Dissolved
S0007F	Wall,Paint,Concrete Block,Loc:20,Mechanic Shop 2	None Detected		100% Other	White Non-Fibrous Heterogeneous
10022108_0006					Dissolved
S0007G	Wall,Paint,Concrete Block,Loc:18,Corridor	None Detected		100% Other	White Non-Fibrous Heterogeneous
10022108_0007					Dissolved
S0008A	Firestopping (friable) .Cementitious,Loc:15,Mechan ical Room	None Detected		100% Other	Gray Non-Fibrous Heterogeneous
10022108_0008					Crushed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Eloisa Blake (39)

Analyst
Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App E



Customer: Pinchin Ltd.
6-875 Main St West, Suite 200
Hamilton, ON L8S 4R9

Attn: Justin Appleby
Leslie Heywood

Lab Order ID: 10022108
Analysis: PLM
Date Received: 04/27/2023
Date Reported: 05/05/2023

Project: Halton Building 13

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0008B	Firestopping (friable) Cementitious, Loc: 15, Mechanical Room	None Detected		100% Other	Gray Non-Fibrous Heterogeneous
10022108_0009					Crushed
S0008C	Firestopping (friable) Cementitious, Loc: 15, Mechanical Room	None Detected		100% Other	Gray Non-Fibrous Heterogeneous
10022108_0010					Crushed
S0009A - A	Floor, Vinyl Floor Tile And Mastic, 12x12 Beige With Brown Fleck, Loc: 17, Communication	None Detected		100% Other	Beige Non-Fibrous Heterogeneous
10022108_0011	tile				Dissolved
S0009A - B	Floor, Vinyl Floor Tile And Mastic, 12x12 Beige With Brown Fleck, Loc: 17, Communication	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0037	mastic				Dissolved
S0009B - A	Floor, Vinyl Floor Tile And Mastic, 12x12 Beige With Brown Fleck, Loc: 17, Communication	None Detected		100% Other	Beige Non-Fibrous Heterogeneous
10022108_0012	tile				Dissolved
S0009B - B	Floor, Vinyl Floor Tile And Mastic, 12x12 Beige With Brown Fleck, Loc: 17, Communication	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0038	mastic				Dissolved
S0009C - A	Floor, Vinyl Floor Tile And Mastic, 12x12 Beige With Brown Fleck, Loc: 12, Vestibule / Offi	None Detected		100% Other	Beige Non-Fibrous Heterogeneous
10022108_0013	tile - ashed				Ashed
S0009C - B	Floor, Vinyl Floor Tile And Mastic, 12x12 Beige With Brown Fleck, Loc: 12, Vestibule / Offi	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0039	mastic				Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Eloisa Blake (39)

Analyst

Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Pinchin Ltd.
6-875 Main St West, Suite 200
Hamilton, ON L8S 4R9

Attn: Justin Appleby
Leslie Heywood

Lab Order ID: 10022108

Analysis: PLM

Date Received: 04/27/2023

Project: Halton Building 13

Date Reported: 05/05/2023

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0010A	Wall,Drywall And Joint Compound,Loc:12,Vestibule / Office Space	None Detected		100% Other	White Non-Fibrous Homogeneous
10022108_0014					Crushed
S0010B	Wall,Drywall And Joint Compound,Loc:12,Vestibule / Office Space	None Detected		100% Other	White Non-Fibrous Homogeneous
10022108_0015					Crushed
S0010C	Wall,Drywall And Joint Compound,Loc:10,Office Space	None Detected		100% Other	White Non-Fibrous Homogeneous
10022108_0016					Crushed
S0010D	Wall,Drywall And Joint Compound,Loc:12,Vestibule / Office Space	None Detected		100% Other	White Non-Fibrous Homogeneous
10022108_0017					Crushed
S0010E	Wall,Drywall And Joint Compound,Loc:12,Vestibule / Office Space	None Detected		100% Other	White Non-Fibrous Homogeneous
10022108_0018					Crushed
S0010F	Wall,Drywall And Joint Compound,Loc:10,Office Space	None Detected		100% Other	White Non-Fibrous Homogeneous
10022108_0019					Crushed
S0010G	Wall,Drywall And Joint Compound,Loc:10,Office Space	None Detected		100% Other	White Non-Fibrous Homogeneous
10022108_0020					Crushed
S0011A	Structure,Fireproofing (fibrous),Loc:12,Vestibule / Office Space	None Detected	75% Fiber Glass	25% Other	Gray Fibrous Heterogeneous
10022108_0021					Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Eloisa Blake (39)

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Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Pinchin Ltd.
6-875 Main St West, Suite 200
Hamilton, ON L8S 4R9

Attn: Justin Appleby
Leslie Heywood

Lab Order ID: 10022108
Analysis: PLM
Date Received: 04/27/2023
Date Reported: 05/05/2023

Project: Halton Building 13

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0011B	Structure, Fireproofing (fibrous), Loc: 12, Vestibule / Office Space	None Detected	75% Fiber Glass	25% Other	Gray Fibrous Heterogeneous
10022108_0022					Teased
S0011C	Structure, Fireproofing (fibrous), Loc: 12, Vestibule / Office Space	None Detected	75% Fiber Glass	25% Other	Gray Fibrous Heterogeneous
10022108_0023					Teased
S0011D	Structure, Fireproofing (fibrous), Loc: 12, Vestibule / Office Space	None Detected	75% Fiber Glass	25% Other	Gray Fibrous Heterogeneous
10022108_0024					Teased
S0011E	Structure, Fireproofing (fibrous), Loc: 18, Corridor	None Detected	75% Fiber Glass	25% Other	Gray Fibrous Heterogeneous
10022108_0025					Teased
S0011F	Structure, Fireproofing (fibrous), Loc: 18, Corridor	None Detected	75% Fiber Glass	25% Other	Gray Fibrous Heterogeneous
10022108_0026					Teased
S0011G	Structure, Fireproofing (fibrous), Loc: 18, Corridor	None Detected	75% Fiber Glass	25% Other	Gray Fibrous Heterogeneous
10022108_0027					Teased
S0012A	Caulking, White On Ladder, Loc: 16, Roof	None Detected		100% Other	White, Black Non-Fibrous Homogeneous
10022108_0028					Dissolved
S0012B	Caulking, White On Ladder, Loc: 16, Roof	None Detected		100% Other	White, Black Non-Fibrous Homogeneous
10022108_0029					Dissolved

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Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Pinchin Ltd.
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Hamilton, ON L8S 4R9

Attn: Justin Appleby
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Lab Order ID: 10022108
Analysis: PLM
Date Received: 04/27/2023
Date Reported: 05/05/2023

Project: Halton Building 13

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0012C	Caulking, White On Ladder, Loc: 16, Roof	None Detected		100% Other	White, Black Non-Fibrous Homogeneous
10022108_0030					Dissolved
S0013A	Caulking, Black On Roof Vents, Loc: 16, Roof	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0031					Dissolved
S0013B	Caulking, Black On Roof Vents, Loc: 16, Roof	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0032					Dissolved
S0013C	Caulking, Black On Roof Vents, Loc: 16, Roof	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0033					Dissolved
S0014A	Door, Caulking, Butyl, Loc: 12, Vestibule / Office Space	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0034					Dissolved
S0014B	Door, Caulking, Butyl, Loc: 12, Vestibule / Office Space	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0035					Dissolved
S0014C	Window, Caulking, Butyl, Loc: 12, Vestibule / Office Space	None Detected		100% Other	Black Non-Fibrous Homogeneous
10022108_0036					Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.


Eloisa Blake (39)

Analyst
Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Approved Signatory

10022103

Version 1-15-2012

<p>Client: Pinchin Ltd. Contact: Justin Appleby / Leslie Heywood Address: ON Phone: Fax: Email: jappleby@pinchin.com thevwood@pinchin.com</p> <p>Project: Halton Building 13 NO STOP POSITIVES. Perform ashing on third vinyl floor tile if first two are ND.</p> <p>Client Notes:</p> <p>P.O. #: 320580.001 Date Submitted: 04-25-2023</p> <p>Analysis: PLM BULK EPA 600 TurnAroundTime: 6+ days</p>	<p>Instructions: Use Column "B" for your contact info To See an Example Click the bottom Example Tab.</p> <p>Begin Samples with a "<<" above the first sample and end with a ">>" below the last sample. Only Enter your data on the first sheet "Sheet1"</p> <p><i>Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.</i></p>	<p>Scientific Analytical Institute</p>  <p>4604 Dundas Dr. Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313 Email: lab@saiilab.com</p>
---	---	---

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
S0007A		Wall,Paint,Concrete Block,Loc:12,Vestibule / Office Space	
S0007B		Wall,Paint,Concrete Block,Loc:12,Vestibule / Office Space	
S0007C		Wall,Paint,Concrete Block,Loc:19,Training Room	
S0007D		Wall,Paint,Concrete Block,Loc:10,Office Space	
S0007E		Wall,Paint,Concrete Block,Loc:20,Mechanic Shop 2	
S0007F		Wall,Paint,Concrete Block,Loc:20,Mechanic Shop 2	
S0007G		Wall,Paint,Concrete Block,Loc:18,Corridor	
S0008A		Firestopping (friable),Cementitious,Loc:15,Mechanical Room	
S0008B		Firestopping (friable),Cementitious,Loc:15,Mechanical Room	
S0008C		Firestopping (friable),Cementitious,Loc:15,Mechanical Room	
S0009A		Floor,Vinyl Floor Tile And Mastic,12x12 Beige With Brown Fleck,Loc:17,Communications Rm	
S0009B		Floor,Vinyl Floor Tile And Mastic,12x12 Beige With Brown Fleck,Loc:17,Communications Rm	
S0009C		Floor,Vinyl Floor Tile And Mastic,12x12 Beige With Brown Fleck,Loc:12,Vestibule / Office Spc	
S0010A		Wall,Drywall And Joint Compound,Loc:12,Vestibule / Office Space	
S0010B		Wall,Drywall And Joint Compound,Loc:12,Vestibule / Office Space	
S0010C		Wall,Drywall And Joint Compound,Loc:10,Office Space	
S0010D		Wall,Drywall And Joint Compound,Loc:12,Vestibule / Office Space	
S0010E		Wall,Drywall And Joint Compound,Loc:12,Vestibule / Office Space	
S0010F		Wall,Drywall And Joint Compound,Loc:10,Office Space	
S0010G		Wall,Drywall And Joint Compound,Loc:10,Office Space	
S0011A		Structure,Fireproofing (fibrous),Loc:12,Vestibule / Office Space	
S0011B		Structure,Fireproofing (fibrous),Loc:12,Vestibule / Office Space	
S0011C		Structure,Fireproofing (fibrous),Loc:12,Vestibule / Office Space	
S0011D		Structure,Fireproofing (fibrous),Loc:12,Vestibule / Office Space	
S0011E		Structure,Fireproofing (fibrous),Loc:18,Corridor	
S0011F		Structure,Fireproofing (fibrous),Loc:18,Corridor	
S0011G		Structure,Fireproofing (fibrous),Loc:18,Corridor	
S0012A		Caulking,White On Ladder,Loc:16,Roof	
S0012B		Caulking,White On Ladder,Loc:16,Roof	
S0012C		Caulking,White On Ladder,Loc:16,Roof	
S0013A		Caulking,Black On Roof Vents,Loc:16,Roof	
S0013B		Caulking,Black On Roof Vents,Loc:16,Roof	
S0013C		Caulking,Black On Roof Vents,Loc:16,Roof	
S0014A		Door,Caulking,Butyl,Loc:12,Vestibule / Office Space	
S0014B		Door,Caulking,Butyl,Loc:12,Vestibule / Office Space	
S0014C		Window,Caulking,Butyl,Loc:12,Vestibule / Office Space	
>>			

Accepted

Rejected

[Signature]

4/27 1030

APPENDIX II-B
Lead Analytical Certificates



Your Project #: 335441

Your C.O.C. #: n/a

Attention: Leslie Heywood

Pinchin Ltd
151 York Boulevard
Suite 200
Hamilton, ON
CANADA L8R 3M2

Report Date: 2024/02/01

Report #: R8011812

Version: 1 - Final

CERTIFICATE OF ANALYSIS**BUREAU VERITAS JOB #: C424914**

Received: 2024/01/25, 09:38

Sample Matrix: Solid
Samples Received: 2

Analyses	Date		Laboratory Method	Analytical Method	
	Quantity	Date			Extracted
Metals in Paint	2	2024/01/30	2024/01/31	CAM SOP-00408	EPA 6010D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your Project #: 335441
Your C.O.C. #: n/a

Attention: Leslie Heywood

Pinchin Ltd
151 York Boulevard
Suite 200
Hamilton, ON
CANADA L8R 3M2

Report Date: 2024/02/01
Report #: R8011812
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C424914
Received: 2024/01/25, 09:38

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Nilushi Mahathantila, Project Manager
Email: Nilushi.Mahathantila@bureauveritas.com
Phone# (905) 817-5700

=====

This report has been generated and distributed using a secure automated process.

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Total Cover Pages : 2
Page 2 of 7

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.



Bureau Veritas Job #: C424914
 Report Date: 2024/02/01

Pinchin Ltd
 Client Project #: 335441
 Sampler Initials: JA

ELEMENTS BY ATOMIC SPECTROSCOPY (SOLID)

Bureau Veritas ID		YFD856		YFD857		
Sampling Date		2024/01/23 09:30		2024/01/23 09:30		
COC Number		n/a		n/a		
	UNITS	L0001, BLUE, LOC:16, ROOF	RDL	L0002, YELLOW PAINT ON A GAS PIPE, LOC:16, ROOF	RDL	QC Batch
Metals						
Lead (Pb)	%	0.097	0.00063	0.00080	0.00014	9189804
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						



Bureau Veritas Job #: C424914
Report Date: 2024/02/01

Pinchin Ltd
Client Project #: 335441
Sampler Initials: JA

GENERAL COMMENTS

Sample YFD856 [L0001, BLUE, LOC:16, ROOF] : Metals Analysis: Due to limited amount of sample available for analysis, a smaller than usual portion of the sample was used. Detection limits were adjusted accordingly.

Sample YFD857 [L0002, YELLOW PAINT ON A GAS PIPE, LOC:16, ROOF] : Metals Analysis: Due to limited amount of sample available for analysis, a smaller than usual portion of the sample was used. Detection limits were adjusted accordingly.

Results relate only to the items tested.



Bureau Veritas Job #: C424914
Report Date: 2024/02/01

Pinchin Ltd
Client Project #: 335441
Sampler Initials: JA

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9189804	MEN	Matrix Spike	Lead (Pb)	2024/01/31		NC	%	75 - 125
9189804	MEN	QC Standard	Lead (Pb)	2024/01/31		92	%	75 - 125
9189804	MEN	Method Blank	Lead (Pb)	2024/01/31	<0.00010		%	
9189804	MEN	RPD	Lead (Pb)	2024/01/31	0.99		%	35

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)



Bureau Veritas Job #: C424914
Report Date: 2024/02/01

Pinchin Ltd
Client Project #: 335441
Sampler Initials: JA

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read 'Anastassia Hamanov', written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



6740 Campobello Road, Mississauga, Ontario L5N 2L8
 Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6256
 CAM FCD-01151/6

CHAIN OF CUSTODY RECORD

Page ____ of ____

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required	
Company Name: Pinchin Ltd.		Company Name:		Quotation #:		<input checked="" type="checkbox"/> Regular TAT (5-7 days) Most analyses	
Contact Name: Justin Appleby / Leslie Heywood		Contract Name:		P.O. # / A/E/R:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS	
Address:		Address:		Project #: 335441		Rush TAT (Surcharges will be applied)	
Phone: Fax:		Phone: Fax:		Site Location:		<input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3-4 Days	
Email: jappleby@pinchin.com / lheywood@pinchin.com		Email:		Site #:		Date Required: January 29th 2024	
WE REGULATE DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION ONLY BE SUBMITTED TO THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY		Sampled By: Justin Appleby		Site Location Province: ON		Rush Confirmation #:	
Regulation 153 <input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Med/ Fine <input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Table 3 <input type="checkbox"/> Rpt/ Other <input type="checkbox"/> Table _____ FOR RSC (PLEASE CIRCLE) Y / N		Other Regulations <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> MDA <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> PWQO Region _____ <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> REG 558 (MIN. 3 DAY TAT REQUIRED) <input type="checkbox"/> REG 406 Table _____		Analysis Requested # OF CONTAINERS SUBMITTED FIELD TESTED (CIRCLE) Metals / Ag / CVI STDS/ PFC F1 PFCs F2 - F8 PCBs REG 153 METALS & INORGANICS REG 153 ICPMS METALS REG 153 METALS Pb, Cr VI, ICPMS-MPSAR, HWS - B Lead (Pb) in Paint PCBs HOLD-DO NOT ANALYZE		LABORATORY USE ONLY CUSTODY SEAL Y / N Present Intact COOLING MEDIA PRESENT: Y / N COMMENTS	
SAMPLE IDENTIFICATION DATE SAMPLED (YYYY/MM/DD) TIME SAMPLED (HH:MM) MATRICE		RECEIVED BY: (Signature/Print) DATE: (YYYY/MM/DD) TIME: (HH:MM)		RECEIVED BY: (Signature/Print) DATE: (YYYY/MM/DD) TIME: (HH:MM)		BV JOB #	
01, Blue, Loc: 15, Roof (2024/01/23) 9:30am BULK		(2024/01/23) 9:30am BULK		(2024/01/23) 09:38		2024/01/25 09:38	

...ing, work submitted on this Chain of Custody is subject to Bureau Veritas' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and
<https://www.bvna.com/coc-terms-and-conditions>

25-Jan-24 09:38
 Antonella Brasil

C424914
 URE ENV-107

APPENDIX III
Methodology



1.0 GENERAL

An inspection was conducted to identify the type of Hazardous Building Materials incorporated in the structure and its finishes.

Information regarding the location and condition of hazardous building materials encountered and visually estimated quantities were recorded. The locations of any samples collected were recorded on small-scale plans. As-built drawings and previous reports were referenced where provided.

Sample collection was conducted in accordance with our Standard Operating Procedures.

1.1 Asbestos

The inspection for asbestos included friable and non-friable asbestos-containing materials (ACM). A friable material is a material that when dry can be crumbled, pulverized or powdered by hand pressure.

A separate set of samples was collected of each type of homogenous material suspected to contain asbestos. A homogenous material is defined by the US EPA as material that is uniform in texture and appearance, was installed at one time, and is unlikely to consist of more than one type or formulation of material. The homogeneous materials were determined by visual examination and available information on the phases of construction and prior renovations.

Samples were collected at a rate that is in compliance with the requirements of local regulations and guidelines. The sampling strategy was also based on known ban dates and phase out dates of the use of asbestos; sampling of certain building materials is not conducted after specific construction dates. In addition, to be conservative, several years past these dates are added to account for some uncertainty in the exact start / finish date of construction and associated usage of ACM. In some cases, manufactured products such as asbestos cement pipe were visually identified without sample confirmation.

The asbestos analysis was completed using a stop-positive approach. Only one result meeting the regulated criteria was required to determine that a material is asbestos-containing, but all samples must be analyzed to conclusively determine that a material is non-asbestos. The laboratory stopped analyzing samples from a homogeneous material once a result equal to or greater than the regulated criteria is detected in any of the samples of that material. All samples of a homogeneous material were analyzed if no asbestos is detected. In some cases, all samples were analyzed in the sample set regardless of result.

The analysis was performed in accordance with Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, July 1993.

Analytical results were compared to the following criteria.



Jurisdiction	Friable	Non-Friable
Ontario	0.5%	0.5%

Where building materials are described in the report as "non-asbestos" or "does not contain asbestos", this means that either no asbestos was detected by the analytical method utilized in any of the multiple samples or, if detected, it is below the lower limit of an asbestos-containing material in the applicable regulation. Additionally, these terms are used for materials which historically are known to not include asbestos in their manufacturing.

1.2 Lead

Samples of distinctive paint finishes, and surface coatings present in more than a limited application, where removal of the paint is possible was collected. The samples were collected by scraping the painted finish to include base and covering applications.

Analysis for lead in paints or surface coatings was performed in accordance with EPA Method No. 3050B/Method No. 7420; flame atomic absorption.

Analytical results were compared to the following criteria.

Jurisdiction	Units (%)	Units (ppm) / (mg/kg)
Ontario	0.1	1000

Other lead building products (e.g. batteries, lead sheeting, flashing) were identified by visual observation only.

1.3 Silica

Building materials known to contain crystalline silica (e.g. concrete, cement, tile, brick, masonry, mortar) were identified by visual inspection only. Pinchin did not perform sampling of these materials for laboratory analysis of crystalline silica content.

1.4 Mercury

Building materials, products or equipment (e.g. thermostats, barometers, pressure gauges, lamp tubes), suspected to contain mercury was identified by visually inspection only. Dismantling of equipment suspected of containing mercury was not performed. Sampling of these materials for laboratory analysis of mercury content was not performed.



1.5 Visible Mould

The presence of mould or water damage was determined by visual inspection of exposed building surfaces. If any mould growth or water damage was concealed within building cavities it was not addressed in this assessment.

Template: Methodology for Hazardous Building Materials Assessment, HAZ, January 26, 2023

APPENDIX IV
Location Summary Report



LOCATIONS LIST



Client: Halton Region

Site: 1179 Bronte Road, Oakville, ON

Building Name: Paramedic Station HQ PS / Woodlands Operations Centre

Survey Date:

Last Re-Assessment:

Building Phases: A: 2002

Location No.	Name or Description	Area ft ²	Floor No.	Bldg. Phase	Notes
16	Roof	0		A	

APPENDIX V

Hazardous Materials Summary Report / Sample Log



HAZARDOUS MATERIALS SUMMARY / SAMPLE LOG



Client: Halton Region

Site: 1179 Bronte Road, Oakville, ON

Building Name: Paramedic Station HQ PS / Woodlands Operations Centre

Survey Date:

HAZMAT	Sample No	System/Component/Material/Sample Description	Locations	Bldg. Phase	LF	SF	EA	%	Type	Positive	Friability
Asbestos	S0012 ABC	Other Caulking White On Ladder	16	A	10	0	0	0	None Detected	No	
Asbestos	S0013 ABC	Other Caulking Black On Roof Vents	16	A	100	0	0	0	None Detected	No	
Asbestos	S0015 ABCDEF	Other Roofing Material	16	A	0	90	0	100	None Detected	No	
Asbestos	S0016 ABC	Other Caulking White Around Flashing/rtus	16	A	0	0	0	100	None Detected	No	
Paint	L0001	Structure Metal Blue	16	A	0	0	0	100	Lead (Low)	Yes	-
Paint	L0002	Piping Metal Yellow Gas	16	A	30	0	0	0		No	-

2024-02-01

Quantities shown above are based on visual approximations only and may be subject to variation. Copyright Pinchin Ltd. 2024

Page 1 of 2.



HAZARDOUS MATERIALS SUMMARY / SAMPLE LOG



Legend:

Sample number		Units			
S####	Asbestos sample collected	SF	Square feet	NF	Non Friable material.
L####	Paint sample collected	LF	Linear feet	F	Friable material
P####	PCB sample collected	EA	Each	PF	Potentially Friable material
M####	Mould sample collected	%	Percentage		
V####	Material visually similar to numbered sample collected				
V0000	Known non Hazardous Material				
V9000	Material is visually identified as Hazardous Material				
V9500	Material is presumed to be Hazardous Material				
[Loc. No.]	Abated Material				

APPENDIX VI
HMIS All Data Report



ALL DATA REPORT



Client: Halton Region
 Location: #16 : Roof
 Survey Date: 2024-01-08

Site: 1179 Bronte Road, Oakville, ON
 Floor:

Building Name: Paramedic Station HQ PS /
 Woodlands Operations Centre
 Room #:
 Last Re-Assessment: 0000-00-00

Area (sqft): 0

ASBESTOS

System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Amount	Hazard	Friable
Other		Caulking, White on ladder			A	Y		10			LF	S0012ABC	None Detected	N.D.	None	
Other		Caulking, Black on roof vents			A	Y		100			LF	S0013ABC	None Detected	N.D.	None	
Other		Caulking, White around flashing/RTUs			A	Y		100			%	S0016ABC	None Detected	N.D.	None	
Other		Roofing material			A	Y		65			%	S0015ABC DEF	None Detected	N.D.	None	

Client: Halton Region
 Location: #16 : Roof
 Survey Date: 2024-01-08

Site: 1179 Bronte Road, Oakville, ON
 Floor:

Building Name: Paramedic Station HQ PS /
 Woodlands Operations Centre
 Room #:
 Last Re-Assessment: 0000-00-00

Area (sqft): 0

PAINT

System	Item	Good	Poor	Unit	Sample	Sample Description	Amount	Hazard
Structure	Metal	100		%	L0001	Blue	Pb: 0.097 %	Lead (Low)
Piping	Metal	30		LF	L0002	Yellow gas	Pb: 0.00080 %	No



ALL DATA REPORT



Legend:



Sample number		Units		Other	
S####	Asbestos sample collected	SF	Square feet	A	Access
L####	Paint sample collected	LF	Linear feet	V	Visible
P####	PCB sample collected	EA	Each	AP	Air Plenum
M####	Mould sample collected	%	Percentage	F	Friable material
V####	Material is visually identified to be identical to S####	LF	Linear feet	NF	Non Friable material
V0000	Known non hazardous material			PF	Potentially Friable material
V9000	Material visually identified as a Hazardous Material			Pb	Lead
V9500	Material is presumed to be a hazardous material			Hg	Mercury
				As	Arsenic
				Cr	Chromium

Access	
A	Accessible to all building occupants
B	Accessible to maintenance and operations staff without a ladder
C	Accessible to maintenance and operations staff with a ladder. Also rarely entered, locked areas
D	Not normally accessible

Condition	
Good	No visible damage or deterioration
Fair	Minor, repairable damage, cracking, delamination or deterioration
Poor	Irreparable damage or deterioration with exposed and missing material

Visible	
Y	The material is visible when standing on the floor of the room, without the removal or opening of other building components (e.g. ceiling tiles or access panels).
N	The material is not visible to view when standing on the floor of the room and requires the removal of a building component (e.g. ceilings tiles or access panels) to view and access. Includes rarely entered crawlspaces, attic spaces, etc. Observations will be limited to the extent visible from the access points.

Air Plenum	
Yes or No	The material is in a return air plenum or in a direct airstream or there is evidence of air erosion (e.g. duct for heating or cooling blowing directly on or across an ACM). This field is only completed where Air Plenum consideration is required by regulation.

Colour Coding	
	The material is known to contain regulated concentrations of asbestos; either by analytical results or visible identification (use of the V9000 code).
	The material is presumed to contain asbestos; based on visual appearances; typically a material known to historically contain asbestos; however, not sampled due to limited access or the destructive nature of the sampling.

Action					
(1)	Clean up of ACM Debris	(2)	Precautions for Access Which may Disturb ACM Debris	(3)	ACM removal
(4)	Precautions for Work Which may Disturb ACM in Poor Condition	(5)	Proactive ACM removal (Minimum repair required for fair condition)	(6)	ACM repair
(7)	Management program and surveillance				