



Waterloo Catholic District School Board

Bid Documents

Waterloo Catholic District School Board

St Joseph CES Renovation 980 Westminster Dr S, Cambridge, ON

RFT No. 2026-12

Prepared by:

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March 9, 2026

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Refer to Structural, Mechanical and Electrical drawings for Specs

DRAWINGS

Architectural Drawings

A100 – Floor Plan, General notes, Building Elements, Door Schedule and elevations
D101 - Demolition Floor Plan, General Notes, Demolition Notes
A050 – Enlarge Site Plan and Construction Notes
A051 - Garbage Bins Plan & Sections, Bollard and Gate details

Structural Drawings

S1.0 – Roof Plan, Schedule & Sections

Mechanical Drawings

M1 – Legends, Key Plan, Schedule Notes Mechanical
M2 - Plans and Specifications Mechanical

Electrical Drawings

E1 – Electrical Legend, Schedule, Specifications and Floor Plans

1.1 INVITATION

.1 Bid Call

.1 REGISTERED SUPPLIERS/BIDDERS

- All Bidders shall have a Bidding System Vendor account and be registered as a Plan Taker for this Bid opportunity, which will enable the Bidder to download the Bid Call Document, to receive Addenda email notifications and download all documents without the watermark “preview” on them.
- To ensure receipt of the latest information and updates via email regarding this bid, or if a Bidder has obtained this Bid Document from a third party, the onus is on the Bidder to create a Bidding System Vendor account and be register as a Plan Taker for the bid opportunity.

.2

ELECTRONIC BID SUBMISSIONS ONLY, shall be received by the Bidding System. Hardcopy submissions are not permitted.

Bidders are cautioned that the timing of their Bid Submission is based on when the Bid is RECEIVED by the Bidding System, not when a Bid is submitted, as Bid transmission can be delayed due to file transfer size, transmission speed, etc.

For the above reasons, it is recommended that sufficient time to complete your Bid Submission and to resolve any issues that may arise. The closing time and date shall be determined by the Bidding System’s web clock.

Bidders should contact bids&tenders support listed below, at least twenty-four (24) hours prior to the closing time and date, if they encounter any problems. 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 bids&tenders support at support@bidsandtenders.ca.

Late Bids are not permitted by the Bidding System.

To ensure receipt of the latest information and updates via email regarding this bid, or if a Bidder has obtained this Bid Document from a third party, the onus is on the Bidder to create a Bidding System Vendor account and register as a Plan Taker for the bid opportunity.

Supplementary Form of Tender to be emailed to:

Stephen.butterworth@wcdsb.ca

.3 Submissions to the bidding system will be on or before **2:00:00pm March 26, 2026**, local time and Followed by the Supplementary Form of Tender emailed to Stephen.butterworth@wcdsb.ca at **4:00:00 pm March 26, 2026** local time

.4 Instructions for tendering must be followed implicitly. Any Tender which does not comply with the *CCDC 2-2020 Stipulated Price Contract, Supplementary Conditions, as attached*, and the Instructions to Bidders may be declared informal and may not be considered.

- .5 Stipulated sum tenders, submitted on the Form of Tender supplied, on the Work described in the following specifications and/or shown on the accompanying drawings, including all Addenda issued prior to the closing of Tender.
- .6 ALL BLANKS IN THE FORM OF TENDER, INCLUDING SUPPLEMENTAL FORM OF TENDER, SHALL BE FULLY COMPLETED OR THE TENDER MAY BE INVALIDATED. TENDERS NOT COMPLETED IN FULL, MAY, AT THE DISCRETION OF THE BOARD, BE REJECTED. IF A BLANK IS DEEMED TO BE NOT REQUIRED BY THE BIDDER, COMPLETE WITH A "NOT APPLICABLE (N/A)", "OWN FORCES", ETC.
- .7 Tenders shall be valid for sixty (60) Calendar Days from the date of closing above.
- .8 Tenders must note, and include, on a separate form, any "Separate Prices" requested by the Consultant; any "Alternate Prices to the Base Bid" requested by the Consultant; any "Supplementary Alternate Prices" proposed by the Bidder; as well as all Unit Prices indicated on the *Supplementary Form of Tender*. Tender award to be based on low bid as specified.
- .9 Tender award will be determined based on low Bid as specified.

1.2 INTENT

- .1 Intent of this Bid call is to obtain an offer to perform work to complete the construction of **St Joseph CES Renovation** located at **980 Westminster Dr S, Cambridge, ON** for a Stipulated Price contract, in accordance with Contract Documents.

1.3 CONTRACT/BID DOCUMENTS

- .1 Agreement Form
- .2 Definitions
 - .1 Contract Documents: Defined in the *CCDC 2-2020* Stipulated Price Contract, Definitions.
 - .2 Bid Documents: Contract Documents supplemented with Instructions to Bidders, Project Information, Soils Investigation Data, Form of Tender, and Supplementary Form of Tender identified herein.
 - .3 Bid, Offer, or Bidding: Act of submitting an offer under seal or signed under witness.
 - .4 Bid Price: Monetary sum identified in Bid Form as an offer to perform work.
- .3 Availability

To obtain documents online please visit <https://wcdsb.bidsandtenders.ca/>. You can preview the bid documents with a Preview Watermark prior to registering for the opportunity.

 - .1 Documents are not provided in any other manner.
 - .2 Documents are made available only for purpose of obtaining offers for this project. Their use does not confer license or grant for other purposes.
 - .3 A copy of soils investigation report may be found in Bid Documents
- .4 Examination

- .1 Upon receipt of Bid Documents verify that documents are complete.
 - .2 Immediately notify, through the bidding system “Submit a Question”, upon finding discrepancies or omissions in Bid Documents.
- .5 Queries/Questions
- .1 Questions related to this bid are to be submitted to the Purchasing representative through the Bidding System only by clicking on the “Submit a Question” button for this specific bid opportunity.

Purchasing Representative

Stephen Butterworth
Purchasing Officer
Waterloo Catholic District School Board

Email: Stephen.Butterworth@wcdsb.ca

Neither the Board nor the Board contact will be responsible for any verbal instructions or clarifications given during the Bidding process. As a result, verbal recollections of discussions, meetings, or telephone conversations will not be considered valid.

- .6 Addendums
- .1 Bidders shall acknowledge receipt of any addenda through the Bidding System by checking the box for each addenda and any applicable attachment.

It is the responsibility of the Bidder to have received all Addenda that are issued. Bidders should check online at <https://wcdsb.bidsandtenders.ca/> prior to submitting their Bid and up until Bid closing time and date in the event additional addenda are issued.

If a Bidder submits their bid prior to the Bid closing time and date and addenda have been issued, the Bidding System shall WITHDRAW the Bid submission and the bid status will change to an INCOMPLETE STATUS and Withdraw the Bid. The Bidder can view this status change in the “MY BIDS” section of the Bidding System.

The Bidder is solely responsible to:

- make any required adjustments to their Bid; and
 - acknowledge the addenda; and
 - Ensure the re-submitted Bid is RECEIVED by the Bidding System no later than the stated bid closing time and date.
- .2 Clarifications requested by bidders must be received by the bidding system, not less than nine (9) days before date set for receipt of Bids. Reply will be in form of an addendum, a copy of which will be forwarded to known bidders no later than seven (7) working days before receipt of Bids
- .7 Product/System Options
- .1 There are two opportunities for a Bidder to identify Alternates in the Bidder’s Tender. The first method is to identify Alternates at the time of the Tender submission on the *Supplementary Form of Tender* to be attached to the Form

of Tender. This document is to be entitled ALTERNATE PRICES TO BASE BID:

- .1 Wherever possible or practical, the specifications are written on a “Base Bid” principle. When “Base Bid” product or service is identified, a number of “alternates” have been listed. The Bidder must tender on the “Base Bid” and indicate, on a separate sheet, Alternates and a credit to the Contract if one of the specified alternate supplier/manufacturer/installer or material/method of construction is being proposed by the Bidder. Only those identified Alternates in the Specification may be listed on the *Supplementary Form of Tender*. If the Specification identifies a “Base Bid” with a number of Alternates and the Bidder does not identify on the *Supplementary Form of Tender* any of the indicated Alternates with a credit, then the Contractor shall provide, in all instances, the “Base Bid” supplier/manufacturer/installer or material/method of construction.
- .2 The Contractor shall accept full responsibility that a proposed Alternate will not exceed space requirements as indicated on the drawings and that coordination of the Contractor’s own and related work and cost of installation is included in the Contractor’s work. Approved alternate products or assemblies shall comply with all technical and design requirements specified in the “Base Bid”. (E.g. materials, gauge, finish, colour, size, fit, mounting, strength, durability, operation and warranty.) If any additional design fee, either Architectural or Engineering, is required due to a change or substitution requested by the Contractor, the cost of such fee must be paid by the Contractor.
- .2 The second method is to identify alternates on the *Supplementary Form of Tender* and submitted, as requested by the Consultant, at the time of Tender. This document is to be entitled. SUPPLEMENTARY ALTERNATE PRICES:
 - .1 Mechanical and Electrical Alternates may be submitted on the Supplementary Form of Tender.
 - .2 If proposals for alternates (not already identified as alternates in the specification) are submitted by the Contractor to the Consultant during the tender period in sufficient time to allow for analysis and the issuance of an Addendum to include the proposals, then such proposal may be included in the Form of Tender under *Separate Prices*.
 - .3 Proposed alternates which are not covered by an Addendum and listed in the Form of Tender under *Separate Prices*, may be considered if the proposed entitled *Supplementary Alternate Prices* accompanies the Supplementary Form of Tender as a separate document on which the Alternate is completely specified and described, and on which is given the reason for substitution.
 - .4 Any proposed alternates or in lieu of prices will not necessarily be accepted.
 - .5 The Contractor shall accept full responsibility that a proposed Alternate will not exceed space requirements as indicated on the drawings and that coordination of his own and related work and cost of installation is included in his work. Approved alternate products or assemblies shall comply with all technical and design requirements specified in the “Base Bid”. (E.g. materials, gauge, finish, colour, size, fit, mounting, strength, durability, operation and warranty.) If any additional design fee, either Architectural or

Engineering, is required due to a change or substitution requested by the Contractor, the cost of such fee must be paid by the Contractor.

- .6 Unless substitutions are submitted in this manner and subsequently accepted, provide products as specified.

1.4 OWNER

- .1 The Owner of the Project is:

WATERLOO CATHOLIC DISTRICT SCHOOL BOARD
35 Weber Street West, Unit A
Kitchener, Ontario N2H 3Z1
Phone: (519) 578-3660

1.5 CONSULTANT

17|21 architects inc.
1065 Valetta Dt, Unit A
London, ON. N6H 2Z9
519-439-0611
Sonia.d@1721architects.ca

1.6 SUB CONSULTANTS

The Structural Engineer for this Project is:

VanBoxmeer & Strangers
1108 Dundas St., Suite 104
London, Ontario
N5W 3A7
email: alex@vbands.com
Tel: 519-433-4661 ext. 810

The Mechanical and Electrical Consultant on this Project is:

Callidus Engineering
1385 Routledge Park
Unit 9. London, ON N6H 5N5
Phone: 519-472-7640
jennifer@callidus.ca

1.7 PREQUALIFIED GENERAL CONTRACTORS AND SPECIFIC TRADES

- .1 The following General Contractors and Specific Trades have been prequalified by the Board to bid on the work included in this Tender **as per the WCDSB – 2019-24 Mechanical, Electrical, and General Contractors.**

NOTE: This Tender can be tendered by **prequalified General Contractors and Specific Trades ONLY**. Tenders received from non-prequalified General Contractors and Specific Trades will not be considered.

NOTE: Contractors have set limits on dollar value and this section must be adjusted to allow only the contractors that fit the tender dollar threshold.

GENERAL CONTRACTORS

Reid and Deleye Dakon Construction PM Contracting Tambro Construction Everstrong Construction Nith Valley Construction Brook Restoration Harbridge and Cross AEC Developments Pre Eng Contractors STM Construction TRP Construction Devlan Construction Percon Construction Melloul Blamey Norlon Builders	J.R. Certus M J Dixon Construction CRD Construction Golden Gate Contracting S.G. Cunningham Elgin Contracting Genpro Contracting Gordner Construction Harrington Construction Renokrew Aveiro Constructors Sax Construction Ritestart Ltd Zehr Levesque Inc. Hall Construction
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MECHANICAL TRADES

Aim Industrial Inc. Dependable Mechanical Sys. Arcadian Projects Jay Stewart Mechanical Conestoga Mechanical JTS Mechanical Roberts Onsite Dean Lane CEC Mechanical	L.J. Barton Mechanical Chamberlain Building Serv Soan Mechanical Linde Mechanical JMR Electric Velocity Mechanical Brenner Mechanical Kittel Mechanical Superior Boiler Works
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ELECTRICAL TRADES

Kraun Electric Inc. Aim Industrial Inc. Powerserve Inc. PHE Contractor Roberts Onsite T. Lloyd Electric Juno Electric Comtrade Ltd MJM Electric Trade Service Group	Group L.J. Barton Mechanical Energy Network Services Superior Boiler Works Chamberlain Building Serv RBT Electrical CEC Services Ltd. JMR Electric B Safe Electrical Ltd Arcadian Projects Millers Electric JM Electrical Contracting
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KINETIC NETWORK CONTRACTORS KINETIC SOLICITATION AND PROPOSAL NUMBER

- .1 The Waterloo Catholic District School Board has issued a proposal as listed below to be procured through the Kinetic GPO, Tremco Roofing and Building Maintenance and Weatherproofing Technologies Canada Contract # RFSO 24-06, a pre-competed National Purchasing Agreement (GPO). The formal tender process has been satisfied as outlined in section .5.
 1. Customer Proposal Number RFSO 24-06 - (6-digit number)
- .2 The Waterloo Catholic District School Board invites Pre-qualified In Network Contractors for Roofing Services to bid for the supply of all labour, materials, equipment, and services required for the completion of the new addition at St. Aloysius Catholic Elementary School in accordance with the drawings and specifications prepared by Grguric Architects Incorporated.
- .3 Tremco Roofing and Building Maintenance and Weatherproofing Technologies Canada serves as Program Administrator for the Canadian Cooperative Contractor Network and the Kinetic Roofing Program.
- .4 In Network Contractors, having been pre-qualified and authorized by successfully submitting their company's credentials for inclusion in the Canadian Cooperative Contractor Network, may submit competitive proposals for the unique needs of the referenced building(s) outlined within the project documents.
- .5 The formal process of the Kinetic GPO Contract #RFSO 24-06 was publicly advertised on Merx, Biddingo, and Bonfire. Responses were evaluated and awarded using a competitive solicitation process consistent with Chapter 5 of the Canadian Free Trade Agreement (CFTA) and other international trade agreements, including the Canada-EU Comprehensive Economic and Trade Agreement (CETA), as well as the Broader Public Sector (BPS) Procurement Directive.
- .6 Competitive Proposals may be called, received, evaluated, accepted, and processed in accordance with the Board's Procurement and Purchasing By-Laws. By submitting a Proposal for this project, the Proposer agrees to be bound by the terms and conditions of such By-Laws and any amendments thereto, as fully as if it were incorporated herein. Any Contract resulting from this Kinetic GPO Competitive Proposal shall be governed by and interpreted in accordance with the laws of the Province of Ontario.
- .7 Order of Precedence. The terms and conditions of the Board will take precedent over provisions stated in the Provisions of Kinetic GPO. Conflicts, if any, between Kinetic GPO Provisions and others stipulated within the project documents, require the proposer to adhere to the most stringent requirement published, as determined by the procurement official. The Provisions of Kinetic GPO will govern in absence of any terms and condition in the Specification. In addition, it is incumbent on the Contractor to make any subcontractor(s) performing under the Kinetic GPO contract aware of, and to provide subcontractor(s) with the terms and conditions of the Board as well as the Provisions of

Kinetic GPO. The additional Provisions for Kinetic GPO are found attached to the Price Bid Form.

- .8 All project documents shall include the Kinetic GPO Customer Proposal Number RFSO 24-06 -350780.

PRE-QUALIFIED KINETIC NETWORK CONTRACTORS

Atlas Apex Roofing	Roque Roofing Inc
Eillen Roofing Inc.	Flynn Canada Ltd. (Cambridge)
Horizon Roofing Ltd.	Lafleche Roofing Ltd.
Provincial Roofing	Semple Gooder Roofing Corporation
Spinton Roofing Ltd.	Trio Roofing Systems Inc.
Triumph Roofing and Sheet Metal Inc.	Wm. Green Roofing Ltd.
Conestoga Roofing and Sheet Metal Ltd.	GRRC Roofing
Goodmen Roofing and Sheet Metal	Pollard Enterprises Ltd.
Tectra Group Inc.	Nortex Roofing Ltd.
	Nedlaw Roofing

1.8 SITE ASSESSMENT

- .1 Site Examination
 - .1 Visit project site and surrounding area before submitting Bid.
 - .2 Notwithstanding the responsibility, a Site Visit to project site has been arranged for General Contractors and their sub-trades as follows:
 - .3 Non-mandatory Site visit on **March 17th, 2026 at 12:00pm @ St Joseph CES** located at **980 Westminster Dr S, Cambridge, ON**
 - .4 Meet on **Main Entrance**
 - .5 Before tendering, the Bidder shall examine the site, and the Reports prepared by separately engaged Consultants, bound into the Specifications for reference only, and shall ascertain the extent and nature of the materials it may be necessary, and shall be sure that the Bidder’s determinations are made in accordance with the drawings and specifications and the Reports.
 - .6 Proposals shall include the cost imposed by existing conditions and limitations of site and the accepted proposal shall be held to have included such costs. **NO ALLOWANCE WILL BE MADE FOR FAILURE TO EXAMINE THE EXISTING SITE.**
 - .7 The information shown on the drawings are furnished in good faith for the guidance of the Contractor, but shall in no way relieve the Contractor of the responsibility of ascertaining to the Contractor’s own satisfaction the nature of all conditions at the site.

1.9 BID ENCLOSURES/REQUIREMENTS

- .1 Security Deposit

- .1 Each tender shall be accompanied by a Bid Bond and Agreement to Bond in the most recent form approved by the Canadian Construction Association from a Surety Company, acceptable to the Board. The Bid Bond shall be in the amount of [...10% of Base Bid...], together with an Agreement to Bond. The Bid Bond must be valid for a minimum of sixty (60) Calendar Days from the closing date. Tenders not accompanied by a Bid Bond and Agreement to Bond will be declared informal.
 - .2 This Bid Bond shall be forfeited if the bidder declines to enter into a formal contract in the amount tendered, or as adjusted according to the separate prices included in the tender, and/or to furnish, when called upon to do so, a Performance Bond. This Bid Bond shall be accompanied by an Agreement from the Surety Company that a 50 % Performance Bond and a 50 % Labour and Material Payment Bond will be issued to the Bidder if the Bidder is awarded the contract. The cost of the Bonds shall be included in the amount of the Tender. Refer to the *CCDC 2-2020 Stipulated Price Contract and the Supplementary Conditions, as attached*, for further information.
 - .3 Retention and use of the Bid Bond, as outlined above, shall not be deemed a penalty, but a consideration to the Board for inviting and considering the Tender and as part payment for sustained damages and costs incurred by the Board, which shall be deemed to be the difference between the bid price of this Bidder and the bid price of the next lowest Bidder acceptable to the Board.
 - .4 A Performance Bond, equal to 50 % of the contract price, shall be furnished through a Surety Company or Insurance Company approved by the Consultant and the Board according to terms and conditions acceptable to the Board and the Consultant.
 - .5 On completion of the work, the Performance Bond shall remain in force as a MAINTENANCE BOND for a period of one (1) year from the date of acceptance of the building by the Board. It shall form a guarantee of workmanship and materials for the one (1) year period.
 - .6 Use latest edition CCDC approved bond forms.
- .2 Performance Assurance
 - .1 The Bidder to whom the contract is awarded must properly sign the contract and furnish a satisfactory Performance Bond, Labour and Material Payment Bond, Insurance Certificate and Workers' Compensation Board Certificate within ten (10) Working Days of acceptance of the tender by the Board, or forfeit the Bid Bond.
 - .2 Labour and Material Payment Bond, equal to 50 % of contract, to be provided within ten (10) Working Days, stating that the Board will not be held responsible if payment to subcontractors, as certified due by the Consultant, is not made by the General Contractor when due.
 - .3 Tenders must include all costs involved in having the contract "Fit for Legal Occupancy and Substantial Performance" by **August 14th, 2026** and having the entire building Totally Completed by **August 21th, 2026**
 - .4 Persons or firms submitting tender proposals shall be actually engaged as their recognized business in the lines of work required by the specifications, and shall be able to refer to work of a similar character which has been satisfactorily performed by them.
 - .3 Fees for Changes in Work

- .1 It must be clearly understood that the Board cannot accept any price variation in the supply or installation of products or labour or materials from those submitted and carried by the Contractor at the time of tender. During the contract period, the Board will not be responsible for, or entertain any price increase in the cost of materials or labour carried in the tender amount.
 - .2 The tender amount shall not include Harmonized Sales Taxes but shall include all other applicable excise taxes, custom duties, freight, exchange and all other charges in effect and known to come into effect during the construction work described in this Contract.
 - .3 Unit Prices are exclusive of Harmonized Sales Taxes.
 - .4 The successful Bidder must provide the Bidder's H.S.T. (Tax) Registration Number and each request for payment must show this number and the amount of H.S.T.(Tax) payable.
 - .5 At the time of tender submission, include *Separate Prices* listed in the Supplemental Form of Tender for the identified items. Express each In Lieu of Price as a Credit or an Extra to the amount tendered. Contract Amount will be adjusted consistent with their acceptance or rejection by the Board. Separate Prices DO NOT include H.S.T.
- .4 Unit Prices
- .1 UNIT PRICES FOR ADDITIONAL WORK SHALL NOT EXCEED UNIT PRICES FOR DEDUCTED WORK BY MORE THAN 20%.
 - .2 Unit prices must be submitted at time of Tender.
 - .3 The Board reserves the right to accept or reject any or all of the unit prices prior to entering into a contract.
 - .4 The Board reserves the right to negotiate any or all of the unit prices with the low Bid Contractor prior to signing a contract
 - .5 Refer to *CCDC 2-2020 Part 6 CHANGES IN THE WORK* regarding valuation of changes not covered by Unit Prices.
- .5 Subcontractors
- .1 Bidders are required to submit the list of subcontractors. The list is to be submitted with tender, on the *Supplemental Form of Tender* included in the Contract Documents. The Bidder shall name in these lists the subcontractors proposed to perform the work under the contract. No substitutions to these lists shall be made without the written approval of the Consultants.
 - .2 The selection of Subcontractors must be acceptable to the Board and to the Consultants. If the required substitution of a Subcontractor affects the sub-tender price, an adjustment will be made in the amount of the General Contract by the amount only of the difference in sub-tenders, without additional overhead or profit to the Contractor.
 - .3 If the Bidder proposes to do work with persons directly employed by the Bidder and not subcontract, then the Bidder shall insert the words "*Own Forces*" provided the Bidder can submit proof that the Bidder's forces have had previous experience in this field.
 - .4 Subcontractors shall be actually engaged as their own recognized business, in the line of work required by the specifications and shall carry out themselves the work which they are awarded by subcontract. They shall not be permitted to re-subcontract their work or portions thereof, to other contractors.

- .6 Fair Wage and Labour
 - .1 Rate of wages, hours and conditions of work shall be in accordance with Provincial Codes and as generally recognized and accepted in the locality. Building mechanics and labourers resident in the district are to be employed where suitable.
- .7 Discrepancies and Omissions
 - .1 Bidders, including subcontractors, finding specified items unavailable, finding discrepancies in, or omissions from, the drawings or specifications or other contract documents, or having any doubt as to the intent or meaning of any part thereof, shall at once notify the Consultant in writing, who will issue an Addendum to all bidders in explanation of the inquiry if necessary.
 - .2 All definitions, explanations, corrections or additional information will be issued by the Consultant during the time of bidding in the form of typewritten addenda and such addenda will be available to all Bidders. These shall become part of the contract documents and **must** be shown on the Form of Tender as having been received.
 - .3 NO ORAL INSTRUCTIONS WILL BE VALID.
- .8 Bidding Assumptions
 - .1 All bids submitted, are assumed to be based upon the complete set of Bid Documents.
- .9 Errors in Tender
 - .1 The Board shall not entertain requests for gratuitous payments arising from errors alleged to have been made in a tender which the Board has accepted
- .10 Building Permit
 - .1 Building Permit has been applied for by the Consultant and shall be paid for by the Board.
 - .2 The Contractor must, however, pay all other necessary fees, deposits and charges related to Municipal, Provincial and Federal Requirements. The General Contractor is responsible for determining the amounts of these permits, fees, etc.
- .11 Contract Documents
 - .1 The Contract shall be subject to the Requirements of the *CCDC 2-2020* Stipulated Price Contract and the Supplementary Conditions, as attached. The successful Bidder must sign the *CCDC 2-2020* Stipulated Price Contract as amended by the Supplementary Conditions using this document and these specifications and drawings, within ten (10) Working Days of notification of award. Failure to do so may result in termination of the award. The Contractor shall not be entitled to any payment until this document is signed.
 - .2 All Contractors will be held to have examined and made themselves familiar with the various articles of these Standard Documents and shall be as binding for all sections of the following specifications as though written in full therein.

1.10 OFFER ACCEPTANCE/ REJECTION

- .1 Privilege and Waiver of Non-Compliance

- .1 Notwithstanding anything elsewhere herein set out, the lowest or any proposal will not necessarily be accepted by the Board, and the Board reserves the right in its sole discretion to reject any and all proposals at any time or to accept any proposal which is considered advantageous by the Board. Proposals which are non-compliant with the requirements of this Tender, or which contain qualifying conditions, may be disqualified or the Board may waive any non-compliance with the Tender documents, and in its sole discretion, retain for consideration proposals which are non-conforming or non-compliant.
- .2 Acceptance of Offer
 - .1 It must be clearly understood that the final acceptance of this contract is subject to approvals of the Board and other bodies and these may delay final approval. There will be no adjustments in the tendered price for a period of sixty (60) Calendar Days from receipt of Tenders due to delays resulting from obtaining necessary approvals.
- .3 No Change in Pricing
 - .1 It must be clearly understood that the Board cannot accept any price variation in the supply or installation of products or labour or materials from those submitted and carried by the Contractor at the time of tender. During the contract period, the Board will not be responsible for, or entertain any price increase, in the cost of materials or labour carried in the tender amount for any reason, including acts of war or world events.
- .4 Withdrawal of Bids.
 - .1 Bidders may edit or withdraw their Bid Submission prior to the closing time and date. However, the Bidder is solely responsible to ensure the re-submitted bid is received by the Bidding System no later than the stated closing time and date.
Bids by hardcopy, telephone, email, or fax will not be accepted.

1.11 SPECIFICATION MANUAL AND INSPECTIONS

- .1 The Bidder must be aware that the Board has instructed the Consultant to prepare a painting specification based upon the *Painting Architectural Specification Manual* prepared by the Ontario Painting Contractors' Association, 211 Consumers Road, Suite 305, Willowdale, ON, M2J 4G8
- .2 The Specification consists of three main components
 - .1 Evaluation and Choice of Systems – Surface Preparation
 - .2 Approved Product/Manufacture Listing – Specification Guide
 - .3 Inspection and Guarantee Program
 - .4 Refer to the specifications for the first two components listed above. The Inspection Procedure will be complied with in every respect by the successful General Contractor and the Painting Contractor as follows:
 - .1 Upon issuance of a subcontract to the Painting Contractor, the General Contractor shall fill out our "*Request for Assignment of an Inspector*" Form. The Inspection fee, which is a percentage charge of the painting subcontract price, will be paid from the *Allowances* identified in the General Instructions. Provide a copy of the properly executed Inspector Form to

- the Consultant and confirm the accuracy of the subcontractor's painting bid.
- .5 The Form will contain the following information:
 - .1 Name of Contractor
 - .2 Name and Description of Project
 - .3 Name and Address of the Architect
 - .4 Job Location
 - .5 Project starting date
 - .6 Contract Price
 - .7 Commencement Date of painting.
 - .6 The Association will assign an Inspector to the project.
 - .3 The Painting Contractor must advise the Association office of the actual starting date of painting. Painting shall not commence until the Association has been notified and the Inspector makes the initial site visit.
 - .4 The Painting Contractor must supply the Inspector with a schedule of materials intended for use on the job at the commencement of the painting.
 - .5 During the painting application the frequency of inspections will be sufficient to ensure adequate Quality Control procedures in accordance with the Painting *Architectural Specification Manual* and the Specifications.
 - .6 The Inspector will use Interim Inspection Reports during the Project. One copy of each of these reports will be given to the Painting Contractor, one copy to the General Contractor, and two copies to the Association office, one of which will be forwarded to the Consultant. On completion of the job, the final Inspection Report will be made and routed as noted.
 - .7 The Inspector will be required to check for proper preparation of surfaces, specified number of coats, as specified in the Specifications and drawings.
 - .8 Any deficiencies must be corrected before the Guarantee is issued and final payment for painting made by the Board.
 - .9 The Guarantee must cover making good any defects in painting and decorating due to faulty workmanship or defective materials supplied by the Painting and Decorating Subcontractor which appear during a two year period, following "substantial" completion of the Contract or the date of "Fit for Occupancy", whichever occurs first.

1.12 MILLWORK SPECIFICATIONS AND INSPECTIONS OR ANY OTHER SPECIFICATIONS REQUIRED BY THE APPROPRIATE CONSULTANTS

N/A

1.13.0 COMPLIANCE WITH LAWS, REGULATION

- 1.13.1 In the performance of its obligations under the contract awarded (if any), the successful Respondent shall, at its own cost comply with, and ensure all persons for whom it is directly or indirectly responsible under this contract comply with all Federal, Provincial, County, City and Municipal laws, Acts, Codes and Regulations pertaining to the performance of the contract.

1.13.2 The successful Respondent shall obtain all necessary permits, licenses and fees required for the execution of the work and pay all fees required, including legal fees if any.

1.14.0 WCDSB POLICIES AND GUIDELINES

1.14.1 No work is to commence until an official purchase order, or award letter is received.

1.14.2 At all times while on the Board property, the successful Respondent, and all people for whom they are directly or indirectly responsible in law or under the contract, shall comply with all policies, rules and requirements of the Board.

END OF SECTION

1.1 TENDER INFORMATION

NAME OF BIDDER: _____

TENDER CLOSE: **March 26th, 2026 at 2:pm** local time

SUPPLEMENTAL TENDER FORM CLOSE: **March 26th, 2026 at 4:pm** local time

NAME OF PROJECT: **St Joseph CES Renovation**

PROJECT NUMBER: **RFT 2026-12**

ELECTRONIC BID SUBMISSIONS ONLY, shall be received by the Bidding System.

Supplementary Form of Tender to be emailed to Stephen.butterworth@wcdsb.ca

1.2 ACKNOWLEDGEMENT RE EXAMINATION OF TENDER DOCUMENTS

- .1 Having carefully examined all of the drawings (Architectural, Structural, Mechanical, Electrical, Site Servicing and Landscape) and having carefully examined the Instructions to Bidders, the requirements of the *CCDC 2-2020 Stipulated Price Contract, as amended by the Supplementary Conditions, as attached*, and all of the attached Specifications; (Architectural, Structural, Mechanical, Electrical, Site Servicing and Landscape) including Addenda numbered as follows:

Addenda #.....to/and including Addenda
#.....

and, having visited the sites, investigated and examined all conditions affecting the Work, including soil reports and surveys, and other reports as included in the Tender Documents, the undersigned Bidder makes the offers set out below.

1.3 CASH ALLOWANCES

- .1 All allowances specified under Section 01021 only amended as provided hereunder.

The Tender Amount includes the total Cash Allowance of **Twenty Thousand (\$20,000.00)** not including Harmonized Sales Tax (HST). (*HST on Cash Allowance is not to be included in the Tender Amount*)

1.4 TENDER AMOUNT

- .1 The undersigned Bidder hereby offers to furnish all materials, labour, plant and equipment and to perform all duties and services called for by the ENTIRE WORK INCLUDING ALL TRADES for the Project named above for the stipulated sum of:

.....
(Written Value)

\$.....
(Numeric Value)

in lawful money of Canada, excluding Harmonized Sales Tax, but including all other applicable Excise Taxes, Custom Duties, Insurance's, Freight, Exchange and all other charges.

1.5 TENDER VALIDITY

- .1 The undersigned Bidder is hereby submitting a valid Tender and will enter into the *CCDC 2-2020 Stipulated Price Contract, as amended by the Supplementary Conditions, as attached*, if we are notified in writing of our Tender acceptance by THE BOARD within sixty (60) calendar days from the closing of the Tender.

1.6 BONDING

- .1 The undersigned Bidder encloses a Bid Bond in the amount of [10]% made out in the name of WATERLOO CATHOLIC DISTRICT SCHOOL BOARD.
- .2 It is a condition of this Agreement that if the above mentioned Tender is accepted, application for a 50% Performance Bond and a 50% Labour and Material Payment Bond must be completed with undersigned within ten (10) days of acceptance of the tender related thereto, otherwise this Agreement shall be null and void.

1.7 CONSTRUCTION SCHEDULE

- .1 The undersigned Bidder solemnly undertakes, as an integral part of our proposal and tender to:
 - (a) Have the buildings "Fit for Occupancy" by **August 14, 2026**;
 - (b) Have all buildings and site work completed by **August 14, 2026**; and
 - (c) Have the Contract completed in its entirety by **August 21, 2026**.
- .2 The undersigned Bidder confirms that all appropriate costs, such as but not limited to winter heat, inclement weather protection and all overtime costs for all trades to meet the aforementioned schedule, have been included in our tender price to achieve this date.
- .3 The Bidder acknowledges and agrees that so long as a building permit is obtained and the Bidder is directed to commence Work within the sixty (60) calendar days following the Closing Date, even if such direction does not occur

until the fifty-ninth (59th) day following the Closing Date, the Bidder shall not be entitled to a delay claim.

- .4 The undersigned Bidder acknowledges and agrees to comply with the terms and conditions of the Project Occupancy Requirements as outlined in the Supplementary Conditions, attached hereto

1.8 REQUIRED DOCUMENTS

- .1 If notified of the acceptance of this Tender via a Letter of Intent issued by the Board, the undersigned Bidder agrees to provide the prerequisite documentation within ten (10) days.

1.9 FEES FOR CHANGES IN THE WORK

- .1 The undersigned Bidder acknowledges and agrees that the fees referred to in *CCDC 2-2020 Stipulated Price Contract, as amended by the Supplementary Conditions, as attached*, will apply to changes in the Contract not covered by Unit Prices.

1.10 SUPPLEMENTARY FORM OF TENDER

- .1 The undersigned Bidder agrees to submit the *SUPPLEMENTARY FORM OF TENDER*, as attached, at Tender close, which shall including the following:
 - BID AND COST BREAKDOWN
 - LIST OF SUBCONTRACTORS / SUPPLIERS / INSTALLERS
 - SEPARATE PRICES - REQUESTED BY CONSULTANTS
 - UNIT PRICES
 - ITEMIZED PRICES - REQUESTED BY CONSULTANTS
 - ALTERNATE PRICES TO BASE BID
 - LIST OF ALTERNATIVE BIDS SUBMITTED FOR CONSIDERATION

1.11 DECLARATION OF NO CONFLICT

- .1 The undersigned Bidder hereby declares that this Tender submission is made in good faith and without any connection, knowledge, comparison of figures, or arrangements with any other company, firm, or person making a Tender for the same work and is, in all respects, fair and without collusion with any other bidder for this Contract, and without fraud. The undersigned also represents and warrants that, to the best of the undersigned's knowledge and belief, no actual or potential conflict of interest exists with respect to the submission of the Tender or performance of the Contract other than those disclosed hereunder. The undersigned confirms that, where the Board discovers that the undersigned has failed to disclose all actual or potential conflicts of interest, the Board may disqualify the undersigned or terminate any Contract awarded to the undersigned pursuant to this Tender process. The undersigned understands that, for the purposes hereof, "conflict of interest" also includes:

- (a) in relation to the Tender process, the undersigned has an unfair advantage or engages in conduct, directly or indirectly, that may give the undersigned an unfair advantage, including:
 - (i) having or having access to information in the preparation of the undersigned's proposal that is confidential to the Board and not available to other bidders; communicating with any person with a view to influencing preferred treatment in the Tender process; or, engaging in conduct that compromises or could be seen to compromise the integrity of the open and competitive process and render that process non-competitive and unfair; or,
- (b) in relation to the performance of its contractual obligations in a Board contract, the undersigned's other commitments, relationships or financial interests:
 - (i) could or could not be perceived to exercise an improper influence over the objective, unbiased and impartial exercise of the Board's independent judgment; or,
 - (ii) could or could not be perceived to compromise, impair or be incompatible with the effective performance of the undersigned's contractual obligations.

1.12 MUNICIPAL FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

- .1 This Tender and supporting documentation shall become the property of the Board. Information in a Tender is subject to potential disclosure to third parties after the award, in accordance with the provisions of the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990 ("MFOIPOP"). The Bidder acknowledges that any personal or confidential information which Bidders provide is being collected and will be used exclusively for the purposes of analyzing, evaluating and assessing Tenders submitted. Any information a Bidder wishes to identify as proprietary and have maintained as confidential, excluding unit pricing information as well as the total dollar value of the Tender, must be clearly identified as such, and any proposed restrictions on disclosure specified. For the purposes of a report to the Trustees of the Board, pricing information as well as the total dollar value of the Tender may be reported in a public report and will not be considered confidential. In addition, the Board may be ordered by the Information & Privacy Commissioner under the provisions of MFOIPOP to disclose additional information identified by a Bidder as proprietary and confidential.

1.13 LIMITATION OF LIABILITY

- .1 By submitting a Tender, the undersigned Bidder acknowledges and agrees that the Board will have no liability or obligation to any Tender except only that of the successful Bidder, if any, awarded the Contract by the Board, in its sole

discretion. The Bidder also agrees that if the undersigned is not awarded the Contract, the Board shall be fully and forever released and discharged of all liability and obligations relating to this Request for Tender and all its submission procedures. All Bidders responding to this Request for Tender shall accept the decision of the Board as final and binding.

1.14 SIGNING OF TENDER

The undersigned Bidder is hereby submitting this Stipulated Sum Tender under a Corporate Seal or witnessed by an Individual.

PRINT COMPANY NAME: _____

PRINT ADDRESS OF COMPANY: _____

PRINT NAME OF CONTACT PERSON
REGARDING THIS TENDER: _____

CONTACT PERSON'S EMAIL: _____

PHONE NUMBER OF COMPANY: _____

SIGNATURE OF SIGNING OFFICER: _____

DATE: _____

PRINT NAME OF SIGNING OFFICER: _____

PRINT TITLE OF SIGNING OFFICER: _____

SIGNATURE OF WITNESS: _____

PRINT NAME OF WITNESS: _____

AFFIX CORPORATE SEAL (If no individual Witness):

END OF SECTION

Submit this Supplementary Form of Tender at the close of General Tenders.

1.1 TENDER INFORMATION

TENDER CLOSE: **March 26th, 2026 at 2:pm** local time

SUPPLEMENTAL TENDER FORM CLOSE: **March 26th, 2026 at 4:pm** local time

NAME OF PROJECT: **St Joseph CES Renovation**

PROJECT NUMBER: **RFT 2026-12**

Submission Email Address: stephen.butterworth@wcdsb.ca

1.2 SUPPLEMENTARY LIST OF SUBCONTRACTORS

.1 I/We, the undersigned, propose to use the following Subcontractors and/or suppliers to perform work of this Contract, and I/we confirm that all have been investigated to confirm their reliability and competence to carry out the Work in accordance with the Contract Documents; and I/we agree that no changes from this may be made without the express written approval of the Board.

Extra costs to the Contract will not be considered for a Subcontractor/supplier substitution, regardless of the reason, except where a substitution is requested by the Owner.

- Site Services _____
- Asphalt Paving _____
- Masonry _____
- Structural Steel _____
- Metal Fabrications _____
- Cabinetwork _____
- Sprayed Fireproofing _____
- Roofing _____
- Glazing _____
- Gypsum Board and Acoustical Ceilings _____
- Ceramic Tile _____
- Resilient Flooring _____
- Painting _____
- Whiteboards and Tackboards _____

Gymnasium Equipment _____
 Lift for Disabled _____
 Electrical _____
 Mechanical _____

1.3 SEPARATE PRICES

N/A

1.4 ELECTRICAL UNIT PRICES:

.1 I/We enclose herewith Unit Prices, exclusive of applicable taxes, which are an integral part of the Bid. Unit prices are, in effect, for the duration of this Project's construction period, unit prices are exclusive of applicable taxes.

.2 The following unit costs will apply to all additional or deleted work from the Contract and should include their proportionate share of all labour equipment, materials, accessories, profits, overhead and taxes for a job completely installed. Applications of unit prices will be to the net difference of quantities of individual products and materials in each Proposed Change or Change Order.

.3 The unit prices will be used for additions and deletions. Credit rate for deletions shall be at 80% of original rates listed under sections 1.4, 1.5, 1.6, 1.7, 1.8, 1.9.

.4 Conduit and Cable:

Supply and install the following conduit and cables including fastenings, clips, connectors, coupling boxes, etc. as required based on length as shown.

MORE WORK

.1	25MM EC/3500mm Length	\$ _____
.2	2 #12-12mm C/3500mm Length	\$ _____
.3	3 #12-12mm C/3500mm Length	\$ _____
.4	2 #10-19mm C/3500mm Length	\$ _____
.5	3 #10-19mm C/3500mm Length	\$ _____
.6	3 #8- 19mm C/3500mm Length	\$ _____

.5 Receptacles:

Supply and installation of one duplex receptacle, shall include the receptacle box, cover plate, 5000mm of conduit and wiring, including connection to adjacent receptacle and/or outlet box.

MORE WORK

- .1 Supply and installation of one duplex receptacle

\$ _____

.6 Light Switches

Supply and installation of light switch shall include the switch box, cover plate, conduit, wiring and connection to box containing the lighting circuit.

MORE WORK

- .1 Supply and installation of one 347 volt light switch.

\$ _____

.7 Fire Alarm System:

MORE WORK

- .1 Supply and installation of one fire alarm pull station, including conduits, wiring and connections to the nearest fire alarm pull station. (Base conduit and wiring on 1500mm length).

\$ _____

- .2 Supply and installation of one fire alarm cone speaker including conduit, wiring and connections to nearest fire alarm cone speaker. (Base conduit and wiring on 1500mm length).

\$ _____

.8 Lighting Fixtures:

Supply and installation of the following lighting fixtures. The supply and installation of lighting fixtures shall include the fixtures, flexible conduit, wiring and connection to nearest outlet box containing 347 and/or 120 volt circuits and the supply and installation of the lamps. (Base conduit and wiring on 4500mm length).

MORE WORK

- .1 Supply and installation of one type 'A' fixture
.2 Supply and installation of one type 'B' fixture
.3 Supply and installation of one type 'C' fixture
.4 Supply and installation of one type 'E' fixture

\$ _____

\$ _____

\$ _____

\$ _____

1.5 LABOUR RATES

I/We enclose herewith Labour Rates which are an integral part of the Tender. Labour rates are in effect for the duration of this Project's construction period. The Owner is not obligated to accept Labour rates indicated.

.1 Mechanical Labour Rates

Labour at the following rates should be applied for additions or deletions to the work not covered by unit prices. The prices consist of salary, all agreed local union benefits. The rate quoted represents the net cost to the Contractor, exclusive of overhead and profit and applicable taxes.

.1	Plumbing & Drainage Tradesmen	\$_____ Per Hour
.2	HVAC Piping Tradesman	\$_____ Per Hour
.3	Insulation Tradesmen	\$_____ Per Hour
.4	Sheet Metal Tradesmen	
.1	Shop	\$_____ Per Hour
.2	Field	\$_____ Per Hour
.5	(Other)	\$_____ Per Hour
.6	Sprinkler Pipefitter & Installer	\$_____ Per Hour
.7	Sprinkler Work Office/Engineer	\$_____ Per Hour

1.6 SPRINKLER SUB-CONTRACTOR CASA MEMBERSHIP

Sprinkler Contractor shall be a paid member, and in good standing at time of Tender, of the Canadian Automatic Sprinkler Association. Attach membership certificate to this Supplementary Form of Tender.

.1 Labour at the following rates shall be applied for additions or deletions to the work not covered by unit prices. The prices consist of salary, all agreed local union benefits. The rate quoted represents the net cost to the Contractor, exclusive of overhead and profit and applicable taxes.

.1	Journeyman	\$_____ Per Hour
.2	Foreman	\$_____ Per Hour

1.7 MECHANICAL MANUFACTURERS AND SUPPLIERS:

I/We enclose herewith a list of Manufacturers and Suppliers to the Mechanical Building Services which is an integral part of the Tender. We hereby agree that the Owner may select from any substitutes that we have offered in our Tender. Our Tender Price is based on the equipment/manufacturers indicated hereunder and we hereby agree that we will not alter the indicated equipment/manufacturers unless specifically authorized by the Owner.

I/We, the undersigned, have inserted below proposed substitutions and prices for the Owner's consideration.

I/We agree that:

- .1 all prices submitted take into consideration and allow for changes and adjustments in other work as may be necessary to provide a finished and functional result, unless specifically indicated otherwise;
- .2 alternative prices are for work which is not included in the Tender price listed on Form of Tender but which may be substituted by the Owner for work which is included (no price listed shall mean no change in cost);
- .3 and that the Board reserves the right to accept or reject any of the prices proposed hereunder;
- .4 prices listed hereunder do not include HST

	<u>Product/Equipment Specified</u>	<u>Proposed Substitution</u>	<u>Reduction in Contract Price</u>
.1	_____		\$ _____
.2	_____		\$ _____
.3	_____		\$ _____
.4	_____		\$ _____
.5	_____		\$ _____
.6	_____		\$ _____

Attach additional sheets and supporting documentation, if necessary.

1.8 STANDARDS OF MECHANICAL MATERIALS

BASE BID ITEM	ACCEPTABLE BASIS OF DESIGN	ALTERNATE
Pipe Hangers	Grinnell	Crane, Flamco, Unistrut
Mechanical Grooved Joints	Victaulic	Coupcu, Gruvlok
Unions	Crane	Grinnell, Dart
Expansion Joints	Flexonics	Amtrol, Hydroflex Tube Turn
Gate, Globe & Ball Valve	Crane	Jenkins, Toyo/R+W Kitz
Check Valves	Crane	Jenkins, Toyo/R+W Kitz
Plug Valves	DeZurick	NEO
Circuit Balancing Valves	Tour and Andersson	
Butterfly Valves	Crane	Jenkins, Centerline, Kitz, Toyo
Thermal Insulation	Fiberglas Canada	Manson, Knauf Johns-Manville
Pumps & Circulators (Except as noted)	S.A. Armstrong	ITT Fluids
Extended Shaft Coupling VIL Pumps	S.A. Armstrong	ITT Fluids
Strainers	Sarco	Crane, McAvity, Morrison Brass, Braukmann
Suction Guides	S.A. Armstrong	ITT Fluids, Victualic
Automatic Air Vents	Sarco	Amtrol, Braukmann S.A. Armstrong Trece

BASE BID ITEM	ACCEPTABLE BASIS OF DESIGN	ALTERNATE
Backflow Preventors	Watts	Braukmann, Zurn-Wilkins
Make-Up Assemblies	Watts	S.A. Armstrong, Bell & Gossett, Mueller, Singer
Gauges, Thermometers	Trerice	Ashrcroft, Weiss Weksler, Winters, Wika
Finned Tube Radiation and Convectors	Sigma	Dunham-Bush, Trane Engineered Air
Hot Water Unit Heaters and Cabinet Heaters	Sigma	Dunham-Bush, McQuay, Trane, Engineered Air
Steam Humidifiers	Engineered Air	Dri Steem
Hot Water Boilers	Boderus	
Prefabricated Chimneys	Van-Packer	Metal-Fab, Selkirk, ICC
Water Treatment	Aqurian	Alchem, Mogul, Culligan, Finnan
Fire Dampers	Controlled Air	Air Balance, Canadian Advanced Air, Ruskin
Louvre Insulated Blank-off Panels	Construction Specialties	
Air Terminal Devices (Diffusers, Registers, Grilles By-Pass Boxes)	E.H. Price	Nailor, Kruger, Carnes, Titus Tuttle & Bailey
Air Handling Unit	Engineered Air	McQuay, Trane, Haakon

BASE BID ITEM	ACCEPTABLE BASIS OF DESIGN	ALTERNATE
Heat Recovery Unit	Engineered Air	McQuay, Trane, Haakon
Fan Coil Units	Enviro-Tech	Trane, York
Misc. Fans	Cook	Carnes, Greenheck, ACME, Jenn-Air
Air Filters	Farr	Cambridge, Airguard, Vibron, A.A.F.
Filter Gauges	Dwyer	Airflow Developments (Canada) Ltd.
Dampers (Except low leakage)	Tamco	Johnson, Powers, Kerr Hunt, Honeywell, Barber-Coleman
Low Leakage Dampers	Tamco Series 9000	
Electrical Starters, Disconnects, MCC's, Alternator Panels	Square 'D'	Allen-Bradley, Klockner-Moeller
Noise and Vibration Control	Vibron	Korfund-Sampson, Vibro-Acoustics, Coolbreeze J.P. Environmental
Electric Pipe Tracing	Raychem	Serge-Baril
Trap Primers	PPP	
Plumbing Fixtures	American Standard	Crane, Kohler, Eljer
Floor Drains, Roof Drains, Cleanouts, Drainage Specialties	Zurn	Ancon J.R. Smith Mifab
Plumbing Trim	Chicago Faucets, Symmons	American Standard, Crane, Cambridge Brass

BASE BID ITEM	ACCEPTABLE BASIS OF DESIGN	ALTERNATE
Toilet Seats	Centoco	Beneke, Moldex, Olsonite
Domestic Water Heaters	Bradford-White	A.O. Smith, John Wood
Fire Extinguishers & Cabinets	National Fire Equipment	Wilson & Cousins
Washfountains	Bradley, Acorn	
S.S. Sinks	Aristaline	Kindred, Architectural Metal
Drinking Fountains	Haws	Sunroc
Emergency Eyewash	Haws	Bradley, Speakman
Mixing Valves	Symmons	Powers
Alarm Valves And Trim	Grinnell, Central	Reliable, Viking, Automatic, Victaulic
Siamese Connections	National Fire Equipment	Wilson & Cousins, Stelpro
Sprinkler Heads	Grinnell, Central	Reliable, Viking, Automatic, Victaulic
Equipment Cabinets	National Fire Equipment	Wilson & Cousins, Stelpro
Excess Pressure Pump	Albany	

1.9 ITEMIZED PRICES

These Itemized Prices will be used to identify the cost of components within the total Bid Sum required for the Owner's own internal auditing, exclusive of HST.

- .1 Supply and installation of Fire Alarm System complete with associated components, conduit and wiring as shown on drawing and described in specification.

_____ Dollars (\$ _____)

- .2 Supply and installation of Dimming System complete with associated components, conduit and wiring as shown on drawing and described in specification.

_____ Dollars (\$ _____)

- .3 Supply and installation of Security System complete with associated components, conduit and wiring as shown on drawing and described in specification.

_____ Dollars (\$ _____)

1.10 SIGNING OF SUPPLEMENTARY FORM OF TENDER

PRINT COMPANY NAME: _____

PRINT NAME OF CONTACT PERSON
REGARDING THIS TENDER: _____

PRINT ADDRESS OF COMPANY: _____

PHONE NUMBER OF COMPANY: _____

PRINT NAME OF CONTACT PERSON
REGARDING THIS TENDER: _____

CONTACT PERSON'S EMAIL: _____

EMAIL ADDRESS SIGNING OFFICER: _____

SIGNATURE OF SIGNING OFFICER: _____

DATE: _____

PRINT NAME OF SIGNING OFFICER: _____

PRINT TITLE OF SIGNING OFFICER: _____

SIGNATURE OF WITNESS: _____

PRINT NAME OF WITNESS: _____

AFFIX CORPORATE SEAL (If no individual Witness):

END OF SECTION



Waterloo Catholic
District School Board

**SUPPLEMENTARY CONDITIONS
AMENDMENTS TO CCDC 2 – 2020
STIPULATED PRICE CONTRACT (Version May 2022)**

- 1 -



**Waterloo Catholic
District School Board**

**SUPPLEMENTARY CONDITIONS &
AMENDMENTS TO STANDARD CONSTRUCTION
DOCUMENT CCDC2 -2020 STIPULATED PRICE
CONTRACT**

(the “Supplementary Conditions”)

**AGREEMENT, DEFINITIONS, AND
GENERAL CONDITIONS**



SUPPLEMENTARY CONDITIONS
AMENDMENTS TO CCDC 2 – 2020
STIPULATED PRICE CONTRACT (Version May 2022)

- 2 -

The Standard Construction Document CCDC 2 2020 for a Stipulated Price Contract, English version, consisting of the Agreement Between *Owner* and Contractor, Definitions and General Conditions of the Stipulated Price Contract, Parts 1 to 13 inclusive, governing same, together with the changes with the new *Construction Act* is hereby made part of these *Contract Documents*, with the following amendments, additions and modifications:

AGREEMENT BETWEEN OWNER AND CONTRACTOR

SC1 ARTICLE A-1 – THE WORK

SC1.1	A-1.3	<p><u>Amend</u> Article A-1.3 by <u>deleting</u> all of the words after “<i>Contract Documents</i>” and <u>replace</u> them with the following”</p> <p>“attain</p> <p>.1 <i>Substantial Performance of the Work</i> by the [] day of [] in the year 20 []</p> <p>.2 (if applicable) <i>Occupancy</i> by the [] day of [] in the year 20 [], and</p> <p>.3 <i>Ready-for-Takeover</i> by the [] day of [] in the year 20 [].”</p>
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SC2 ARTICLE A-3 – CONTRACT DOCUMENTS

SC2.1	A-3.1	<p><u>Add</u> the following documents to the list of <i>Contract Documents</i> in Article A-3.1:</p> <ul style="list-style-type: none"> • Waterloo Catholic District School Board’s Supplementary Conditions & Amendments to Standard Construction Document CCDC2-2020 Stipulated Price Subcontract, May 2022 Version, including any Special Supplementary Conditions listed in Appendix 2 thereto • <i>Drawings</i> • <i>Specifications</i> • Performance Bond (Form 32 -Performance Bond under Section 85.1 of the <i>Act</i>) • Labour and Material Payment Bond (Form 31 – Labour and Material Payment Bond under Section 85.1 of the <i>Act</i>)
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SC3 ARTICLE A-4 – CONTRACT PRICE

SC3.1	A-4.4	<p><u>Delete</u> Article A-4.4 and <u>replace</u> it with the following:</p> <p>“4.4 The <i>Contract Price</i> shall remain fixed for the duration of the <i>Contract Time</i>, subject only to adjustments as provided for in the <i>Contract Documents</i>. For certainty, and without limiting the general application of the preceding sentence, the <i>Contractor</i> assumes all risks in connection with cost increases for overhead, <i>Products</i>, <i>Labour</i>, and <i>Construction Equipment</i> prescribed by the <i>Contract Documents</i> for the performance of the <i>Work</i>, and the <i>Contractor</i> assumes all responsibility for liabilities and additional costs that may arise as a result of the <i>Contractor’s</i> inclusion of any <i>Product</i>, <i>Construction Equipment</i>, <i>Supplier</i>, or <i>Subcontractor</i> in its calculation of the <i>Contract Price</i>.”</p>
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SC4 ARTICLE A-5 – PAYMENT

SC4.1	A-5.1	<p><u>Delete</u> Article A- 5.1 in its entirety including all subparagraphs and <u>replace</u> it with the following:</p>
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SUPPLEMENTARY CONDITIONS
AMENDMENTS TO CCDC 2 – 2020
STIPULATED PRICE CONTRACT (Version May 2022)

		<p>“5.1 Subject to the provisions of the <i>Contract Documents</i> and the <i>Construction Act</i>, the <i>Owner</i> shall:</p> <ul style="list-style-type: none"> .1 make progress payments to the <i>Contractor</i> on account of the <i>Contract Price</i> when due together with such <i>Value Added Taxes</i> as may be applicable to such payments, .2 upon <i>Substantial Performance of the Work</i> as certified by the <i>Consultant</i>, and on the 61st day after the publication of the certificate of <i>Substantial Performance of the Work</i>, in accordance with the <i>Construction Act</i>, there being no claims for lien registered against the title to the <i>Place of the Work</i> and no written notices of lien delivered to the <i>Owner</i>, pay the <i>Contractor</i> the unpaid balance of the holdback, together with such <i>Value Added Taxes</i> as may be applicable to such payment, less any amount stated in the <i>Owner’s Notice of Non-Payment</i>. .3 after <i>Ready-for-Takeover</i> has been achieved in accordance with the <i>Contract Documents</i> and the <i>Work</i> is complete, there being no claims for lien registered against the title to the <i>Place of the Work</i> and no written notices of lien delivered to the <i>Owner</i>, pay the <i>Contractor</i> any unpaid balance of the <i>Contract Price</i> in accordance with GC 5.5 – FINAL PAYMENT, together with such <i>Value Added Taxes</i> as may be applicable to such payment.”
SC 4.2	A-5.2.1	<p><u>Delete</u> subparagraph 5.2.1 in its entirety and <u>replace</u> it with the following:</p> <p>“.1 Should either party fail to make payments as they become due under the terms of the <i>Contract</i> or in an award by arbitration or court, interest shall also become due and payable on such unpaid amounts at the prejudgment interest rate prescribed by the <i>Courts of Justice Act</i> (Ontario), as it may change from time to time.”</p>

SC5 *NEW* ARTICLE A-9 – CONFLICT OF INTEREST

SC5.1	A-9	<p><u>Add</u> new ARTICLE A-9 CONFLICT OF INTEREST as follows:</p> <p>“ARTICLE A-9 CONFLICT OF INTEREST</p> <p>9.1 The <i>Contractor</i>, <i>Subcontractors</i> and <i>Suppliers</i> and any of their respective advisors, partners, directors, officers, employees, agents, and volunteers shall not engage in any activity or provide any services where such activity or the provision of such services creates a conflict of interest (actually or potentially, in the sole opinion of the <i>Owner</i>) with the provision of the <i>Work</i> pursuant to the <i>Contract</i>. The <i>Contractor</i> acknowledges and agrees that a conflict of interest, as described in this Article A-9, includes, but is not limited to, the use of <i>Confidential Information</i> where the <i>Owner</i> has not specifically authorized such use.</p> <p>9.2 The <i>Contractor</i> shall disclose to the <i>Owner</i>, in writing, without delay, any actual or potential situation that may be reasonably interpreted as either a conflict of interest or a potential conflict of interest, including the retention of any <i>Subcontractor</i> or <i>Supplier</i> that is directly or indirectly affiliated with or related to the <i>Contractor</i>.</p> <p>9.3 The <i>Contractor</i> covenants and agrees that it will not hire or retain the services of any employee or previous employee of the <i>Owner</i> where to do so constitutes a breach by such employee or previous employee of the <i>Owner’s</i> conflict of interest policy, as it may be amended from time to time, until after completion of the <i>Work</i> under the <i>Contract</i>.</p> <p>9.4 It is of the essence of the <i>Contract</i> that the <i>Owner</i> shall not have direct or indirect liability to any <i>Subcontractor</i> or <i>Supplier</i>, and that the <i>Owner</i> relies on the maintenance of an arm's-length relationship between the <i>Contractor</i> and its</p>
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		<p><i>Subcontractors and Suppliers.</i> Consistent with this fundamental term of the <i>Contract</i>, the <i>Contractor</i> will not enter into any agreement or understanding with any <i>Subcontractor or Supplier</i>, whether as part of any contract or any written or oral collateral agreement, pursuant to which the parties thereto agree to cooperate in the presentation of a claim for payment against the <i>Owner</i>, directly or through the <i>Contractor</i>, where such claim is, in whole or in part, in respect of a disputed claim by the <i>Subcontractor or Supplier</i> against the <i>Contractor</i>, where the payment to the <i>Subcontractor or Supplier</i> by the <i>Contractor</i> is agreed to be conditional or contingent on the ability to recover those amounts or a portion thereof from the <i>Owner</i>, failing which the <i>Contractor</i> shall be saved harmless from all or a portion of those claims. The <i>Contractor</i> acknowledges that any such agreement would undermine the required arm's-length relationship and constitute a conflict of interest. For greater certainty, the <i>Contractor</i> shall only be entitled to advance claims against the <i>Owner</i> for amounts pertaining to <i>Subcontractor or Supplier</i> claims where the <i>Contractor</i> has actually paid or unconditionally acknowledged liability for those claims or where those claims are the subject of litigation or binding arbitration between the <i>Subcontractor or Supplier</i> and the <i>Contractor</i> has been found liable for those claims.</p> <p>9.5 Notwithstanding paragraph 7.1.2 of GC 7.1 - OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, OR TERMINATE THE CONTRACT, a breach of this Article A-9 by the <i>Contractor</i>, any of the <i>Subcontractors</i>, or any of their respective advisors, partners, directors, officers, employees, agents, and volunteers shall entitle the <i>Owner</i> to terminate the <i>Contract</i>, in addition to any other rights and remedies that the <i>Owner</i> has in the <i>Contract</i>, in law, or in equity."</p>
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SC6 *NEW* ARTICLE A-10 TIME OF THE ESSENCE

SC6.1	Article A-10	<p><u>Add</u> the following new Article A-10 as follows:</p> <p>“ARTICLE A-10 TIME OF THE ESSENCE</p> <p>10.1 It is agreed that one of the reasons the <i>Contractor</i> was selected by the <i>Owner</i> for this <i>Contract</i> is the <i>Contractor's</i> representation and covenant that it will attain <i>Substantial Performance, Occupancy</i> (if applicable), and <i>Ready-for-Takeover</i> within the <i>Contract Time</i> stated in Article A-1 of this <i>Contract</i>.</p> <p>10.2 The <i>Contractor</i> acknowledges and agrees that it is responsible to marshal its resources and those of its <i>Subcontractors and Suppliers</i> in a manner which will permit timely attainment of <i>Substantial Performance, Occupancy</i> (if applicable), and <i>Ready-for-Takeover</i>. The <i>Contractor</i> agrees that time is of the essence of this <i>Contract</i>.”</p>
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SC7 DEFINITIONS

Revisions to Existing Definitions		
SC7.1	Consultant	<p><u>Amend</u> the definition of “Consultant” by <u>adding</u> the following to the end of the definition:</p> <p>“For the purposes of the <i>Contract</i>, the terms “<i>Consultant</i>”, “<i>Architect</i>” and “<i>Engineer</i>” shall be considered synonymous.”</p>



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SC7.2	Payment Legislation/Construction Act	<p><u>Delete</u> the Definition of <i>Payment Legislation</i> and replace it with “Construction Act” as follows:</p> <p>“Construction Act</p> <p><i>Construction Act</i> means the <i>Construction Act</i>, R.S.O. 1990, c. C.30, as amended, including all regulations passed under it that are enforceable as of the date of execution of this <i>Contract</i>. For certainty, the first procurement process for the <i>Project</i> (i.e., the “improvement” as that term is defined in the <i>Construction Act</i>) was commenced on or after October 1, 2019.”</p>
SC7.3	Ready-for-Takeover	<p><u>Amend</u> the Definition of <i>Ready-for-Takeover</i> by deleting all the words after “as verified” and replacing them with “and approved by the <i>Owner</i>.”</p>
New Definitions		
SC7.4	Adjudication	<p><u>Add</u> the following definition:</p> <p>“Adjudication</p> <p><i>Adjudication</i> means construction dispute interim adjudication as defined under the <i>Construction Act</i>.”</p>
SC7.5	Close-Out Documentation	<p><u>Add</u> the following new definition:</p> <p>“Close-Out Documentation</p> <p><i>Close-Out Documentation</i> has the meaning given to it under GC 5.4.2.”</p>
SC7.6	Confidential Information	<p><u>Add</u> the following definition:</p> <p>“Confidential Information</p> <p><i>Confidential Information</i> means all the information or material of the <i>Owner</i> that is of a proprietary or confidential nature, whether it is identified as proprietary or confidential or not, including but not limited to information and material of every kind and description (such as drawings and move-lists) which is communicated to or comes into the possession or control of the <i>Contractor</i> at any time, but <i>Confidential Information</i> shall not include information that:</p> <ol style="list-style-type: none"> .1 is or becomes generally available to the public without fault or breach on the part of the <i>Contractor</i>, including without limitation breach of any duty of confidentiality owed by the <i>Contractor</i> to the <i>Owner</i> or to any third party, but only after that information becomes generally available to the public; .2 the <i>Contractor</i> can demonstrate to have been rightfully obtained by the <i>Contractor</i> from a third party who had the right to transfer or disclose it to the <i>Contractor</i> free of any obligation of confidence; .3 the <i>Contractor</i> can demonstrate to have been rightfully known to or in the possession of the <i>Contractor</i> at the time of disclosure, free of any obligation of confidence; or .4 is independently developed by the <i>Contractor</i> without use of any <i>Confidential Information</i>.”
SC7.7	Construction Schedule	<p><u>Add</u> the following definition:</p> <p>“Construction Schedule</p> <p><i>Construction Schedule</i> means the schedule for the performance of the <i>Work</i> provided by the <i>Contractor</i>, and approved by the <i>Owner</i>, pursuant to GC 3.4.1, including any amendments to the <i>Construction Schedule</i> made pursuant to the <i>Contract Documents</i>.”</p>



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SC7.8	Construction Schedule Update	<p><u>Add</u> the following definition:</p> <p>“Construction Schedule Update</p> <p><i>Construction Schedule Update</i> means an update to the <i>Construction Schedule</i> by the <i>Contractor</i> using Microsoft Project (or other approved scheduling software) that accurately depicts the progress of the <i>Work</i> relative to the critical path established in the <i>Construction Schedule</i> approved in GC 3.5.1 (or any approved successor <i>Construction Schedule</i>), aligns with the currently approved date for <i>Substantial Performance of the Work</i>, shows up-to-date projected major activity sequences and durations, and shows any changes or delays in anticipated completion dates of major activities in the <i>Work</i> relative to the last <i>Construction Schedule Update</i>, and includes the following minimum deliverables:</p> <p>(a) a record version of the updated <i>Construction Schedule</i> in .pdf format;</p> <p>(b) an editable copy of the updated original digital file of the <i>Construction Schedule</i> (e.g., .mpp format files for Microsoft Project).”</p>
SC7.9	Direct Costs	<p><u>Add</u> the following definition:</p> <p>“Direct Costs</p> <p><i>Direct Costs</i> are the reasonable costs of performing the contract or subcontract including costs related to the additional supply of services or materials (including equipment rentals), insurance and surety bond premiums, and costs resulting from seasonal conditions, that would not have been incurred, but do not include indirect damages suffered, such as loss of profit, productivity or opportunity, or any head office overhead costs.”</p>
SC7.10	EFT	<p><u>Add</u> the following definition:</p> <p>“EFT</p> <p><i>EFT</i> has the definition given to it under GC 5.3.2.”</p>
SC7.11	Excess Soil	<p><u>Add</u> the following definition:</p> <p>“Excess Soil</p> <p><i>Excess Soil</i> means “excess soil” as that term is defined under section 3 of the <i>Excess Soil Regulation</i>.”</p>
SC7.12	Excess Soil Regulation	<p><u>Add</u> the following Definition:</p> <p>“Excess Soil Regulation</p> <p><i>Excess Soil Regulation</i> means O. Reg. 406/19: On-Site and Excess Soil Management to the <i>Environmental Protection Act</i>, R.S.O. 1990, c. E.19.”</p>
SC7.13	Final Pre-Invoice Submission Meeting	<p><u>Add</u> the following definition:</p> <p>“Final Pre-Invoice Submission Meeting</p> <p><i>Final Pre-Invoice Submission Meeting</i> has the meaning given to it in GC 5.5.1.”</p>



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SC7.14	Force Majeure	<p><u>Add</u> the following definition:</p> <p>“Force Majeure</p> <p><i>Force Majeure</i> means any cause, unknown at the effective date of the <i>Contract</i> and beyond either party’s control, other than financial difficulties, bankruptcy or insolvency, which prevents the performance by a party, or both, of any of their respective obligations under the <i>Contract</i> and the event of <i>Force Majeure</i> did not arise from a party’s default and could not be avoided or mitigated by the exercise of reasonable effort or foresight. <i>Force Majeure</i> includes <i>Labour Disputes</i>; fire; unusual delay by common carriers or unavoidable casualties; delays in obtaining third-party licences, permits, agreements, or approvals (excluding approvals of any <i>Subcontractors</i> or <i>Suppliers</i> of any tier); civil disturbance; emergency acts, orders, legislation, regulations or directives of any government or other public authority; acts of a public enemy; war; riot; sabotage; blockage; embargo; lightning; earthquake; adverse weather conditions but only if substantially beyond the weather norms of the <i>Place of the Work</i>; acts of God; or declared epidemic or pandemic outbreak or other public health emergency (e.g. SARS, COVID-19).”</p>
SC7.15	Install	<p><u>Add</u> the following definition:</p> <p>“Install</p> <p><i>Install</i> means install and connect. <i>Install</i> has this meaning whether or not the first letter is capitalized.”</p>
SC7.16	Labour Dispute	<p><u>Add</u> the following definition:</p> <p>“Labour Dispute</p> <p><i>Labour Dispute</i> means any lawful or unlawful labour problems, work stoppage, labour disruption, strike, job action, slow down, lock-outs, picketing, refusal to work or continue to work, refusal to supply materials, cessation or work or other labour controversy which does, or might, affect the <i>Work</i>.”</p>
SC7.17	Notice of Non-Payment	<p><u>Add</u> the following definition:</p> <p>“Notice of Non-Payment</p> <p><i>Notice of Non-Payment</i> means a notice of non-payment of holdback (Form 6) or a notice of non-payment (Form 1.1) under the <i>Act</i>, as applicable to the circumstances.”</p>
SC7.18	OHSA	<p><u>Add</u> the following definition:</p> <p>“OHSA</p> <p><i>OHSA</i> means the <i>Occupational Health and Safety Act</i>, R.S.O. 1990, c. O.1, as amended, including all regulations thereto.”</p>
SC7.19	Overhead	<p><u>Add</u> the following definition:</p> <p>“Overhead</p> <p><i>Overhead</i> means all site and head office operations and facilities, all site and head office administration and supervision; all duties and taxes for permits and licenses required by the authorities having jurisdiction at the <i>Place of the Work</i>; all requirements of Division 1, including but not limited to submittals, warranty, quality control, calculations, testing and inspections; meals and accommodations; and, tools, expendables and clean-up costs.”</p>



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SC7.20	Payment Period	<p><u>Add</u> the following definition:</p> <p>“Payment Period</p> <p><i>Payment Period</i> has the definition given to it under GC 5.2.1.”</p>
SC7.21	Pre-Invoice Submission Meeting	<p><u>Add</u> the following definition:</p> <p>“Pre-Invoice Submission Meeting</p> <p><i>Pre-Invoice Submission Meeting</i> has the definition given to it under GC 5.2.1.”</p>
SC7.22	Proper Invoice	<p><u>Add</u> the following definition:</p> <p>“Proper Invoice</p> <p><i>Proper Invoice</i> means a “proper invoice” as that term is defined in Section 6.1 of the <i>Act</i>, including the minimum requirements set out in Appendix “1” of the Supplementary Conditions.”</p>
SC7.23	Proper Invoice Submission Date	<p><u>Add</u> the following definition:</p> <p>“Proper Invoice Submission Date</p> <p><i>Proper Invoice Submission Date</i> has the definition given to it under GC 5.2.2.1.”</p>
SC7.24	Request for Information (RFI)	<p><u>Add</u> the following definition:</p> <p>“Request for Information (RFI)</p> <p><i>Request for Information</i> or <i>RFI</i> means written documentation sent by the <i>Contractor</i> to the <i>Owner</i> or to the <i>Owner’s</i> representative or the <i>Consultant</i> requesting written clarification(s) and/or interpretation(s) of the <i>Drawings</i> and/or <i>Specifications</i>, <i>Contract</i> requirements and/or other pertinent information required to complete the <i>Work</i> of the <i>Contract</i> without applying for a change or changes to the <i>Work</i>.”</p>
SC7.25	Restricted Period	<p><u>Add</u> the following definition:</p> <p>“Restricted Period</p> <p><i>Restricted Period</i> means the (inclusive) period of time between December 1 to January 8 and August 15 to September 15 of any given year throughout the duration of the <i>Contract</i>.”</p>

GENERAL CONDITIONS OF THE STIPULATED PRICE CONTRACT

Where a General Condition or paragraph of the General Conditions of the *Contract* is deleted by these amendments, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, unless stated otherwise herein, and the numbering of the deleted item will be retained, unused.

PART 1 GENERAL PROVISIONS

SC8 GC 1.1 CONTRACT DOCUMENTS

SC8.1	1.1.3	<p><u>Delete</u> GC 1.1.3 in its entirety and <u>replace</u> it with the following:</p> <p>“1.1.3 The <i>Contractor</i> shall review the <i>Contract Documents</i> and shall report promptly to the <i>Consultant</i> any error, inconsistency, or omission the <i>Contractor</i> may discover. Such review by the <i>Contractor</i> shall be undertaken with the standard of care described in GC 3.13.1. Except for its obligation to make such review and report the result, the</p>
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		<p><i>Contractor</i> does not assume any responsibility to the <i>Owner</i> or to the <i>Consultant</i> for the accuracy of the <i>Contract Documents</i>. Provided it has exercised the degree of care and skill described in this GC 1.1.3, the <i>Contractor</i> shall not be liable for damage or costs resulting from such errors, inconsistencies, or omissions in the <i>Contract Documents</i>, which the <i>Contractor</i> could not reasonably have discovered through the exercise of the required standard of care.”</p>
SC8.2	1.1.4	<p><u>Delete</u> GC 1.1.4 in its entirety and <u>replace</u> it with the following:</p> <p>“1.1.4 Except for the obligation to complete the review prescribed in GC 1.1.3, and report the results as set out in this GC 1.1.4, the <i>Contractor</i> is not responsible for errors, omissions or inconsistencies in the <i>Contract Documents</i>. If there are errors, omissions or inconsistencies discovered by or made known to the <i>Contractor</i> as part of its review under GC 1.1.3 or at any time during the performance of the <i>Work</i>, the <i>Contractor</i> shall immediately notify the <i>Consultant</i>, and request instructions, a <i>Supplemental Instruction</i>, <i>Change Order</i>, or <i>Change Directive</i>, as the case may require, and shall not proceed with the <i>Work</i> affected until the <i>Contractor</i> has received corrected or additional information from the <i>Consultant</i>. The <i>Contractor</i> shall not be liable for damage or costs resulting from such errors, inconsistencies, or omissions in the <i>Contract Documents</i>, which the <i>Contractor</i> could not reasonably have discovered through the exercise of care and skill described in GC 3.13.”</p>
SC8.3	1.1.5.1	<p><u>Delete</u> GC 1.1.5.1 and <u>replace</u> with the following:</p> <p>“.1 the order of priority of documents, from highest to lowest, shall be:</p> <ul style="list-style-type: none"> .1 Supplementary Conditions; .2 the Agreement between the Owner and the Contractor; .3 the Definitions; .4 the General Conditions; .5 Division 01 of the <i>Specifications</i> .6 technical <i>Specifications</i>; .7 material and finishing schedules; and .8 the <i>Drawings</i>.
SC8.4	1.1.5.5	<p><u>Delete</u> GC 1.1.5.5 and <u>replace</u> with the following:</p> <p>“.5 Noted materials and annotations on the <i>Drawings</i> shall govern over the graphic representation of the <i>Drawings</i>.”</p>
SC8.5	1.1.5.6 to 1.1.5.8	<p><u>Add</u> the following new GC 1.1.5.6 to 1.1.5.8 as follows:</p> <p>“.6 Finishes in the room finish schedules shall govern over those shown on the <i>Drawings</i>.</p> <p>.7 Architectural drawings shall have precedence over structural, plumbing, mechanical, electrical and landscape drawings insofar as outlining, determining and interpreting conflicts over the required design intent of all architectural layouts and architectural elements of construction, it being understood that the integrity and installation of the systems designed by the <i>Consultant</i>, or its sub-<i>Consultants</i> are to remain with each of the applicable drawing disciplines.</p> <p>.8 Should reference standards contained in the <i>Specifications</i> conflict with the <i>Specifications</i>, the <i>Specifications</i> shall govern. Should reference standards and <i>Specifications</i> conflict with each other or if certain requirements of the <i>Specifications</i> conflict with other requirements of the <i>Specifications</i>, the more stringent requirements shall govern.”</p>



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SC8.6	1.1.9	<p><u>Add</u> the following to the end of GC 1.1.9:</p> <p>“The <i>Specifications</i> are divided into divisions and sections for convenience but shall be read as a whole and neither such division nor anything else contained in the <i>Contract Documents</i> will be construed to place responsibility on the <i>Owner</i> or the <i>Consultant</i> to settle disputes among the <i>Subcontractors</i> and <i>Suppliers</i> with respect to such divisions. The <i>Drawings</i> are, in part, diagrammatic and are intended to convey the scope of the <i>Work</i> and indicate general and appropriate locations, arrangements and sizes of fixtures, equipment, outlets and other elements. The <i>Contractor</i> shall obtain more accurate information about the locations, arrangements and sizes from study and coordination of the <i>Drawings</i>, including <i>Shop Drawings</i> and shall become familiar with conditions and spaces affecting those matters before proceeding with the <i>Work</i>. Where site conditions require reasonable minor changes where the change requires only the additional labour two hours or less, the <i>Contractor</i> shall make such changes at no additional cost to the <i>Owner</i>. Similarly, where known conditions or existing conditions interfere with new installation and require relocation, the <i>Contractor</i> shall include such relocation in the <i>Work</i>. The <i>Contractor</i> shall arrange and install fixtures and equipment in such a way as to conserve as much headroom and space as possible. The schedules are those portions of the <i>Contract Documents</i>, wherever located and whenever issued, which compile information of similar content and may consist of drawings, tables and/or lists.”</p>
SC8.7	1.1.13	<p><u>Add</u> new paragraph 1.1.13 as follows:</p> <p>1.1.13 The <i>Contractor</i> shall keep one copy of the current <i>Contract Documents</i>, <i>Supplemental Instructions</i>, contemplated <i>Change Orders</i>, <i>Change Orders</i>, <i>Change Directives</i>, cash allowance disbursement authorizations, reviewed <i>Shop Drawings</i>, submittals, reports and records of meeting at the <i>Place of the Work</i>, in good order and available to the <i>Owner</i> and <i>Consultant</i>.”</p>

SC9 GC 1.3 RIGHTS AND REMEDIES

SC9.1	1.3.2	<p>In paragraph 1.3.2 <u>delete</u> the word “No” from the beginning of the paragraph and <u>replace</u> it with the words:</p> <p>“Except with respect to the requirements set out in paragraphs 6.4.1, 6.5.4, 6.6.1 and 8.3.2, no...”</p>
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SC10 *NEW* GC 1.5 EXAMINATION OF DOCUMENTS AND SITE

SC10.1	1.5	<p><u>Add</u> new GC 1.5 – EXAMINATION OF DOCUMENTS AND SITE as follows:</p> <p>“GC 1.5 EXAMINATION OF DOCUMENTS AND SITE</p> <p>1.5.1 The <i>Contractor</i> declares and represents that in tendering for the <i>Work</i>, and in entering into a Contract with the <i>Owner</i> for the performance of the <i>Work</i>, it has investigated for itself the character of the <i>Work</i> to be done, based on information generally available from a visit to the <i>Place of the Work</i> and to the standard set out under GC 3.14.1 and further represents and warrants and acknowledges that it considered and took into account in the <i>Contract Price</i> all reasonably known impacts and restrictions arising from the COVID-19 pandemic, including without limitation corresponding legislative changes that may impact performance of the <i>Project</i>, various weather conditions that may affect the <i>Work</i>, the availability of supplies and labour or other conditions or risks that the <i>Contractor</i> knew about or reasonably ought to have known about prior to the date of the <i>Contract</i>. The <i>Contractor</i> has assumed and does hereby assume all risk of known conditions now existing or arising in the course of the <i>Work</i> which might or could make the <i>Work</i>, or any items</p>
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		thereof more expensive in character, or more onerous to fulfil, than was contemplated or known when the tender was made or the <i>Contract</i> signed.
	1.5.2	The <i>Contractor</i> also declares that prior to commencement of the <i>Work</i> , where in tendering for the <i>Work</i> and in entering into this <i>Contract</i> , the <i>Contractor</i> relied upon information furnished by the <i>Owner</i> or any of its agents or servants respecting the nature or confirmation of the ground at the site of the <i>Work</i> , the <i>Contractor</i> shall review to the standard specified in GC 3.14.1, the accuracy of the information furnished by the <i>Owner</i> . If a condition is materially different than what is stated in the information furnished by the <i>Owner</i> , the <i>Contractor</i> shall, no later than five (5) <i>Working Days</i> after the first observation of such condition(s), deliver to the <i>Owner</i> and to the <i>Consultant</i> a <i>Notice in Writing</i> specifying the materially different condition and the <i>Contractor</i> shall not proceed with the affected part of the <i>Work</i> until receiving written direction from the <i>Owner</i> or the <i>Consultant</i> . Where the <i>Contractor</i> fails to provide prompt <i>Notice in Writing</i> in accordance with this GC 1.5.2, the <i>Contractor</i> expressly waives and releases the <i>Owner</i> from all claims with respect to the said information with respect to the <i>Work</i> .

PART 2 ADMINISTRATION OF THE CONTRACT

SC11 GC 2.2 ROLE OF THE CONSULTANT

SC11.1	2.2.5	<u>Delete</u> paragraph 2.2.4 and <u>replace</u> it with the following: "2.2.4 Upon receipt of an application for payment that satisfies the requirement of a <i>Proper Invoice</i> , based on the <i>Consultant's</i> observations and evaluation of the <i>Contractor's</i> application for payment, the <i>Consultant</i> will determine the amounts owing to the <i>Contractor</i> under the <i>Contract</i> and will issue certificates for payment as provided in Article A-5 - PAYMENT, GC 5.3 - PAYMENT, GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK, and GC 5.5 - FINAL PAYMENT. If the <i>Consultant</i> determines that the amount payable to the <i>Contractor</i> differs from the amount stated in a <i>Proper Invoice</i> , the <i>Consultant</i> shall notify the <i>Owner</i> as provided in GC 5.3.1.2 and prepare a draft of the applicable <i>Notice of Non-Payment</i> for the amount in dispute."
SC11.2	2.2.6	In the first sentence of paragraph 2.2.6, <u>delete</u> the words "Except with respect to GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER".
SC11.3	2.2.12	At paragraph 2.2.12, <u>insert</u> the following at end of that paragraph: "If, in the opinion of the <i>Contractor</i> , the <i>Supplemental Instruction</i> involves an adjustment in the <i>Contract Price</i> or in the <i>Contract Time</i> , it shall, within ten (10) <i>Working Days</i> of receipt of a <i>Supplemental Instruction</i> , provide the <i>Consultant</i> with a notice in writing to that effect. Failure to provide written notification within the time stipulated in this paragraph 2.2.12 shall be deemed an acceptance of the <i>Supplemental Instruction</i> by the <i>Contractor</i> , without any adjustment in the <i>Contract Price</i> or <i>Contract Time</i> ."

SC12 GC 2.3 REVIEW AND INSPECTION OF THE WORK

SC12.1	2.3.2	<u>Amend</u> paragraph 2.3.2 by <u>adding</u> the words "and <i>Owner</i> " after the words " <i>Consultant</i> " in the second and third lines.
SC12.2	2.3.3	<u>Delete</u> paragraph 2.3.3 in its entirety and <u>replace</u> it with the following: "2.3.3 The <i>Contractor</i> shall furnish promptly two copies to the <i>Consultant</i> and one copy to the <i>Owner</i> of all certificates and inspection reports relating to the <i>Work</i> ."



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SC12.3	2.3.4	In paragraph 2.3.4 <u>add</u> the word “review” after the word “inspections” in the first and second lines of paragraph 2.3.4.
SC12.4	2.3.5	In paragraph 2.3.5 in the first line after the word “ <i>Consultant</i> ”, <u>add</u> “or the <i>Owner</i> ”.
SC12.5	2.3.8	<u>Add</u> a new paragraph 2.3.8 as follows: “2.3.8 The <i>Consultant</i> will conduct periodic reviews of the <i>Work</i> in progress, to determine general conformance with the requirements of the <i>Contract Documents</i> . Such reviews, or lack thereof, shall not give rise to any claims by the <i>Contractor</i> in connection with construction means, methods, techniques, sequences and procedures, nor in connection with construction safety at the <i>Place of Work</i> , responsibility for which belongs exclusively to the <i>Contractor</i> .”

SC13 GC 2.4 DEFECTIVE WORK

SC13.1	2.4.1	<u>Amend</u> GC 2.4.1 by inserting “, the <i>Owner</i> and/or its agent” in the first sentence following “rejected by the <i>Consultant</i> ”.
SC13.2	2.4.1.1 to 2.4.1.2	<u>Add</u> new paragraphs 2.4.1.1 and 2.4.1.2 as follows: “2.4.1.1 The <i>Contractor</i> shall rectify, in a manner acceptable to the <i>Consultant</i> and to the <i>Owner through the Consultant</i> all defective work and deficiencies throughout the <i>Work</i> , whether or not they are specifically identified by the <i>Consultant</i> . 2.4.1.2 The <i>Contractor</i> shall prioritize the correction of any defective work, which, in the sole discretion of the <i>Owner through the Consultant</i> , adversely affects the day to day operations of the <i>Owner</i> or which, in the sole discretion of the <i>Consultant</i> , adversely affects the progress of the <i>Work</i> .”
SC13.3	2.4.2	<u>Delete</u> paragraph 2.4.2 in its entirety and <u>replace</u> it with the following: “2.4.2 The <i>Contractor</i> shall promptly pay the <i>Owner</i> for costs incurred by the <i>Owner</i> , the <i>Owner’s</i> own forces or the <i>Owner’s</i> other contractors, for work destroyed or damaged or any alterations necessitated by the <i>Contractor’s</i> removal, replacement or re-execution of defective work.”
SC13.4	2.4.4	<u>Add</u> new paragraph 2.4.4 as follows: “2.4.4 Neither acceptance of the <i>Work</i> by the <i>Consultant</i> or the <i>Owner</i> , nor any failure by the <i>Consultant</i> or the <i>Owner</i> to identify, observe or warn of defective <i>Work</i> or any deficiency in the <i>Work</i> shall relieve the <i>Contractor</i> from the sole responsibility for rectifying such defect or deficiency at the <i>Contractor’s</i> sole cost, even where such failure to identify, observe or warn is negligent.”

PART 3 EXECUTION OF THE WORK

SC14 GC 3.1 CONTROL OF THE WORK

SC14.1	3.1.2	Amend paragraph 3.1.2 by <u>inserting</u> the words “Construction Schedule” after the word “sequences”.
SC14.2	3.1.3 & 3.1.4	<u>Add</u> new paragraphs 3.1.3 and 3.1.4 as follows: “3.1.3 Prior to commencing individual procurement, fabrication and construction activities, the <i>Contractor</i> shall verify at the <i>Place of the Work</i> , all relevant measurements and



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		<p>levels necessary for proper and complete fabrication, assembly and installation of the <i>Work</i> and shall further carefully compare such field measurements and conditions with the requirements of the <i>Contract Documents</i>. Where dimensions are not included or exact locations are not apparent, the <i>Contractor</i> shall immediately notify the <i>Consultant</i> in writing and obtain written instructions from the <i>Consultant</i> before proceedings with any part of the affected <i>Work</i>.</p> <p>3.1.4 Notwithstanding the provisions of paragraphs 3.1.1 and 3.1.2, the <i>Owner</i> shall have access to the site at all times to monitor all aspects of construction. Such access shall in no circumstances affect the obligations of the <i>Contractor</i> to fulfill its contractual obligations.”</p>
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SC15 GC 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS

SC15.1	3.2.2.1	<u>Delete</u> subparagraph 3.2.2.1 and <u>replace</u> it with “[Intentionally left blank]”.
SC15.2	3.2.3.2	<p><u>Delete</u> subparagraph 3.2.3.2 and <u>replace</u> it with the following:</p> <p>“.2 co-ordinate and schedule the activities and work of other contractors and the <i>Owner’s</i> own forces, including where other contractors or the <i>Owner’s</i> own forces are used after the <i>Owner</i> and the <i>Contractor</i> cannot reach agreement on the value of a change, with the <i>Work</i> of the <i>Contractor</i> and connect as specified or shown in the <i>Contract Documents</i>.”</p>
SC15.3	3.2.3.4	<u>Delete</u> the period at the end of subparagraph 3.2.3.4 and <u>replace</u> it with a semi-colon.
SC15.4	3.2.3.5	<p><u>Add</u> new subparagraph 3.2.3.5 as follows:</p> <p>“.5 Subject to GC 9.4 CONSTRUCTION SAFETY, for the <i>Owner’s</i> own forces and for other contractors, assume overall responsibility for compliance with all aspects of the applicable health and safety legislation in force at the <i>Place of the Work</i>, including all of the responsibilities of the “constructor”, pursuant to the <i>OHSA</i>.”</p>

SC16 GC 3.3 TEMPORARY WORK

SC16.1	3.3.2	In paragraph 3.3.2, in the second line after the words “where required by law”, insert “or by the <i>Consultant</i> ”.
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SC17 GC 3.4 CONSTRUCTION SCHEDULE

SC17.1	3.4.1	<p><u>Delete</u> GC 3.4.1 in its entirety and <u>replace</u> it with the following:</p> <p>“3.4.1 The <i>Contractor</i> shall:</p> <p>1 within five (5) calendar days of receiving written confirmation of the award of the <i>Contract</i>, prepare and submit to the <i>Owner</i> and the <i>Consultant</i> for their review and approval, a construction schedule in the format indicated below that indicates the timing of the activities of the <i>Work</i> and provides sufficient detail of the critical events and their inter-relationship to demonstrate the <i>Work</i> will be performed in conformity with the <i>Contract Time</i> and in accordance with the <i>Contract Documents</i>. Such schedule is to include a delivery schedule for <i>Products</i> whose delivery is critical to the schedule for the <i>Work</i> or are required by the <i>Contract</i> to be included in a <i>Products</i> delivery schedule. The <i>Contractor</i> shall employ construction scheduling software, being the latest version of “Microsoft Project”, that permits the progress of the <i>Work</i> to be monitored in relation to the critical path established in the schedule. The <i>Contractor</i> shall provide such schedule and any successor or revised schedules in</p>
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		<p>both original digital file format (e.g., .mpp format for Microsoft Project), portable data file (PDF) format, and hard copy. Once accepted by the <i>Owner</i> and the <i>Consultant</i>, the construction schedule submitted by the <i>Contractor</i> shall become the baseline “Construction Schedule”;</p> <p>.2 provide the expertise and resources, such resources including manpower and equipment, as are necessary on a best efforts basis to maintain progress under the accepted baseline <i>Construction Schedule</i> or revised construction schedule accepted by the <i>Owner</i> pursuant to GC 3.4 CONSTRUCTION SCHEDULE, which includes without limitation, the <i>Contractor’s</i> use of all possible and, if necessary, extraordinary measures, to bring the progress of the <i>Work</i> into compliance with the <i>Construction Schedule</i>, such as (i) increasing the presence of its own forces at the <i>Place of the Work</i>; (ii) directing any <i>Subcontractors</i> or <i>Suppliers</i> to increase their labour forces and equipment; (iii) working overtime and extra shifts; and (iv) providing any additional supervision and coordination of the <i>Project</i>, all at the <i>Contractor’s</i> own cost and expense save and except where GC 6.5.1, 6.5.2, or 6.5.3 apply; and,</p> <p>.3 monitor the progress of the <i>Work</i> on a weekly basis relative to the baseline <i>Construction Schedule</i>, or any revised <i>Construction Schedule</i> accepted by the <i>Owner</i> pursuant to GC 3.4 CONSTRUCTION SCHEDULE, deliver a <i>Construction Schedule Update</i> to the <i>Consultant</i> and <i>Owner</i> with each application for payment, at a minimum, or as may be reasonably required by the <i>Consultant</i> and advise the <i>Consultant</i> and the <i>Owner</i> weekly in writing of any variation from the baseline or slippage in the schedule; and,</p> <p>.4 if after applying the expertise and resources required under paragraph 3.4.1.2, the <i>Contractor</i> forms the opinion that the slippage in schedule reported in paragraph 3.4.1.3 cannot be recovered by the <i>Contractor</i>, it shall, in the same notice provided under paragraph 3.4.1.3, indicate to the <i>Consultant</i> if the <i>Contractor</i> intends to apply for an extension of <i>Contract Time</i> as provided in PART 6 —CHANGES IN THE WORK; and,</p> <p>.5 ensure that the <i>Contract Price</i> shall include all costs required to phase or stage the <i>Work</i>.”</p>
SC17.2	3.4.2	<p><u>Add</u> new GC 3.4.2 and GC 3.4.3 as follows:</p> <p>“3.4.2 If, at any time, it should appear to the <i>Owner</i> or the <i>Consultant</i> that the actual progress of the <i>Work</i> is behind schedule or is likely to become behind schedule, or if the <i>Contractor</i> has given notice of such to the <i>Owner</i> or the <i>Consultant</i> pursuant to GC 3.4.1.3, the <i>Contractor</i> shall, either at the request of the <i>Owner</i> or the <i>Consultant</i>, or following giving notice pursuant to GC 3.4.1.3, take appropriate steps to cause the actual progress of the <i>Work</i> to conform to the schedule or minimize the resulting delay. Within 5 calendar days of the request by the <i>Owner</i> or the <i>Consultant</i> or the notice being given pursuant to GC 3.4.1.3, the <i>Contractor</i> shall produce and present to the <i>Owner</i> and the <i>Consultant</i> a plan demonstrating how the <i>Contractor</i> will recover the performance of the <i>Work</i> to align with the currently approved <i>Construction Schedule</i>.</p> <p>3.4.3 The <i>Contractor</i> shall not amend the <i>Construction Schedule</i> without the prior written consent of the <i>Owner</i>.. Any revisions to the <i>Construction Schedule</i> approved by the <i>Owner</i> shall not be deemed to be an extension of the <i>Contract Time</i>. All requests by the <i>Contractor</i> for a revision to the <i>Construction Schedule</i> that include an extension to the <i>Contract Time</i> must be approved by the <i>Owner</i> through an executed <i>Change Order</i>.”</p>

SC18 GC 3.5 SUPERVISION

SC18.1	3.5.1	<u>Delete</u> GC 3.5.1 and <u>replace</u> it with the following:
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		<p>“3.5.1 The <i>Contractor</i> shall employ a competent full-time superintendent, acceptable to the <i>Owner</i> and <i>Consultant</i>, who shall be in full time attendance at the <i>Place of the Work</i> while the <i>Work</i> is being performed. The superintendent shall not be changed by the <i>Contractor</i> without valid reason which shall be provided in writing and shall not be changed without prior consultation with and agreement by the <i>Owner</i> and the <i>Consultant</i>. The <i>Contractor</i> shall replace the superintendent within 7 <i>Working Days</i> of the <i>Owner’s</i> written notification, if the superintendent’s performance is not acceptable to the <i>Owner</i>. The <i>Contractor</i> shall provide the <i>Owner</i> and the <i>Consultant</i> with the names, addresses and telephone numbers of the superintendent referred to in this GC 3.5.1 and other responsible persons who may be contacted for emergency and other reasons during non-working hours. .”</p>
SC18.2	3.5.2	<p><u>Delete</u> GC 3.5.2 and <u>replace</u> it with the following:</p> <p>“3.5.2 The superintendent, and any project manager appointed by the <i>Contractor</i>, shall represent the <i>Contractor</i> at the <i>Place of the Work</i> and shall have full authority to act on written instructions given by the <i>Consultant</i> and/or the <i>Owner</i>. Instructions given to the superintendent or the project manager shall be deemed to have been given to the <i>Contractor</i> and both the superintendent and any project manager shall have full authority to act on behalf of the <i>Contractor</i> and bind the <i>Contractor</i> in matters related to the <i>Contract</i>.”</p>
SC18.3	3.5.3 to 3.5.6	<p><u>Add</u> new GC 3.5.3, 3.5.4, 3.5.5 and 3.5.6 as follows:</p> <p>“3.5.3 The <i>Owner</i> may, at any time during the course of the <i>Work</i>, request the replacement of the appointed representative(s). Immediately upon receipt of the request, the <i>Contractor</i> shall make arrangements to appoint an acceptable replacement, which is approved by the <i>Owner</i>.</p> <p>3.5.4 The supervisory staff assigned to the <i>Project</i> shall also be fully competent to implement efficiently all requirements for scheduling, coordination, field engineering, reviews, inspections and submittals defined in the <i>Specifications</i>, and have a minimum 5 years documented “Superintendent/Project Management” experience.</p> <p>3.5.5 The <i>Consultant and Owner</i> shall reserve the right to review the record of experience and credentials of supervisory staff assigned to the <i>Project</i> prior to commencement of the <i>Work</i>.</p> <p>3.5.6 A superintendent assigned to the <i>Work</i> shall be “Gold Seal Certified” as per the Canadian Construction Association; or a superintendent that can demonstrate the requisite experience and success related to the <i>Project</i> to the sole satisfaction of the <i>Owner</i>.”</p>

SC19 GC 3.6 SUBCONTRACTORS AND SUPPLIERS

SC19.1	3.6.1.1	In paragraph 3.6.1.1 <u>add</u> to the end of the second line the words “including any warranties and service agreements which extend beyond the term of the <i>Contract</i> .”
SC19.2	3.6.1.2	In subparagraph 3.6.1.2 after the words “the <i>Contract Documents</i> ” <u>add</u> the words “including any required surety bonding”.
SC19.3	3.6.2	<p><u>Delete</u> paragraph 3.6.2. in its entirety and <u>replace</u> it with the following:</p> <p>“3.6.2 The substitution of any <i>Subcontractor</i> and/or <i>Suppliers</i> after submission of the <i>Contractor’s</i> bid will not be accepted unless a valid reason is given in writing to and approved by the <i>Owner</i>, whose approval may be arbitrarily withheld. The reason for substitution must be provided to the <i>Owner</i> and to the original <i>Subcontractor</i> and/or <i>Supplier</i> and the <i>Subcontractor</i> and/or <i>Supplier</i> shall be given the opportunity to reply</p>



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		to the <i>Contractor</i> and <i>Owner</i> . The <i>Contractor</i> shall be fully aware of the capability of each <i>Subcontractor</i> and/or <i>Supplier</i> included in its bid, including but not limited to technical ability, financial stability and ability to maintain the proposed construction schedule.”
SC19.4	3.6.7, 3.6.8, 3.6.9 & 3.6.10	<p><u>Add</u> new paragraphs 3.6.7, 3.6.8, 3.6.9, and 3.6.10 as follows:</p> <p>“3.6.7 The <i>Contractor</i> represents and warrants that it has confirmed the availability of its <i>Subcontractors</i> for the <i>Project</i> and, in particular, for the performance of their respective portions of the <i>Work</i> to ensure completion of the <i>Project</i> within the <i>Contract Price</i> and the <i>Contract Time</i>.</p> <p>3.6.8 The <i>Consultant</i> or the <i>Owner</i>, acting reasonably, may from time to time require the <i>Contractor</i> to remove from the <i>Project</i> any personnel of the <i>Contractor</i>, including project managers, superintendents or <i>Subcontractors</i>. Such persons shall be replaced by the <i>Contractor</i> in a timely fashion to the satisfaction of the <i>Consultant</i> or the <i>Owner</i>, as the case may be, at no cost to the <i>Owner</i>.</p> <p>3.6.9 Where provided in the <i>Contract</i>, the <i>Owner</i> may assign to the <i>Contractor</i>, and the <i>Contractor</i> agrees to accept, any contract procured by the <i>Owner</i> for <i>Work</i> or services required on the <i>Project</i> that has been pre-tendered or pre-negotiated by the <i>Owner</i>, and upon such assignment, the <i>Owner</i> shall have no further liability to any party for such contract.</p> <p>3.6.10 The <i>Contractor</i> covenants that each subcontract or supply contract which the <i>Contractor</i> enters into for the purpose of performing the <i>Work</i> shall expressly provide for the assignment thereof to the <i>Owner</i> (at the option of the <i>Owner</i>) and the assumption by the <i>Owner</i> of the obligations of the <i>Contractor</i> thereunder, upon the termination of the <i>Contract</i> and upon written notice by the <i>Owner</i> to the other parties to such subcontracts or supply contracts, without the imposition of further terms or conditions; provided, however, that until the <i>Owner</i> has given such notice, nothing herein contained shall be deemed to create any contractual or other liability upon the <i>Owner</i> for the performance of obligations under such subcontracts or supply contracts and the <i>Contractor</i> shall be fully responsible for all of its obligations and liabilities (if any) under such subcontracts and supply contracts.”</p>

SC20 GC 3.7 LABOUR AND PRODUCTS

SC20.1	3.7.1	<u>Amend</u> paragraph 3.7.1 by <u>adding</u> the words, “..., agents, <i>Subcontractors</i> and <i>Suppliers</i> ...” after the word “employees” in the first line.
SC20.2	3.7.2	<p><u>Delete</u> paragraph 3.7.2 and <u>substitute</u> with the following:</p> <p>“3.7.2 <i>Products</i> provided shall be new and shall conform to all current applicable specifications of the Canadian Standards Association, Canadian Standards Board or General Standards Board, ASTM, National Building Code, provincial and municipal building codes, fire safety standards, and all governmental authorities and regulatory agencies having jurisdiction at the <i>Place of the Work</i>, unless otherwise specified. <i>Products</i> which are not specified shall be of a quality consistent with those specified and their use acceptable to the <i>Consultant</i>. <i>Products</i> brought on to the <i>Place of the Work</i> by the <i>Contractor</i> shall be deemed to be the property of the <i>Owner</i>, but the <i>Owner</i> shall be under no liability for loss thereof or damage thereto arising from any cause whatsoever. The said <i>Products</i> shall be at the sole risk of the <i>Contractor</i>. Workmanship shall be, in every respect, first class and the <i>Work</i> shall be performed in accordance with the best modern industry practice.”</p>
SC20.3	3.7.4 to 3.7.8	<u>Add</u> new paragraphs 3.7.4, 3.7.5, 3.7.6, 3.7.7, and 3.7.8 as follows:



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		<p>“3.7.4 Upon receipt of a <i>Notice in Writing</i> from the <i>Owner</i>, the <i>Contractor</i> shall immediately remove from the <i>Place of the Work</i>, tradesmen and labourers or anyone whose conduct jeopardizes the safety of the <i>Owner’s</i> operations or who are considered by the <i>Owner</i> or the <i>Consultant</i> to be unskilled or otherwise objectionable. Immediately upon receipt of the request, the <i>Contractor</i> shall make arrangements to appoint an acceptable replacement.</p> <p>3.7.5 The <i>Contractor</i> shall cooperate with the <i>Owner</i> and its representatives and shall take all reasonable and necessary actions to maintain stable and harmonious labour relations with respect to the <i>Work</i> at the <i>Place of the Work</i>, including cooperation to attempt to avoid <i>Work</i> stoppages, trade union jurisdictional disputes and other <i>Labour Disputes</i>. Any costs arising from labour disputes shall be at the sole expense of the <i>Contractor</i>.</p> <p>3.7.6 The cost for overtime required beyond the normal <i>Working Day</i> to complete individual construction operations of a continuous nature, such as pouring or finishing of concrete or similar work, or <i>Work</i> that the <i>Contractor</i> elects to perform at overtime rates without the <i>Owner</i> requesting it, shall not be chargeable to the <i>Owner</i>.</p> <p>3.7.7 All manufactured <i>Products</i> which are identified by their proprietary names or by part or catalogue number in the <i>Specifications</i> shall be used by the <i>Contractor</i>. No substitutes for such specified <i>Products</i> shall be used without the written approval of the <i>Owner</i> and the <i>Consultant</i>. Substitutes will only be considered by the <i>Consultant</i> when submitted in sufficient time to permit proper review and investigation. When requesting approval for the use of substitutes, the <i>Contractor</i> shall include in its submission any proposed change in the <i>Contract Price</i>. The <i>Contractor</i> shall use all proprietary <i>Products</i> in strict accordance with the manufacturer’s directions. Where there is a choice of proprietary <i>Products</i> specified for one use, the <i>Contractor</i> may select any one of the <i>Products</i> so specified for this use.</p> <p>3.7.8 Materials, appliances, equipment and other <i>Products</i> are sometimes specified by reference to brand names, proprietary names, trademarks or symbols. In such cases, the name of a manufacturer, distributor, <i>Supplier</i> or dealer is sometimes given to assist the <i>Contractor</i> to find a source <i>Supplier</i>. This shall not relieve the <i>Contractor</i> from its responsibility from finding its own source of supply even if the source names no longer supplies the <i>Product</i> specified. If the <i>Contractor</i> is unable to obtain the specified <i>Product</i>, the <i>Contractor</i> shall supply a substitute product equal to or better than the specified <i>Product</i>, as approved by the <i>Consultant</i> with no extra compensation. Should the <i>Contractor</i> be unable to obtain a substitute <i>Product</i> equal to or superior to the specified <i>Product</i> and the <i>Owner</i> accepts a different <i>Product</i>, the <i>Contract Price</i> shall be adjusted accordingly, as approved by the <i>Consultant</i>.”</p>
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SC21 GC 3.8 SHOP DRAWINGS

SC21.1	3.8.1	<p><u>Delete</u> paragraph 3.8.1 in its entirety and <u>replace</u> with the following:</p> <p>“3.8.1 The <i>Contractor</i> shall provide shop drawings as described in the <i>Contract Documents</i> and as the <i>Consultant</i> may reasonably request.”</p>
SC21.2	3.8.3	<p><u>Delete</u> paragraph 3.8.3 and <u>replace</u> it with the following:</p> <p>“3.8.3 The <i>Contractor</i> shall prepare a <i>Shop Drawings</i> schedule acceptable to the <i>Owner</i> and the <i>Consultant</i> prior to the first application for payment. A draft of the proposed <i>Shop Drawings</i> schedule shall be submitted by the <i>Contractor</i> to the <i>Consultant</i> and the <i>Owner</i> for approval. The draft <i>Shop Drawings</i> schedule shall clearly indicate the phasing of <i>Shop Drawings</i> submissions. The <i>Contractor</i> shall</p>



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		periodically re-submit the <i>Shop Drawings</i> schedule to correspond to changes in the <i>Construction Schedule</i> .”
SC21.3	3.8.5	<u>Delete</u> paragraph 3.8.5 in its entirety and <u>substitute</u> the following: “3.8.5 At the time of providing <i>Shop Drawings</i> , the <i>Contractor</i> shall advise the <i>Consultant</i> in writing of any deviations in <i>Shop Drawings</i> from the requirements of the <i>Contract Documents</i> . The <i>Consultant</i> shall indicate the acceptance of such deviation expressly in writing. Where manufacturers’ literature is submitted in lieu of scaled drawings, it shall be clearly marked in ink, to indicate the specific items for which review is requested.”
SC21.4	3.8.8 to 3.8.12	<u>Add</u> new paragraphs 3.8.8, 3.8.9, 3.8.10, 3.8.11, and 3.8.12 as follows: “3.8.8 Reviewed <i>Shop Drawings</i> shall not authorize a change in the <i>Contract Price</i> and/or the <i>Contract Time</i> . 3.8.9 Except where the parties have agreed to a different <i>Shop Drawings</i> schedule pursuant to paragraph 3.10.3, the <i>Contractor</i> shall comply with the requirements for <i>Shop Drawings</i> submissions stated in the <i>Specifications</i> . 3.8.10 The <i>Contractor</i> shall not use the term “by others” on <i>Shop Drawings</i> or other submittals. The related trade, <i>Subcontractor</i> or <i>Supplier</i> shall be stated. 3.8.11 Certain <i>Specifications</i> sections require the <i>Shop Drawings</i> to bear the seal and signature of a professional engineer. Such professional engineer must be registered in the jurisdiction of the <i>Place of the Work</i> and shall have expertise in the area of practice reflected in the <i>Shop Drawings</i> . 3.8.12 The <i>Consultant</i> will review and return <i>Shop Drawings</i> and submittals in accordance with the schedule agreed upon in paragraph 3.10.3, The <i>Contractor</i> shall allow the <i>Consultant</i> a minimum of 10 <i>Working Days</i> to review <i>Shop Drawings</i> from the date of receipt. If resubmission of <i>Shop Drawings</i> is required, a further 10 <i>Working Day</i> period is required for the <i>Consultant’s</i> review.”

SC22 *NEW* GC 3.9 USE OF THE WORK

SC22.1	GC 3.9	<u>Add</u> new GC 3.9 – USE OF THE WORK as follows: “ GC 3.9 USE OF THE WORK 3.9.1 The <i>Contractor</i> shall confine <i>Construction Equipment</i> , <i>Temporary Work</i> , storage of <i>Products</i> , waste products and debris, and operations of employees and <i>Subcontractors</i> to limits indicated by laws, ordinances, permits, by the direction of the <i>Owner</i> or the <i>Consultant</i> , or the <i>Contract Documents</i> and shall not unreasonably encumber the <i>Place of the Work</i> . 3.9.2 The <i>Contractor</i> shall not load or permit to be loaded any part of the <i>Work</i> with a weight or force that will endanger the safety of the <i>Work</i> . 3.9.3 The <i>Owner</i> shall have the right to enter or occupy the <i>Place of the Work</i> in whole or in part for the purpose of placing fittings and equipment, or for other use before <i>Substantial Performance of the Work</i> , if, in the opinion of the <i>Consultant</i> , such entry and occupation does not prevent or substantially interfere with the <i>Contractor</i> in the performance of the <i>Contract</i> within the <i>Contract Time</i> . Such entry or occupation shall neither be considered as acceptance of the <i>Work</i> or in any way relieves the <i>Contractor</i> from its responsibility to complete the <i>Contract</i> .”
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SC23 *NEW* GC 3.10 CUTTING AND REMEDIAL WORK

SC23.1	GC 3.10	<p><u>Add</u> new GC 3.10 – CUTTING AND REMEDIAL WORK as follows:</p> <p>“GC 3.10 CUTTING AND REMEDIAL WORK</p> <p>3.10.1 The <i>Contractor</i> shall perform the cutting and remedial work required to make the affected parts of the <i>Work</i> come together properly. Such cutting and remedial work shall be performed by specialists familiar with the <i>Products</i> affected and shall be performed in a manner to neither damage nor endanger the <i>Work</i>.</p> <p>3.10.2 The <i>Contractor</i> shall coordinate the <i>Work</i> to ensure all cutting and remedial work required is kept to a minimum.</p> <p>3.10.3 Unless specifically stated otherwise in the <i>Specifications</i>, the <i>Contractor</i> shall do all cutting and making good necessary for the proper installation and performance of the <i>Work</i>.</p> <p>3.10.4 To avoid unnecessary cutting, the <i>Contractor</i> shall lay out its work and advise the <i>Subcontractors</i>, when necessary, where to leave holes for installation of pipes and other work.”</p>
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SC24 *NEW* GC 3.11 CLEAN UP

SC24.1	3.11.1, 3.11.2, 3.11.3, 3.11.4, 3.11.5 & 3.11.6	<p>Add new paragraphs 3.11.1, 3.11.2, 3.11.3, 3.11.4, 3.11.5, and 3.11.6 as follows:</p> <p>“3.11.1 The <i>Contractor</i> shall maintain the <i>Work</i> in a safe and tidy condition and free from the accumulation of waste products and debris, other than that caused by the <i>Owner</i>, other contractors or their employees. The <i>Contractor</i> shall remove accumulated waste and debris at least once a week as a minimum or as required by the nature of the <i>Work</i>.</p> <p>3.11.2 Before applying for <i>Substantial Performance of the Work</i>, the <i>Contractor</i> shall remove waste products and debris, other than that resulting from the work of the <i>Owner</i>, other contractors or their employees, and shall leave the <i>Place of the Work</i> clean and suitable for use or occupancy by the <i>Owner</i>. The <i>Contractor</i> shall remove products, tools, materials, <i>Construction Equipment</i>, and <i>Temporary Work</i> not required for the performance of the remaining work.</p> <p>3.11.3 As a condition precedent to submitting its application for final payment, the <i>Contractor</i> shall remove any remaining products, tools, materials, <i>Construction Equipment</i>, <i>Temporary Work</i>, and waste products and debris, other than those resulting from the work of the <i>Owner</i>, other contractors or their employees.</p> <p>3.11.4 The <i>Contractor</i> shall clean up garbage during and after construction and maintain the <i>Place of the Work</i> in a neat and orderly condition on a daily basis. Prior to leaving the <i>Place of the Work</i> and following completion of the <i>Work</i>, the <i>Contractor</i> shall make good all damage to the building and its components caused by the performance of the <i>Work</i> or by any <i>Subcontractor</i> or <i>Supplier</i>. The <i>Contractor</i> shall leave the <i>Place of the Work</i> in a clean and finished state; remove all <i>Construction Equipment</i> and materials; remove all paint, stains, labels, dirt, etc. from the <i>Place of the Work</i>; and touch up all damaged painted areas (if applicable). The <i>Contractor</i> shall be responsible for restoring those areas of the <i>Place of the Work</i>, impacted by the <i>Work</i>, to their original condition.”</p>
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		<p>3.11.5 Without limitation to or waiver of the <i>Owner's</i> other rights and remedies, the <i>Owner</i> shall have the right to back charge to the <i>Contractor</i> the cost of damage to the site caused by transportation in and out of the <i>Place of the Work</i> by the <i>Contractor</i>, <i>Subcontractors</i> or <i>Suppliers</i>, if not repaired before final payment.</p> <p>3.11.6 The <i>Contractor</i> shall dispose of debris at a location and in a manner acceptable to the <i>Owner</i> (and to the authorities having jurisdiction at the <i>Place of the Work</i> and at the disposal area) and the <i>Contractor</i> shall cover containers with tarpaulins.”</p>
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SC25 *NEW* GC 3.12 EXCESS SOIL MANAGEMENT

SC25.1	GC 3.12	<p><u>Add</u> new GC 3.12 – EXCESS SOIL MANAGEMENT as follows:</p> <p>“GC 3.12 EXCESS SOIL MANAGEMENT</p> <p>3.12.1 The <i>Contractor</i> shall be solely responsible for the proper management of all <i>Excess Soil</i> at the <i>Place of the Work</i> and for performance of the <i>Work</i> in compliance with the rules, regulations and practices required by the <i>Excess Soil Regulation</i> until such time as <i>Ready-for-Takeover</i> is achieved. Without restricting the generality of the previous sentence, the <i>Contractor's</i> responsibility under this GC 3.12 includes the designation, transportation, tracking, temporary and/or final placement, record keeping, and reporting of all <i>Excess Soil</i> in connection with the <i>Work</i> all in compliance with the <i>Excess Soil Regulation</i>.</p> <p>3.12.3 The <i>Contractor</i> shall indemnify and save harmless the <i>Owner</i>, their agents, officers, directors, administrators, employees, consultants, successors and assigns from and against the consequences of any and all health and safety infractions committed directly by the <i>Contractor</i>, or those for whom it is responsible at law, under the <i>Excess Soil Regulation</i>, or any environmental protection legislation, including the payment of legal fees and disbursements on a substantial indemnity basis. Such indemnity shall apply to the extent to which the <i>Owner</i> is not covered by insurance.”</p>
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SC26 *NEW* GC 3.13 CONTRACTOR STANDARD OF CARE

SC26.1	3.13	<p><u>Add</u> a new GC 3.13 – CONTRACTOR STANDARD OF CARE as follows:</p> <p>“GC 3.13 CONTRACTOR STANDARD OF CARE</p> <p>“3.13.1 In performing its services and obligations under the <i>Contract</i>, the <i>Contractor</i> shall exercise the standard of care, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The <i>Contractor</i> acknowledges and agrees that throughout the <i>Contract</i>, the performance of the <i>Contractor's</i> obligations, duties and responsibilities shall be interpreted in accordance with this standard. The <i>Contractor</i> shall exercise the same standard of care, skill and diligence in respect of any <i>Products</i>, personnel or procedures which it may recommend to the <i>Owner</i> or employ on the <i>Project</i>.</p> <p>3.13.2 The <i>Contractor</i> further represents, covenants and warrants to the <i>Owner</i> that:</p> <p>.1 the personnel it assigns to the <i>Project</i> are appropriately experienced;</p> <p>.2 it has a sufficient staff of qualified and competent personnel to replace any of its appointed representatives, subject to the <i>Owner's</i> approval, in the event of death, incapacity, removal or resignation; and</p>
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		.3 there are no pending, threatened or anticipated claims, liabilities or contingent liabilities that would have a material effect on the financial ability of the <i>Contractor</i> to perform its work under the <i>Contract</i> .”
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PART 4 ALLOWANCES

SC27 GC 4.1 CASH ALLOWANCES

SC27.1	4.1.3	In GC 4.1.3 <u>delete</u> the words “through the <i>Consultant</i> ” and <u>replace</u> them with “in writing.”
SC27.2	4.1.4	<u>Delete</u> GC 4.1.4 in its entirety and <u>replace</u> it with the following: “4.1.4 Where the actual cost of the <i>Work</i> under any cash allowance exceeds the amount of the allowance, any unexpended amounts from other cash allowances shall be reallocated, by the <i>Consultant</i> at the <i>Owner’s</i> direction, to cover the shortfall, and, in that case, there shall be no additional amount added to the <i>Contract Price</i> for overhead and profit. Only where the actual cost of the <i>Work</i> under all cash allowances exceeds the total amount of all cash allowances shall the <i>Contractor</i> be compensated for the excess incurred and substantiated, plus an amount for overhead and profit on the excess only, as set out in the <i>Contract Documents</i> .”
SC27.3	4.1.7	<u>Delete</u> GC 4.1.7 in its entirety and <u>replace</u> it with the following: “4.1.7 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 <i>Contract Price</i> by <i>Change Order</i> without any adjustment for the <i>Contractor’s</i> overhead and profit on such amount.”
SC27.4	4.1.8 and 4.1.9	<u>Add</u> new GC 4.1.8 and 4.1.9 as follows: “4.1.8 The <i>Owner</i> reserves the right to call, or to have the <i>Contractor</i> call, for competitive bids for portions of the <i>Work</i> to be paid for from cash allowances. 4.1.9 Cash allowances cover the net cost to the <i>Contractor</i> of services, <i>Products</i> , <i>Construction Equipment</i> , freight, unloading, handling, storage, installation, provincial sales tax, and other authorized expenses incurred in performing any <i>Work</i> stipulated under the cash allowances but does not include any <i>Value Added Taxes</i> payable by the <i>Owner</i> and the <i>Contractor</i> .”

PART 5 PAYMENT

SC28 GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

SC28.1	5.1	<u>Delete</u> GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER and all paragraphs thereunder, including any reference to GC 5.1 throughout the <i>Contract</i> .
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SC29 GC 5.2 APPLICATIONS FOR PAYMENT

SC29.1	5.2.1	<u>Delete</u> GC 5.2.1 and <u>replace</u> it with the following: “5.2.1 Upon execution of the <i>Contract</i> , and in any event prior to the <i>Contractor</i> submitting its first application for payment, the <i>Owner</i> shall issue a purchase order to the <i>Contractor</i> for the performance of the <i>Contract</i> . The number indicated on such purchase order must be clearly identifiable on all applications for payment.
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		<p>Applications for payment shall be dated the last day of each month or an alternative day of each month agreed to in writing by the parties, with each month representing one payment period under the <i>Contract</i> (each a “Payment Period”). Within 3 calendar days of the end of each <i>Payment Period</i>, the <i>Contractor</i> will submit a draft application for payment to the <i>Owner</i> and the <i>Consultant</i>. Upon receipt of the draft application for payment, and within 7 calendar days, a representative of each of the <i>Contractor</i>, <i>Owner</i>, and the <i>Consultant</i> shall attend a meeting to discuss and review the work completed during the <i>Payment Period</i>, including quantities, if applicable (the “Pre-Invoice Submission Meeting”). In the event that the scheduled date for the <i>Pre-Invoice Submission Meeting</i> is not a <i>Working Day</i>, the <i>Pre-Invoice Submission Meeting</i> shall occur on the next <i>Working Day</i>. The <i>Contractor</i> shall bring with it to the <i>Pre-Invoice Submission Meeting</i> the following:</p> <ul style="list-style-type: none"> .1 a copy of the draft application for payment; .2 any documents the <i>Contractor</i> is required to bring to the <i>Pre-Invoice Submission Meeting</i> as stipulated in the <i>Contract Documents</i> or as reasonably requested by the <i>Owner</i>; and .3 any other documents reasonably requested, in advance, by the <i>Owner</i> or the <i>Consultant</i>.”
SC29.2	5.2.2	<p><u>Delete</u> GC 5.2.2 in its entirety and <u>replace</u> it with the following:</p> <p>“5.2.2 Applications for payment shall be given in accordance with the following requirements:</p> <ul style="list-style-type: none"> .1 Within 5 calendar days following the <i>Pre-Invoice Submission Meeting</i>, the <i>Contractor</i> shall deliver its application for payment to the <i>Owner</i> and to the <i>Consultant</i> for <i>Work</i> performed during the <i>Payment Period</i> (“Proper Invoice Submission Date”) subject to the following: <ul style="list-style-type: none"> .1 if the fifth calendar day following the <i>Pre-Invoice Submission Meeting</i>, to which an invoice relates falls on a day that is not a <i>Working Day</i>, the <i>Proper Invoice Submission Date</i> shall be deemed to fall on the next <i>Working Day</i>. .2 The application for payment must be delivered to the <i>Owner/WCDSB Lead</i> and to the <i>Consultant</i> in the same manner as a <i>Notice in Writing</i> during the hours of 9:00 am to 4:00pm (EST) on the <i>Proper Invoice Submission Date</i>. Delivery to the <i>Owner</i> shall be to the following email address: .3 If an application for payment is received after 4:00 p.m. (EST) on the applicable <i>Proper Invoice Submission Date</i>, the application for payment will not be considered or reviewed by the <i>Owner</i> and <i>Consultant</i> until the next <i>Proper Invoice Submission Date</i>. Notwithstanding the foregoing, the <i>Owner</i> in its sole and absolute discretion may elect to accept an application for payment submitted after 4:00 p.m. on the applicable <i>Proper Invoice Submission Date</i>; however, such acceptance shall not be construed as a waiver of any of its rights or waive or release the <i>Contractor</i>’s obligations to strictly comply with the requirements prescribed in this subparagraph 5.2.2.3. .4 No applications for payment shall be accepted by the <i>Owner</i> prior to the <i>Proper Invoice Submission Date</i>. .5 All applications for payment shall include all of the requirements for a <i>Proper Invoice</i> prescribed by the <i>Construction Act</i> and this <i>Contract</i> and be dated the last day of the applicable <i>Payment Period</i>,”



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SC29.3	5.2.3	<u>Delete</u> GC 5.2.3 and <u>replace</u> it with the following: "5.2.3 The amount claimed shall be for the value, proportionate to the amount of the <i>Contract</i> , of <i>Work</i> performed and <i>Products</i> delivered and incorporated into the <i>Work</i> as of the last date of the applicable <i>Payment Period</i> . Materials may also be deemed to be supplied to an improvement, for payment purposes, when, in the <i>Owner's</i> opinion, they are placed and properly secured on the land on which the improvement is made, or placed upon land designated by the <i>Owner</i> or agent of the <i>Owner</i> , but placing the materials on the land so designated does not, of itself, make that land subject to a lien. No amount claimed shall include products delivered and incorporated into the work, unless the products are free and clear of all security interests, liens and other claims of third parties. No amount claimed shall include <i>Products</i> delivered to the <i>Place of the Work</i> unless the <i>Products</i> are free and clear of all security interests, liens, and other claims of third parties."
SC29.4	5.2.4	After the word " <i>Consultant</i> " in GC 5.2.4 <u>add</u> the words "and the <i>Owner</i> "
SC29.5	5.2.5	After the word " <i>Consultant</i> " in GC 5.2.5 <u>add</u> the words "or the <i>Owner</i> ".
SC29.6	5.2.6	In GC 5.2.6, <u>delete</u> the word " <i>Consultant</i> " and <u>replace</u> it with " <i>Owner</i> ".
SC29.7	5.2.9	<u>Add</u> new 5.2.9 as follows: "5.2.9 The <i>Contractor</i> shall prepare and maintain current as-built drawings which shall consist of the <i>Drawings</i> and <i>Specifications</i> revised by the <i>Contractor</i> during the <i>Work</i> , showing changes to the <i>Drawings</i> and <i>Specifications</i> , which current as-built drawings shall be maintained by the <i>Contractor</i> and made available to the <i>Consultant</i> for review with each application for progress payment. The <i>Consultant</i> shall recommend to the <i>Owner</i> that the <i>Owner</i> retain a reasonable amount for the value of the as-built drawings not presented for review."

SC30 GC 5.3 PAYMENT

SC30.1	5.3.1	<u>Delete</u> GC 5.3.1 in its entirety, including all subparagraphs thereunder, and <u>replace</u> it with the following: "5.3.1 After receipt by the <i>Owner</i> and the <i>Consultant</i> of an application for payment submitted by the <i>Contractor</i> in accordance with GC 5.2 - APPLICATIONS FOR PAYMENT: .1 the <i>Consultant</i> will either: (a) issue to the <i>Owner</i> with a copy to the <i>Contractor</i> , a progress payment certificate in the amount applied for by the <i>Contractor</i> in the <i>Proper Invoice</i> , or (b) issue to the <i>Owner</i> , with a copy to the <i>Contractor</i> , a certificate for payment for an amount determined by the <i>Consultant</i> to be properly due to the <i>Contractor</i> after applying any credits, withheld amounts, or other set-offs which the <i>Consultant</i> has determined that the <i>Owner</i> is entitled to notwithstanding any notice of dispute or disagreement that the <i>Contractor</i> may have served, along with the <i>Consultant's</i> reasons why an amount other than what is claimed in the <i>Proper Invoice</i> is properly due to the <i>Contractor</i> , which finding the <i>Owner</i> may accept or amend prior to the <i>Owner</i> issuing a <i>Notice of Non-Payment</i> , if any, in accordance with GC 5.3.2;
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		<p>.2 the <i>Owner</i> shall make payment to the <i>Contractor</i> on account as provided in Article A-5 PAYMENT,</p> <p>(a) in the amount stated in the certificate for payment, or</p> <p>(b) in the amount stated in the certificate for payment less such amount stated in the <i>Owner's Notice of Non-Payment</i> issued pursuant to GC 5.3.3,</p> <p>on the 28th calendar day after receipt of a <i>Proper Invoice</i>, unless such 28th calendar day lands on a day that is other than a <i>Working Day</i>, in which case payment shall be made on the next <i>Working Day</i> after such 28th day.”</p>
SC30.2	5.3.2 to 5.3.7	<p><u>Add</u> new paragraphs 5.3.2, 5.3.3, 5.3.4, 5.3.4, 5.3.5, 5.3.6, and 5.3.7 as follows:</p> <p>5.3.2 All payments to the <i>Contractor</i> shall be processed using electronic funds transfer (“EFT”) and deposited directly to the <i>Contractor's</i> bank account unless agreed to otherwise by the <i>Contractor</i> and the <i>Owner</i> in writing. Prior to the <i>Contractor</i> submitting its first application for payment, the <i>Owner</i> and the <i>Contractor</i> shall exchange such information as is necessary to facilitate <i>EFT</i> payments.</p> <p>5.3.3 In the event that the application for payment delivered by the <i>Contractor</i> pursuant to GC 5.2 - APPLICATIONS FOR PAYMENT does not include the requirements for a <i>Proper Invoice</i> or where the <i>Owner</i> disputes the amount claimed as payable in the <i>Proper Invoice</i>, then the <i>Owner</i> shall within 14 calendar days of receipt of the application for payment, issue a <i>Notice of Non-Payment</i> (Form 1.1).</p> <p>5.3.4 Where the <i>Owner</i> has delivered a <i>Notice of Non-Payment</i>, the <i>Owner</i> and the <i>Contractor</i> shall first engage in good faith negotiations to resolve the dispute. If within 5 calendar days following the issuance of a <i>Notice of Non-Payment</i>, despite good faith efforts by both parties and the assistance of the <i>Consultant</i>, the <i>Owner</i> and the <i>Contractor</i> cannot resolve the dispute, either party may commence an <i>Adjudication</i> in accordance with the procedures set out in the <i>Construction Act</i>. Any portion of the <i>Proper Invoice</i> which is not the subject of the <i>Notice of Non-Payment</i> shall be payable within the time period set out in GC 5.3.1.2.</p> <p>5.3.5 Provided that the <i>Owner</i> complies with its obligations under the <i>Construction Act</i>, and subject to any interim determination of an adjudicator in accordance with any <i>Adjudication</i>, and where applicable, a final determination made in accordance with the dispute resolution processes prescribed by this <i>Contract</i>, the <i>Owner</i> shall be entitled to claim in a <i>Notice of Non-Payment</i> a right to deduct from or, set off against, any payment of the <i>Contract Price</i>:</p> <p>.1 any amount expended by the <i>Owner</i> in exercising the <i>Owner's</i> rights under this <i>Contract</i> to perform any of the <i>Contractor's</i> obligations that the <i>Contractor</i> has failed to perform;</p> <p>.2 any damages, costs or expenses (including, without limitation, reasonable legal fees and expenses) incurred by the <i>Owner</i> as a result of the failure of the <i>Contractor</i> to perform any of its obligations under the <i>Contract</i>;</p> <p>.3 any other amount owing from the <i>Contractor</i> to the <i>Owner</i> under this <i>Contract</i>.</p> <p>5.3.6 The amounts disputed and described under the <i>Notice of Non-Payment</i> shall be held by the <i>Owner</i> until all disputed amounts of the <i>Proper Invoice</i> have been resolved pursuant to PART 8 – DISPUTE RESOLUTION.</p> <p>5.3.7 The <i>Contractor</i> represents, warrants, and covenants to the <i>Owner</i> that it is familiar with its prompt payment and trust obligations under the <i>Construction Act</i> and will</p>



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		take all required steps and measures to ensure that it complies with the applicable prompt payment and trust provisions under the <i>Construction Act</i> including, without limitation, section 8.1 of the <i>Construction Act</i> . Evidence of the <i>Contractor's</i> compliance under this GC 5.3.7, including evidence demonstrating that all <i>EFTs</i> by the <i>Owner</i> to the <i>Contractor</i> are kept in a bank account in the <i>Contractor's</i> name will be made available to the <i>Owner</i> within 5 <i>Working Days</i> following receipt by the <i>Contractor</i> of a <i>Notice in Writing</i> making such request.”
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SC31 GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK- AND PAYMENT OF HOLDBACK

SC31.1	GC 5.4	<p>Delete GC 5.4 – SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK in its entirety and <u>replace</u> it with the following:</p> <p>“GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK</p> <p>5.4.1 When the <i>Contractor</i> considers that <i>Substantial Performance of the Work</i> has been achieved, the <i>Contractor</i> shall prepare and submit to the <i>Consultant</i> and the <i>Owner</i> a comprehensive deficiency list of items to be completed or corrected, including any incomplete <i>Close-Out Documentation</i>, and apply for a review by the <i>Consultant</i> and the <i>Owner</i> to establish <i>Substantial Performance of the Work</i>. Failure to include an item on the list does not alter the responsibility of the <i>Contractor</i> to complete the <i>Contract</i>.</p> <p>5.4.2 Prior to, or as part of its written application for <i>Substantial Performance of the Work</i> the <i>Contractor</i> shall submit to the <i>Consultant</i> submit to the <i>Consultant</i> all closeout documentation required by the <i>Contract Documents</i>, including but not limited to, warranties, manuals, guarantees, as-built drawings and all other relevant literature from suppliers and manufacturers including, but not limited to, where applicable (the “Close-Out Documentation”):</p> <ul style="list-style-type: none"> .1 equipment, maintenance, and operations manuals; .2 equipment specifications, data sheets and brochures, parts lists and assembly drawings, performance curves and other related data; .3 line drawings, value charts and control sheets sequences with description of the sequence of operations; .4 warranty documents; .5 guarantees; .6 certificates; .7 service and maintenance reports; .8 <i>Specifications</i>; .9 <i>Shop Drawings</i>; .10 coordination drawings; .11 testing and balancing results and reports; .12 <i>Commissioning</i> and quality assurance documentation; .13 distribution system diagrams; .14 spare parts; .15 samples; .16 existing reports and correspondence from authorities having jurisdiction in the <i>Place of the Work</i>; .17 inspection certificates; .18 red-lined record drawings from the construction trailer in two copies and .19 other materials or documentation required to be submitted under the <i>Contract</i>. <p>5.4.3 The <i>Consultant</i> will review the <i>Work</i> to verify the validity of the application and shall promptly, and in any event, no later than 30 calendar days after receipt of the <i>Contractor's</i> complete deficiency list and application:</p>
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		<p>.1 prepare a final deficiency list incorporating all items to be completed or corrected, including any incomplete or unsubmitted <i>Close-Out Documentation</i>. Each item shall have an indicated value for correction or completion and the determination of the total value of such items shall be determined pursuant to GC 5.8 – DEFICIENCY HOLDBACK. The final deficiency list complete with values is to be included with the <i>Consultant's</i> draft verification and shall be reviewed with the <i>Owner</i> prior to the <i>Consultant</i> rendering a determination in accordance with GC 5.4.3.2</p> <p>.2 having completed the requirements set out in GC 5.4.3.1,</p> <p>(a) the <i>Consultant</i> shall advise the <i>Contractor</i> in writing that the <i>Work</i> or the designated portion of the <i>Work</i> is not substantially performed and give reasons why, or</p> <p>(b) the <i>Consultant</i> shall state the date of <i>Substantial Performance of the Work</i> in a certificate and issue a copy of that certificate to each the <i>Owner</i> and the <i>Contractor</i>.</p> <p>5.4.4 Following the issuance of the certificate of <i>Substantial Performance of the Work</i> referenced in subparagraph 5.4.3.2(b):</p> <p>.1 The <i>Contractor</i> shall publish, in a construction trade newspaper in the area of the location of the <i>Work</i>, a copy of the certificate of <i>Substantial Performance of the Work</i> referred to in GC 5.4.2.2(b) within seven (7) calendar days of receiving a copy of the certificate signed by the <i>Consultant</i>, and the <i>Contractor</i> shall provide suitable evidence of the publication to the <i>Consultant</i> and the <i>Owner</i>. If the <i>Contractor</i> fails to publish such notice, the <i>Owner</i> shall be at liberty to publish said certificate and back-charge the <i>Contractor</i> its reasonable costs for doing so;</p> <p>.2 The <i>Contractor</i> shall complete the <i>Work</i> within forty (40) calendar days of the date certified as the date of <i>Substantial Performance of the Work</i>;</p> <p>.3 Notwithstanding any other provisions of the <i>Contract</i>, no payments will be processed between <i>Substantial Performance of the Work</i> and <i>Ready-for-Takeover</i>;</p> <p>.4 The <i>Owner</i> reserves the right to contract out any or all unfinished <i>Work</i> if it has not been completed within forty (40) days of <i>Substantial Performance of the Work</i> using, without limitation, the funds retained in accordance with GC 5.8 - DEFICIENCY HOLDBACK, without prejudice to any other right or remedy and without affecting the warranty period. The cost to the <i>Owner</i> of completing the <i>Work</i> including <i>Owner</i> and <i>Consultant</i> wages and materials shall be deducted from the <i>Contract Price</i>.</p> <p>5.4.5 After publication of the certificate of the <i>Substantial Performance of the Work</i>, and provided that the <i>Contractor</i> has completed performance of the <i>Work</i> within the 40 calendar days following certification of <i>Substantial Performance of the Work</i>, the <i>Contractor</i> may submit an application for payment of the outstanding <i>Construction Act</i> holdback amount, which application for payment shall:</p> <p>.1 include all of the requirements listed in EXHIBIT "1" - PROJECT SPECIFIC REQUIREMENTS FOR A PROPER INVOICE, as applicable to the application for payment of the holdback amount; and</p> <p>.2 include a statement that the <i>Contractor</i> has not received any written notices of lien or any claims for liens from any <i>Subcontractor</i> or <i>Supplier</i>.</p>
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		<p>5.4.6 The <i>Construction Act</i> holdback amount shall become due and payable the day immediately following the expiration of the holdback period prescribed by the <i>Construction Act</i> (in most cases being the 61st calendar day following the publication of the certificate of <i>Substantial Performance of the Work</i> referred to in GC 5.4.4.1), subject to the occurrence of any of the following:</p> <ul style="list-style-type: none"> .1 the preservation of a lien in respect of the <i>Project</i> that has not been satisfied, discharged or otherwise provided for in accordance with the <i>Construction Act</i>; .2 receipt by the <i>Owner</i> of a written notice of lien that has not been satisfied, discharged or otherwise provided for in accordance with the <i>Construction Act</i>; or .3 prior to the expiry of 40 calendar days following the publication of the certificate of <i>Substantial Performance of the Work</i>, the <i>Owner</i> publishes a <i>Notice of Non-Payment</i> of holdback in accordance with the <i>Construction Act</i> (Form 6), setting out the amount of holdback that will not be paid, which may include non-payment to secure the correction of deficiencies and/or the completion of the <i>Work</i>. <p>5.4.7 Notwithstanding the <i>Owner's</i> obligation to make payment of the holdback amount in accordance with GC 5.4.6, the processing of such payment remains subject to the <i>Owner's</i> internal <i>EFT</i> timing limitations. The <i>Owner</i> covenants, and the <i>Contractor</i> agrees, that payment of the holdback shall be made by <i>EFT</i> at the first opportunity during the <i>Owner's</i> normal processing of <i>EFTs</i> upon the holdback becoming due in accordance with GC 5.4.6..</p>
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SC32 GC 5.5 FINAL PAYMENT

SC32.1	GC 5.5	<p><u>Delete</u> GC 5.5 in its entirety, including all subparagraphs thereunder and <u>replace</u> it with the following:</p> <p>"5.5.1 When <i>Ready-for-Takeover</i> has been achieved in accordance with GC 12.1 – READY-FOR-TAKEOVER and the <i>Contractor</i> considers the <i>Work</i> is complete, and after the <i>Contractor</i>, the <i>Owner</i>, and the <i>Consultant</i> have attended a <i>Pre-Invoice Submission Meeting</i> analogous to the requirement in GC 5.2.1 (the "<i>Final Pre-Invoice Submission Meeting</i>"), the <i>Contractor</i> may submit an application for final payment to the <i>Owner</i> and to the <i>Consultant</i>, which application for payment shall:</p> <ul style="list-style-type: none"> .1 include all of the requirements set out in GC 5.2.2, including without limitation those requirements listed in APPENDIX "1" - PROJECT SPECIFIC REQUIREMENTS FOR A PROPER INVOICE that are specific to an application for final payment; and .2 if applicable, (a) a certificate from the <i>Consultant</i> or written confirmation from the <i>Owner</i> that the deficiencies or incomplete <i>Work</i> waived by the <i>Owner</i> pursuant to GC 12.1.2 have been fully rectified as of the date of the <i>Contractor's</i> application for final payment, and/or (b) written confirmation, signed by the <i>Owner</i> and the <i>Contractor</i>, that the <i>Contract Price</i> has been reduced by a specified amount in exchange for the <i>Owner</i> releasing the <i>Contractor</i> of its obligation to rectify the certain outstanding deficiencies and/or incomplete <i>Work</i> waived by the <i>Owner</i> pursuant to GC 12.1.2, as detailed in such written confirmation.
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	<p>5.5.2 No later than 5 calendar days prior to the <i>Final Pre-Invoice Submission Meeting</i>, the <i>Contractor</i> will, if not already provided, submit to the <i>Consultant</i> all <i>Close-Out Documentation</i>.</p> <p>5.5.3 Delivery of all <i>Close-Out Documentation</i> is a requirement for the <i>Proper Invoice</i> for final payment.</p> <p>5.5.4 After receipt by the <i>Owner</i> and the <i>Consultant</i> of an application for payment submitted by the <i>Contractor</i> that is a <i>Proper Invoice</i> and by no later than 10 calendar days after the receipt of the <i>Proper Invoice</i>:</p> <p style="padding-left: 40px;">.1 the <i>Consultant</i> will either:</p> <p style="padding-left: 80px;">(a) issue to the <i>Owner</i> with a copy to the <i>Contractor</i>, a progress payment certificate in the amount applied for by the <i>Contractor</i> in the <i>Proper Invoice</i>, or</p> <p style="padding-left: 80px;">(b) deliver a finding to the <i>Owner</i> with reasons why an amount other than what is claimed in the <i>Proper Invoice</i> is properly due to the <i>Contractor</i>, which finding the <i>Owner</i> may accept or amend prior to issuing a <i>Notice of Non-Payment</i> (Form 1.1), if any, in accordance with GC 5.5.2;</p> <p style="padding-left: 40px;">.2 the <i>Owner</i> shall make payment to the <i>Contractor</i> on account as provided in Article A-5 PAYMENT,</p> <p style="padding-left: 80px;">(a) in the amount stated in the certificate for payment, or</p> <p style="padding-left: 80px;">(b) in the amount stated in the certificate for payment less such amount stated in the <i>Owner's Notice of Non-Payment</i> issued pursuant to GC 5.5.5,</p> <p style="padding-left: 80px;">on the 28th calendar day after receipt of a <i>Proper Invoice</i>, unless such 28th calendar day lands on a day that is other than a <i>Working Day</i>, in which case payment shall be made on the next <i>Working Day</i> after such 28th day.</p> <p>5.5.5 In the event that the application for final payment delivered by the <i>Contractor</i> does not include the requirements of GC 5.5.1 (including the requirements for a <i>Proper Invoice</i>) and GC 5.5.2 or where the <i>Owner</i> disputes the amount claimed as payable in the <i>Proper Invoice</i>, then the <i>Owner</i> shall within 14 calendar days of receipt of the application for payment, issue a <i>Notice of Non-Payment</i>. Where the <i>Owner</i> has delivered a <i>Notice of Non-Payment</i>, as specified under this GC 5.5.5, the <i>Owner</i> and the <i>Contractor</i> shall first engage in good faith negotiations to resolve the dispute. If within 5 calendar days following the issuance of a <i>Notice of Non-Payment</i>, despite good faith efforts by both parties with the assistance of the <i>Consultant</i>, the <i>Owner</i> and the <i>Contractor</i> cannot resolve the dispute, either party may commence an <i>Adjudication</i> in accordance with the procedures set out in the <i>Construction Act</i>. Any portion of the <i>Proper Invoice</i> which is not the subject of the <i>Notice of Non-Payment</i> shall be payable within the time period set out in GC 5.5.4.2.</p> <p>5.5.6 Subject to the provisions of the <i>Construction Act</i> and any other rights conferred on the <i>Owner</i> at law or under this <i>Contract</i> to withhold payment or backcharge or set-off against payment, the <i>Owner</i> shall pay the amount payable under a <i>Proper Invoice</i> for final payment in accordance with the <i>Construction Act</i>.</p> <p>5.5.7 When the <i>Consultant</i> issues certificate of completion in accordance with GC 5.5.4.1, the <i>Consultant</i> shall also issue a certificate for release of any holdback for finishing work amount. In accordance with the <i>Construction Act</i>, the <i>Owner</i> may retain any amounts which are required by law to satisfy any liens against the <i>Work</i>, in respect of any third party claims made to the <i>Owner</i> in respect of the <i>Contract</i> or the <i>Work</i>, and in respect of any claims the <i>Owner</i> may have against the <i>Contractor</i>. Subject to</p>
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		the foregoing, the <i>Owner</i> shall release the holdback in accordance with the <i>Construction Act</i> .”
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SC33 GC 5.6 DEFERRED WORK

SC33.1	5.6.1	<p><u>Delete</u> paragraph 5.6.1 and <u>replace</u> with the following:</p> <p>“5.6.1 If because of conditions reasonably beyond the control of the <i>Contractor</i>, there are items of work that cannot be performed, payment in full for that portion of the <i>Work</i> which has been performed as certified by the <i>Consultant</i> shall not be withheld or delayed by the <i>Owner</i> on account thereof, but the <i>Owner</i> may withhold, subject to its requirement to issue a <i>Notice of Non-Payment</i> under the <i>Construction Act</i>, until the remaining portion of the <i>Work</i> is finished, only such an amount that the <i>Consultant</i> determines is sufficient and reasonable to cover the cost of performing such remaining work. The remaining work shall be valued as deficient work as defined in GC 5.8.1.”</p>
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SC34 *NEW* GC 5.8 DEFICIENCY HOLDBACK

SC34.1	5.8.1	<p><u>Add</u> new GC 5.8 – DEFICIENCY HOLDBACK as follows:</p> <p>“GC 5.8 DEFICIENCY HOLDBACK</p> <p>5.8.1 Notwithstanding any provisions contained in the <i>Contract Documents</i> concerning certification and release of monies to the <i>Contractor</i>, the <i>Owner</i> reserves the right to establish a deficiency holdback, at the time of the review for <i>Substantial Performance of the Work</i>, based on a 200% dollar value of the deficiencies listed by the <i>Consultant</i>.</p> <p>5.8.2 In performing the calculation under GC 5.8.1,</p> <p>.1 no individual deficiency will be valued at less than five hundred dollars (\$500.00); and</p> <p>.2 for any <i>Close-Out Documentation</i> not submitted in advance of or as part of the <i>Contractor’s</i> application for <i>Substantial Performance of the Work</i>, an amount shall be retained by the <i>Owner</i> as part of the deficiency holdback that is equal to the estimated time and material costs to retain a third-party to re-create the applicable <i>Close-Out Documentation</i>, as determined by the <i>Consultant</i>, until such time as the applicable <i>Close-Out Documentation</i> is submitted and approved.</p> <p>5.8.3 The deficiency holdback shall be due and payable to the <i>Contractor</i> on the 61st day following completion of all of the deficiencies listed by the <i>Consultant</i>, there being no claims for lien registered against the title to the <i>Place of the Work</i> issued in accordance with the <i>Construction Act</i>, and less any amounts disputed under an <i>Owner’s Notice of Non-Payment</i> (Form 1.1).”</p>
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PART 6 CHANGES IN THE WORK

SC35 GC 6.1 OWNER’S RIGHT TO MAKE CHANGES

SC35.1	6.1.2	<u>Add</u> the following to the end of GC 6.1.2:
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		<p>“This requirement is of the essence and it is the express intention of the parties that any claims by the <i>Contractor</i> for a change in the <i>Contract Price</i> and/or <i>Contract Time</i> shall be barred unless there has been strict compliance with PART 6 - CHANGES IN THE WORK. No verbal dealings between the parties and no implied acceptance of alterations or additions to the <i>Work</i> and no claims that the <i>Owner</i> has been unjustly enriched by any alteration or addition to the <i>Work</i>, whether in fact there is any such unjust enrichment or not, shall be the basis of a claim for additional payment under this <i>Contract</i>, an increase to the <i>Contract Price</i>, or a claim for any extension of the <i>Contract Time</i>.”</p>
SC35.2	6.1.3 to 6.1.8	<p><u>Add</u> new paragraphs 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.7 and 6.1.8 as follows:</p> <p>“6.1.3 The <i>Contractor</i> agrees that changes resulting from construction coordination, including but not limited to, site surface conditions, site coordination, and <i>Subcontractor and Supplier</i> coordination are included in the <i>Contract Price</i> and the <i>Contractor</i> shall be precluded from making any claim for a change in the <i>Contract Price</i> as a result of such changes.</p> <p>6.1.4 Labour costs shall be actual, prevailing rates at the <i>Place of the Work</i> paid to workers, plus statutory charges on labour including WSIB, unemployment insurance, Canada pension, vacation pay, hospitalization and medical insurance. The <i>Contractor</i> shall provide these rates, when requested by the <i>Consultant</i>, for review and/or agreement.</p> <p>6.1.5 Quotations for changes to the <i>Work</i> shall only include <i>Direct Costs</i> and be accompanied by itemized breakdowns together with detailed, substantiating quotations or cost vouchers from <i>Subcontractors</i> and <i>Suppliers</i>, submitted in a format acceptable to the <i>Consultant</i> and shall include any <i>Direct Costs</i> associated with extensions in <i>Contract Time</i>.</p> <p>6.1.6 When both additions and deletions covering related <i>Work</i> or substitutions are involved in a change to the <i>Work</i>, payment, including <i>Overhead</i> and profit, shall be calculated on the basis of the net difference, if any, with respect to that change in the <i>Work</i>.</p> <p>6.1.7 No extension to the <i>Contract Time</i> shall be granted for changes in the <i>Work</i> unless the <i>Contractor</i> can clearly demonstrate that such changes significantly alter the overall construction schedule submitted at the commencement of the <i>Work</i>. Extensions of <i>Contract Time</i> and all associated costs, if approved, shall be included in the relevant <i>Change Order</i>.</p> <p>6.1.8 When a change in the <i>Work</i> is proposed or required, the <i>Contractor</i> shall within 10 calendar days submit to the <i>Consultant</i> for review a claim for a change in <i>Contract Price</i> and/or <i>Contract Time</i>. Should 10 calendar days be insufficient to prepare the submission, the <i>Contractor</i> shall within 5 calendar days, advise the <i>Consultant</i> in writing of the proposed date of submission of the claim. Claims submitted after the dates prescribed herein will not be considered.”</p>

SC36 GC 6.2 CHANGE ORDER

SC36.1	6.2.1	<p>In paragraph 6.2.1 after the last sentence in the paragraph <u>add</u> the following:</p> <p>“The adjustment in the <i>Contract Time</i> and the <i>Contract Price</i> shall include an adjustment, if any, for delay or for the impact that the change in the <i>Work</i> has on the <i>Work</i> of the <i>Contractor</i>, and once such adjustment is made, the <i>Contractor</i> shall be precluded from making any further claims for delay or impact with respect to the change in the <i>Work</i>.”</p>
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SC36.2	6.2.3 to 6.2.5	<p><u>Add</u> new paragraphs 6.2.3, 6.2.4, and 6.2.5 as follows:</p> <p>“6.2.3 The value of a change shall be determined in one or more of the following methods as directed by the <i>Consultant</i>:</p> <p>.1 by estimate and acceptance of a lump sum;</p> <p>.2 by negotiated unit prices which include the <i>Contractor’s</i> overhead and profit, or;</p> <p>.3 by the actual <i>Direct Cost</i> to the <i>Owner</i>, such costs to be the actual cost after all credits included in the change have been deducted, plus the following ranges of mark-up on such costs:</p> <p>.1 for <i>Change Orders</i> with a value of \$0 to \$15,000 the total <i>Subcontractor/Supplier</i> mark-up including <i>Overhead</i> and profit shall be 10% and the total <i>Contractor</i> mark-up including overhead and profit shall be 5%.</p> <p>.2 for <i>Change Orders</i> in excess of \$15,000, the total <i>Subcontractor/Supplier</i> mark-up including <i>Overhead</i> and profit shall be 5% and the total <i>Contractor</i> mark-up including <i>Overhead</i> and profit shall be 3%.</p> <p>6.2.4 All quotations shall include <i>Direct Costs</i> and be submitted in a complete manner listing:</p> <p>.1 quantity of each material, .2 unit cost of each material, .3 man hours involved, .4 cost per hour, .5 <i>Subcontractor</i> quotations submitted listing items 1 to 4 above and item 6 below. .6 mark-up.</p> <p>6.2.5 The <i>Owner</i> and the <i>Consultant</i> will not be responsible for delays to the <i>Work</i> resulting from late, incomplete or inadequately broken-down valuations submitted by the <i>Contractor</i>.”</p>
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SC37 GC 6.3 CHANGE DIRECTIVE

SC37.1	6.3.6.1	<p><u>Amend</u> paragraph 6.3.6.1 by deleting the final period and adding the following:</p> <p>“.1 Ten percent (10%) for profit plus five percent (5%) for overhead on work by the <i>Contractor’s</i> own forces up to the value of \$15,000 and five percent (5%) for profit plus three percent (3%) for <i>Overhead</i> on work by the <i>Contractor’s</i> own forces in excess of \$15,000 and,</p> <p>.2 Ten percent (10%) fee on amounts paid to <i>Subcontractors</i> or <i>Suppliers</i> under subparagraph 6.3.7.9 for changes up to the value of \$15,000 and five percent (5%) on changes over \$15,000.</p> <p>Unless a <i>Subcontractor’s</i> or <i>Supplier’s</i> price has been approved by the <i>Owner</i>, the <i>Subcontractor</i> or <i>Supplier</i> shall be entitled to its actual net cost as determined in accordance with paragraph 6.3.7, plus ten percent (10%) for profit and five percent (5%) for <i>Overhead</i> on such actual net cost for changes in the <i>Work</i>, up to the value of \$15,000 and five percent</p>
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		(5%) for profit and three percent (3%) for overhead on such actual net cost changes in the <i>Work</i> in excess of \$15,000.”
SC37.2	6.3.6.2	<u>Delete</u> paragraph 6.3.6.2 and <u>replace</u> it with the following: “.2 If a change in the <i>Work</i> results in a net decrease in the <i>Contract Price</i> , the amount of the credit shall be the net cost, without deduction for <i>Overhead</i> or profit.”
SC37.3	6.3.7.1(4)	<u>Delete</u> GC 6.3.7.1(4).
SC37.4	6.3.7.7	Amend GC 6.3.7.7 by <u>deleting</u> the words “described in paragraph 6.3.7.1” and <u>replacing</u> them with “approved by the <i>Owner</i> in writing and in advance of any such expenses being incurred;”
SC37.5	6.3.7.9	Amend GC 6.3.7.9 by <u>adding</u> the following to the end of the paragraph: “...when specifically requested by the <i>Owner</i> or as directed by the <i>Consultant</i> .”
SC37.6	6.3.7.10	Amend GC 6.3.7.10 by <u>adding</u> the following to the end of the paragraph: “, provided that such amounts are not caused by negligent acts, omissions, or default of the <i>Contractor</i> or <i>Subcontractor</i> .”
SC37.7	6.3.7.13	<u>Delete</u> GC 6.3.7.13.
SC37.8	6.3.7.15	<u>Delete</u> GC 6.3.7.15.
SC37.9	6.3.7.17	<u>Delete</u> GC 6.3.7.17 in its entirety including all subparagraphs.
SC37.10	6.3.11	<u>Delete</u> GC 6.3.11 and <u>replace</u> it with the following: “6.3.11 The value of the <i>Work</i> performed as a result of a <i>Change Directive</i> shall not be eligible to be included in progress payments until the amount, including the method for determining the amount, of such <i>Change Directive</i> has been determined.”

SC38 GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

SC38.1	6.4.1	<u>Delete</u> paragraph 6.4.1 in its entirety and <u>replace</u> with the following: “6.4.1.1 Prior to the submission of the bid on which the Contract was awarded, the Contractor confirms that it carefully investigated the Place of the Work insofar as the Place of Work was available for investigation and, in doing so, applied to that investigation the degree of care and skill required by paragraph 3.14.1 6.4.1.2 No claim by the <i>Contractor</i> will be considered by the <i>Owner</i> or the <i>Consultant</i> in connection with conditions which could reasonably have been ascertained by such investigation or other due diligence undertaken prior to the execution of the <i>Contract</i> .”
SC38.2	6.4.2	<u>Amend</u> paragraph 6.4.2 by <u>adding</u> a new first sentence as follows: “Having regard to paragraph 6.4.1, if the <i>Contractor</i> believes that the conditions of the <i>Place of the Work</i> differ materially from those reasonably anticipated, differ materially from those indicated in the <i>Contract Documents</i> or were concealed from discovery notwithstanding the conduct of the investigation described in paragraph 6.4.1, it shall provide the <i>Owner</i> and the <i>Consultant</i> with <i>Notice in Writing</i> no later than five (5) <i>Working Days</i> after the first observation of such conditions.” -and-



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		<u>amend</u> the existing second sentence of paragraph 6.4.2 in the second line, following the word “materially” by <u>adding</u> the words “or were concealed from discovery notwithstanding the conduct of the investigation described in paragraph 6.4.1.”.
SC38.3	6.4.3	<u>Delete</u> paragraph 6.4.3 in its entirety and <u>substitute</u> the following: “6.4.3 If the <i>Consultant</i> makes a finding pursuant to paragraph 6.4.2 that no change in the <i>Contract Price</i> or the <i>Contract Time</i> is justified, the <i>Consultant</i> shall report in writing the reasons for this finding to the <i>Owner</i> and the <i>Contractor</i> .”
SC38.4	6.4.5	<u>Add</u> new paragraph 6.4.5 as follows: “6.4.5 No claims for additional compensation or for an extension of <i>Contract Time</i> shall be allowed if the <i>Contractor</i> fails to give <i>Notice in Writing</i> to the <i>Owner</i> or <i>Consultant</i> , as required by paragraph 6.4.2.”

SC39 GC 6.5 DELAYS

SC39.1	6.5.1	In paragraph 6.5.1 <u>delete</u> the words after the word “for” in the fourth line and <u>replace</u> them with the words “...reasonable <i>Direct Costs</i> directly flowing from the delay, but excluding any consequential, indirect or special damages (including, without limitation, loss of profits, loss of opportunity or loss of productivity).”
SC39.2	6.5.2	<u>Delete</u> GC 6.5.2 in its entirety and <u>replace</u> it with the following: “6.5.2 If the <i>Contractor</i> is delayed in the performance of the <i>Work</i> by a stop work order issued by a court or other public authority and providing that such order was issued on account of a direct breach, violation, contravention, or a failure to abide by any laws, ordinances, rules, regulations, or codes by the <i>Owner</i> , <i>Other Contractor(s)</i> , or the <i>Consultant</i> , and relating to the <i>Work</i> or the <i>Place of the Work</i> , then the <i>Contract Time</i> shall be extended for such reasonable time as the <i>Consultant</i> may determine. The <i>Contractor</i> shall be reimbursed by the <i>Owner</i> for reasonable <i>Direct Costs</i> directly flowing from the delay, but excluding any consequential, indirect or special damages (including, without limitation, loss of profits, loss of opportunity or loss of productivity).”
SC39.3	6.5.3	<u>Delete</u> paragraph 6.5.3 in its entirety and <u>replace</u> with the following: “6.5.3 If either party is delayed in the performance of their obligations under this <i>Contract</i> by <i>Force Majeure</i> , then the <i>Contract Time</i> shall be extended for such reasonable time as the <i>Owner</i> and the <i>Contractor</i> shall agree. The extension of time shall not be less than the time lost as a result of the event causing the delay, unless the parties agree to a shorter extension. Neither party shall be entitled to payment for costs incurred by such delays. Upon reaching agreement on the extension of the <i>Contract Time</i> attributable to the <i>Force Majeure</i> event, the <i>Owner</i> and the <i>Contractor</i> shall execute a <i>Change Order</i> indicating the length of the extension to the <i>Contract Time</i> and confirming that there are no costs payable by the either party for the extension of <i>Contract Time</i> . However, if at the time an event of <i>Force Majeure</i> arises a party is in default of its obligations under the <i>Contract</i> and has received a notice of default pursuant to PART 7 – DEFAULT NOTICE, this paragraph 6.5.3 shall not excuse a party from its obligation to cure the default(s). For greater certainty, the defaulting party, to the extent possible, must continue to address and cure the default notwithstanding an event of <i>Force Majeure</i> .”
SC39.4	6.5.4	<u>Delete</u> paragraph 6.5.4 in its entirety and <u>replace</u> it with the following:



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		<p>“6.5.4 No extension or compensation shall be made for delay or impact on the <i>Work</i> unless notice in writing of a claim is given to the <i>Consultant</i> not later than ten (10) <i>Working Days</i> after the commencement of the delays or impact on the <i>Work</i>, provided however, that, in the case of a continuing cause of delay or impact on the <i>Work</i>, only one notice of claim shall be necessary.”</p>
SC39.5	6.5.6 to 6.5.8	<p><u>Add</u> new paragraphs 6.5.6, 6.5.7 and 6.5.8 as follows:</p> <p>“6.5.6 If the <i>Contractor</i> is delayed in the performance of the <i>Work</i> by an act or omission of the <i>Contractor</i> or anyone directly or indirectly employed or engaged by the <i>Contractor</i>, or by any cause within the <i>Contractor’s</i> control, then (i) firstly, at its expense, and to the extent possible, the <i>Contractor</i> shall accelerate the work and/or provide overtime work to recover time lost by a delay arising under this paragraph 6.5.6, and (ii) secondly, where it is not possible for the <i>Contractor</i> to recover the time lost by implementing acceleration measures and/or overtime work, the <i>Contract Time</i> may be extended for such reasonable time as the <i>Owner</i> may decide in consultation with the <i>Consultant</i> and the <i>Contractor</i>. The <i>Owner</i> shall be reimbursed by the <i>Contractor</i> for all reasonable costs incurred by the <i>Owner</i> as the result of such delay, including, but not limited to, <i>Owner’s</i> staff costs, the cost of all additional services required by the <i>Owner</i> from the <i>Consultant</i> or any sub-consultants, project managers, or others employed or engaged by the <i>Owner</i>, and in particular, the costs of the <i>Consultant’s</i> services during the period between the date of <i>Substantial Performance of the Work</i> stated in Article A-1 herein, as the same may be extended through the provision of these General Conditions, and any later or actual date of <i>Substantial Performance of the Work</i> achieved by the <i>Contractor</i>.</p> <p>6.5.7 Without limiting the obligations of the <i>Contractor</i> described in GC 3.2 – CONSTRUCTION BY OWNER OR OTHER CONTRACTORS or GC 9.4 – CONSTRUCTION SAFETY, the <i>Owner</i> or <i>Consultant</i> may, by <i>Notice in Writing</i>, direct the <i>Contractor</i> to stop the <i>Work</i> where the <i>Owner</i> or <i>Consultant</i> determines that there is an imminent risk to the safety of persons or property at the <i>Place of the Work</i>. In the event that the <i>Contractor</i> receives such notice, it shall immediately stop the <i>Work</i> and secure the site. The <i>Contractor</i> shall not be entitled to an extension of the <i>Contract Time</i> or to an increase in the <i>Contract Price</i> unless the resulting delay, if any, would entitle the <i>Contractor</i> to an extension of the <i>Contact Time</i> or the reimbursement of the <i>Contractor’s</i> costs as provided in paragraphs 6.5.1, 6.5.2 or 6.5.3.</p> <p>6.5.8 No claim for delay shall be made by the <i>Contractor</i> and the <i>Contract Time</i> shall not be extended due to climatic conditions or arising from the <i>Contractor’s</i> efforts to maintain the <i>Construction Schedule</i>.”</p>

PART 7 DEFAULT NOTICE

SC40 GC 7.1 OWNER’S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR’S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT

SC40.1	7.1.2	In GC 7.1.2, delete the words “and if the <i>Consultant</i> has given a written statement to the <i>Owner</i> and <i>Contractor</i> which provides the detail of such neglect to perform the <i>Work</i> properly or such failure to comply with the requirements of the <i>Contract</i> to a substantial degree”.
SC40.2	7.1.3.4	<p><u>Add</u> a new subparagraph 7.1.3.4 as follows:</p> <p>“.4 an “acceptable schedule” as referred to in subparagraph 7.1.3.2. means a schedule approved by the <i>Consultant</i> and the <i>Owner</i> wherein the default can be corrected within the balance of the <i>Contract Time</i> and shall not cause delay to any other aspect of the</p>



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		<i>Work</i> or the work of other contractors, and in no event shall it be deemed to give a right to extend the <i>Contract Time</i> .”
SC40.3	7.1.4.1	<u>Delete</u> subparagraph 7.1.4.1 and <u>replace</u> it with the following: “.1 correct such default and deduct the cost, including <i>Owner’s</i> expenses, thereof from any payment then or thereafter due the <i>Contractor</i> .”
SC40.4	7.1.4.2	<u>Delete</u> subparagraph 7.1.4.2 and <u>replace</u> it with the following: “.2 by providing <i>Notice in Writing</i> to the <i>Contractor</i> , terminate the <i>Contractor’s</i> right to continue with the <i>Work</i> in whole or in part or terminate the <i>Contract</i> , and publish a notice of termination (Form 8) in accordance with the <i>Act</i> .”
SC40.5	7.1.5.3	In subparagraph 7.1.5.3 <u>delete</u> the words: “however, if such cost of finishing the <i>Work</i> is less than the unpaid balance of the <i>Contract Price</i> , the <i>Owner</i> shall pay the <i>Contractor</i> the difference”
SC40.6	7.1.6 to 7.1.10	<u>Delete</u> GC 7.1.6 and <u>replace</u> it with new paragraphs 7.1.6, 7.1.7, 7.1.8, 7.1.9 and 7.1.10 as follows: “7.1.6 In addition to its right to terminate the <i>Contract</i> set out herein, the <i>Owner</i> may terminate this <i>Contract</i> at any time for any other reason and without cause upon giving the <i>Contractor</i> fifteen (15) <i>Working Days Notice in Writing</i> to that effect. In such event, the <i>Contractor</i> shall be entitled to be paid for all <i>Work</i> performed including reasonable profit, for loss sustained upon <i>Products</i> and <i>Construction Equipment</i> , and such other damages as the <i>Contractor</i> may have sustained as a result of the termination of the <i>Contract</i> , but in no event shall the <i>Contractor</i> be entitled to be compensated for any loss of profit on unperformed portions of the <i>Work</i> , or indirect, special, or consequential damages incurred. 7.1.7 The <i>Owner</i> may suspend <i>Work</i> under this <i>Contract</i> at any time for any reason and without cause upon giving the <i>Contractor Notice in Writing</i> to that effect. In such event, the <i>Contractor</i> shall be entitled to be paid for all <i>Work</i> performed to the date of suspension and be compensated for all actual costs incurred arising from the suspension, including reasonable profit, for loss sustained upon <i>Products</i> and <i>Construction Equipment</i> , and such other damages as the <i>Contractor</i> may have sustained as a result of the suspension of the <i>Work</i> , but in no event shall the <i>Contractor</i> be entitled to be compensated for any indirect, special, or consequential damages incurred. In the event that the suspension continues for more than thirty (30) calendar days, the <i>Contract</i> shall be deemed to be terminated and the provisions of paragraph 7.1.6 shall apply. 7.1.8 In the case of either a termination of the <i>Contract</i> or a suspension of the <i>Work</i> under GC 7.1 - OWNER’S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR’S RIGHT TO CONTINUE WITH THE WORK, OR TERMINATE THE CONTRACT or GC 7.2 - CONTRACTOR’S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the <i>Contractor</i> shall use its best commercial efforts to mitigate the financial consequences to the <i>Owner</i> arising out of the termination or suspension, as the case may be. 7.1.9 Upon the resumption of the <i>Work</i> following a suspension under GC 7.1 - OWNER’S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR’S RIGHT TO CONTINUE WITH THE WORK, OR TERMINATE THE CONTRACT or GC 7.2 - CONTRACTOR’S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the <i>Contractor</i> will endeavour to minimize the delay and financial consequences arising out of the suspension. 7.1.10 The <i>Contractor’s</i> obligations under the <i>Contract</i> as to quality, correction, and warranty of the <i>Work</i> performed by the <i>Contractor</i> up to the time of termination or



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		suspension shall continue after such termination of the <i>Contract</i> or suspension of the <i>Work</i> .”
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SC41 GC 7.2 CONTRACTOR’S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT

SC41.1	7.2.2	<u>Delete</u> paragraph 7.2.2 and <u>replace</u> it with the following: “7.2.2 If the <i>Work</i> is suspended or otherwise delayed for a period of 40 consecutive <i>Working Days</i> or more under a stop work order issued by a court or other public authority on account of a breach, violation, contravention, or a failure to abide by any laws, ordinances, rules, regulations, or codes directly by the <i>Owner</i> , the <i>Owner’s</i> other contractor(s), or the <i>Consultant</i> , and relating to the <i>Work</i> or the <i>Place of the Work</i> , the <i>Contractor</i> may, without prejudice to any other right or remedy the <i>Contractor</i> may have, terminate the <i>Contract</i> by giving the <i>Owner</i> Notice in <i>Writing</i> to that effect.”
SC41.2	7.2.3.1	<u>Delete</u> subparagraph 7.2.3.1 in its entirety.
SC41.3	7.2.3.2	<u>Delete</u> subparagraph 7.2.3.2 in its entirety.
SC41.4	7.2.3.4	In subparagraph 7.2.3.4, <u>delete</u> the words "except for GC 5.1 - FINANCING INFORMATION REQUIRED OF THE OWNER".
SC41.5	7.2.5	<u>Delete</u> paragraph 7.2.5 and <u>replace</u> it with the following: “7.2.5 If the default cannot be corrected within the 5 <i>Working Days</i> specified in paragraph 7.2.4, the <i>Owner</i> shall be deemed to have cured the default if it: .1 commences correction of the default within the specified time; .2 provides the <i>Contractor</i> with an acceptable schedule for such correction; and, .3 completes the correction in accordance with such schedule.”
SC41.6	7.2.6 to 7.2.9	<u>Add</u> new paragraphs 7.2.6, 7.2.7, 7.2.8 and 7.2.9 as follows: “7.2.6 If the <i>Contractor</i> terminates the <i>Contract</i> under the conditions described in GC 7.2 – CONTRACTOR’S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the <i>Contractor</i> shall be entitled to be paid for all <i>Work</i> performed to the date of termination, as determined by the <i>Consultant</i> . The <i>Contractor</i> shall also be entitled to recover the direct costs associated with termination, including the costs of demobilization and losses sustained on <i>Products</i> and <i>Construction Equipment</i> . The <i>Contractor</i> shall not be entitled to any recovery for any special, indirect or consequential losses, including loss of profit. 7.2.7 The <i>Contractor</i> shall not be entitled to give notice of the <i>Owner’s</i> default or terminate the <i>Contract</i> in the event the <i>Owner</i> withholds certificates or payment or both in accordance with the <i>Contract</i> because of: .1 the <i>Contractor’s</i> failure to pay all legitimate claims promptly, or .2 the failure of the <i>Contractor</i> to discharge construction liens which are registered against the title to the <i>Place of the Work</i> . 7.2.8 The <i>Contractor’s</i> obligations under the <i>Contract</i> as to quality, correction and warranty of the <i>Work</i> performed by the <i>Contractor</i> up to the effective date of



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		<p>termination shall continue in force and shall survive termination of this <i>Contract</i> by the <i>Contractor</i>.</p> <p>7.2.9 If the <i>Contractor</i> suspends the <i>Work</i> or terminates the <i>Contract</i> as provided for in GC 7.2 – CONTRACTOR’S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the <i>Contractor</i> shall ensure the site and the <i>Work</i> are left in a safe, secure condition as required by authorities having jurisdiction at the <i>Place of the Work</i> and the <i>Contract Documents</i>.”</p>
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PART 8 DISPUTE RESOLUTION

SC42 GC 8.1 AUTHORITY OF THE CONSULTANT

SC42.1	8.1.3	<p><u>Delete</u> paragraph 8.1.3 in its entirety and <u>substitute</u> as follows:</p> <p>“8.1.3 If a dispute is not resolved promptly, the <i>Consultant</i> will give such instruction as in the <i>Consultant’s</i> opinion are necessary for the proper performance of the <i>Work</i> and to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by doing so neither party will jeopardize any claim the party may have.”</p>
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SC43 GC 8.2 ADJUDICATION

SC43.13	8.2.2 to 8.2.7	<p><u>Add</u> new GC 8.2.2, 8.2.3, 8.2.4, 8.2.5, 8.2.6, and 8.2.7 as follows:</p> <p>“8.2.2 Save and except where the <i>Contractor</i> has given an undertaking, in accordance with the <i>Act</i>, to refer a dispute to <i>Adjudication</i>, prior to delivering a notice of <i>Adjudication</i> in a form prescribed by the <i>Act</i>, the parties agree to first address all disputes with at least one in-person meeting with the <i>Owner’s</i> representative, the <i>Consultant’s</i> representative, and the <i>Contractor’s</i> representative. The parties agree that such steps will be taken to resolve any disputes in a timely and cost-effective manner.</p> <p>8.2.3 Notwithstanding any other provisions in PART 8 DISPUTE RESOLUTION, the parties shall engage in <i>Adjudication</i> proceedings as required by, and in accordance with, the <i>Construction Act</i>.</p> <p>8.2.4 The following procedures shall apply to any <i>Adjudication</i> the parties engage in under the <i>Construction Act</i>.</p> <p>.1 any hearings shall be held at a venue within the jurisdiction of the <i>Place of the Work</i> or such other venue as the parties may agree and which is acceptable to the adjudicator;</p> <p>.2 the <i>Adjudication</i> shall be conducted in English;</p> <p>.3 each party may be represented by counsel throughout an <i>Adjudication</i>;</p> <p>.4 there shall not be any oral communications with respect to issues in dispute that are the subject of an <i>Adjudication</i> between a party and the adjudicator unless it is made in the presence of both parties or their legal representatives; and</p> <p>.5 a copy of all written communications between the adjudicator and a party shall be given to the other party at the same time.</p>
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		<p>8.2.5 Any documents or information disclosed by the parties during an <i>Adjudication</i> are confidential and the parties shall not use such documents or information for any purpose other than the <i>Adjudication</i> in which they are disclosed and shall not disclose such documents and information to any third party, unless otherwise required by law, save and except the for the adjudicator.</p> <p>8.2.6 If the <i>Contractor</i> fails to comply with any of the notice requirements set out in the <i>Contract</i>, including the time limits set out in any of the following:</p> <ul style="list-style-type: none"> .1 GC 6.4 – CONCEALED OR UNKNOWN CONDITIONS; .2 GC 6.5 – DELAYS; .3 GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE; .4 PART 8 DISPUTE RESOLUTION .5 GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES .6 GC 9.3 – ARTIFACTS AND FOSSILS; or .7 GC 9.5 - MOULD <p>in respect of any claim or dispute, the <i>Contractor</i> shall have no entitlement whatsoever (including to an increase in the <i>Contract Price</i>, or an extension of <i>Contract Time</i>) in the context of an <i>Adjudication</i> under the <i>Construction Act</i> and waives the right to make any such claims or disputes in an <i>Adjudication</i>. This GC 8.2.6 shall operate conclusively as an estoppel and bar in the event such claims or disputes are brought in an <i>Adjudication</i> and the <i>Owner</i> may rely on this GC 8.2.6 as a complete defence to any such claims or disputes.</p> <p>8.2.7 The parties hereby acknowledge and agree,</p> <ul style="list-style-type: none"> .1 that counterclaims, claims of set-off or the exercise or use of other contractual rights that permit the <i>Owner</i> to withhold, deduct or retain from monies otherwise owed to the <i>Contractor</i> under the <i>Contract</i> may be referred to, and included as part of, <i>Adjudications</i> under the <i>Construction Act</i>; .2 that disputes related to the termination or abandonment of the <i>Contract</i>, as well as any disputes that arise or are advanced following the termination or abandonment of the <i>Contract</i>, shall not be referred to <i>Adjudication</i> under the <i>Construction Act</i>; .3 that notice(s) of <i>Adjudication</i>, with respect to any dispute or claim relating to the <i>Project</i>, shall not be given, and no <i>Adjudication</i> shall be commenced following <i>Contract</i> completion, <i>Contract</i> abandonment, or termination of the <i>Contract</i>; .4 that any <i>Adjudication</i> between the <i>Contractor</i> and a <i>Subcontractor</i> or a supplier that relates to an <i>Adjudication</i> between the <i>Owner</i> and the <i>Contractor</i> shall be joined together to be adjudicated by a single adjudicator, provided that the adjudicator agrees to do so, and the <i>Contractor</i> shall include a provision in each of its contracts that contain an equivalent obligation to this GC 8.2.7.4; and .5 that, other than where the <i>Contractor</i> is obliged to commence an <i>Adjudication</i> pursuant to an undertaking under the <i>Construction Act</i>, neither the <i>Owner</i> nor the <i>Contractor</i> shall commence an <i>Adjudication</i> during the <i>Restricted Period</i>. <p>8.2.8 The parties acknowledge and agree that no <i>Adjudication</i>, arbitration, action, suit or other proceeding may be brought by the <i>Contractor</i> against the <i>Owner</i> in respect of a claim for an increase to the <i>Contract Price</i> as set out in GC 6.6, before the <i>Consultant</i> has issued its findings in respect of same, pursuant to GC 6.6.5. For greater clarity and without limiting the foregoing, the amount applied for in each <i>Proper Invoice</i> shall not include any amounts pertaining to the <i>Contractor's</i> claim for an increase in <i>Contract Price</i> unless and until the <i>Consultant</i> has issued a written notice to the <i>Contractor</i> regarding the validity of such claim, as provided for in GC 6.6.5. However, nothing in this GC 8.2.8 shall prevent a <i>Contractor</i> from commencing an <i>Adjudication</i> where, pursuant to the <i>Construction Act</i>, the <i>Contractor</i> is required</p>
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		to give an undertaking to a <i>Subcontractor</i> to commence an <i>Adjudication</i> following delivery of a <i>Notice of Non-Payment</i> .”
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SC44 GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

SC44.1	8.3.1	Amend paragraph 8.3.1 by changing part of the second line from “shall appoint a <i>Project Mediator</i> ” to “may appoint a <i>Project Mediator</i> , except that such an appointment shall only be made if both the <i>Owner</i> and the <i>Contractor</i> agree.”
SC44.2	8.3.4	Amend paragraph 8.3.4 by changing part of the second line from “the parties shall request the <i>Project Mediator</i> ” to “and subject to paragraph 8.3.1 the parties may request the <i>Project Mediator</i> ”.
SC44.3	8.3.6 to 8.3.9	<p>Delete paragraphs 8.3.6, 8.3.7 and 8.3.8 in their entirety and <u>replace</u> them with the following new GCs 8.3.6, 8.3.7, 8.3.8, and 8.3.9:</p> <p>“8.3.6 The dispute may be finally resolved by arbitration under the Rules for Arbitration of Construction Disputes as provided in CCDC 40 in effect at the time of bid closing, provided that both the <i>Contractor</i> and the <i>Owner</i> agree. If the <i>Contractor</i> and the <i>Owner</i> agree to resolve the dispute by arbitration, the arbitration shall be conducted in the jurisdiction of the <i>Place of the Work</i>.</p> <p>8.3.7 Prior to delivering a notice of <i>Adjudication</i> in a form prescribed by the <i>Act</i>, the parties agree to first address all disputes by attending at least one meeting with the <i>Owner’s</i> representative, the <i>Consultant’s</i> representative, and the <i>Contractor’s</i> representative, prior to commencing an <i>Adjudication</i>. The parties agree that such steps will be taken to resolve any disputes in a timely and cost effective manner. If a resolution to the dispute(s) is not made at such a meeting, any party who plans to commence an <i>Adjudication</i> shall provide the other party with 5 <i>Working Days’ Notice in Writing</i> of its intention to issue a notice of <i>Adjudication</i>.</p> <p>8.3.8 Other than where the <i>Contractor</i> is obliged to commence an <i>Adjudication</i> pursuant to an undertaking under the <i>Construction Act</i>, neither the <i>Owner</i> nor the <i>Contractor</i> shall commence an <i>Adjudication</i> during the <i>Restricted Period</i>.</p> <p>8.3.9 Where either party has delivered a notice of <i>Adjudication</i> in a form prescribed by the <i>Act</i>, the procedures and rules set out under the <i>Construction Act</i> and the regulations thereto shall govern the <i>Adjudication</i>.”</p>

PART 9 PROTECTION OF PERSONS AND PROPERTY

SC45 GC 9.1 PROTECTION OF WORK AND PROPERTY

SC45.1	9.1.1.1	<p>Delete subparagraph 9.1.1.1 in its entirety and <u>substitute</u> the following:</p> <p>“.1 errors in the <i>Contract Documents</i> which the <i>Contractor</i> could not have discovered applying the standard of care described in paragraph 3.14.1;”</p>
SC45.2	9.1.2	<p>Delete paragraph 9.1.2 in its entirety and <u>substitute</u> as follows:</p> <p>“9.1.2 Before commencing any <i>Work</i>, the <i>Contractor</i> shall determine the locations of all underground or hidden utilities and structures indicated in or inferable from the <i>Contract Documents</i>, or that are inferable from an inspection of the <i>Place of the Work</i> exercising the degree of care and skill described in paragraph 3.14.1.”</p>
SC45.3	9.1.5	Add new paragraph 9.1.5 as follows:



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		<p>“9.1.5 With respect to any damage to which paragraphs 9.1.3 or 9.1.4 apply, the <i>Contractor</i> shall neither undertake to repair or replace any damage whatsoever to the work of other contractors, or to adjoining property, nor acknowledge that the same was caused or occasioned by the <i>Contractor</i>, without first consulting the <i>Owner</i> and receiving written instructions as to the course of action to be followed from either the <i>Owner</i> or the <i>Consultant</i>. Where, however, there is danger to life, the environment, or public safety, the <i>Contractor</i> shall take such emergency action as it deems necessary to remove the danger.”</p>
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SC46 GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

SC46.1	9.2.1	<p>Amend GC 9.2.1 by <u>inserting</u> the following to the end of the paragraph:</p> <p>“For the purposes of GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES, <i>Excess Soil</i> shall not be considered a ‘toxic and hazardous substance’.”</p>
SC46.2	9.2.5.5	<p>Add a new subparagraph 9.2.5.5 as follows:</p> <p>“.5 in addition to the steps described in subparagraph 9.2.5.3, take any further steps it deems necessary to mitigate or stabilize any conditions resulting from encountering toxic or hazardous substances or materials.”</p>
SC46.3	9.2.6	<p><u>Amend</u> GC 9.2.6 by <u>adding</u> the following words after the word “responsible” in the second line:</p> <p>“or whether any toxic or hazardous substances or materials already at the <i>Place of the Work</i> (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the <i>Contractor</i> or anyone for whom the <i>Contractor</i> 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 damages to the property of the <i>Owner</i> or others,”.</p>
SC46.4	9.2.8	<p><u>Amend</u> GC 9.2.8 by <u>adding</u> the following words after the word “responsible” in the second line:</p> <p>“or whether any toxic or hazardous substances or materials already at the <i>Place of the Work</i> (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the <i>Contractor</i> or anyone for whom the <i>Contractor</i> 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 damages to the property of the <i>Owner</i> or others,”.</p>
SC46.5	9.2.10	<p><u>Add</u> new paragraph 9.2.10 as follows:</p> <p>“9.2.10 The <i>Contractor</i>, <i>Subcontractors</i> and <i>Suppliers</i> shall not bring on to the <i>Place of the Work</i> any toxic or hazardous substances and materials except as required in order to perform the <i>Work</i>. If such toxic or hazardous substances or materials are required, storage in quantities sufficient to allow work to proceed to the end of any current work week only shall be permitted. All such toxic and hazardous materials and substances shall be handled and disposed of only in accordance with all laws and regulations that are applicable at the <i>Place of the Work</i>.”</p>

SC47 GC 9.4 CONSTRUCTION SAFETY

SC47.1	9.4.1	<p><u>Delete</u> GC 9.4.1 in its entirety and <u>replace</u> it with the following:</p>
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		<p>“9.4.1 The <i>Contractor</i> shall be solely responsible for construction safety at the <i>Place of the Work</i> and for compliance with the rules, regulations, and practices required by the <i>OHSA</i>, including, but not limited to those of the “constructor”, and shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the <i>Work</i>. The <i>Contractor’s</i> health and safety program documentation shall be made available for review by the <i>Owner</i> or <i>Consultant</i> immediately upon request. Without limiting the foregoing, the <i>Contractor</i> shall be solely responsible for construction safety in respect of the <i>Consultant, Subcontractors</i> and <i>Suppliers, the Owner’s</i> own forces, <i>Other Contractors</i>, and all persons attending the <i>Place of the Work</i> during the course of the <i>Project</i>.”</p>
SC47.2	9.4.2	Amend GC 9.4.2 by <u>adding</u> the following words after “and the <i>Contractor</i> ”: “, <i>Subcontractors</i> and <i>Suppliers</i> ”.
SC47.3	9.4.3	Amend GC 9.4.3 by <u>adding</u> the following words after “and the <i>Contractor</i> ”: “, <i>Subcontractors</i> and <i>Suppliers</i> ”.
SC47.4	9.4.4	<p><u>Delete</u> GC 9.4.4 and replace it with the following:</p> <p>“9.4.4 The <i>Owner</i> undertakes to include in its contracts with other contractors and in its instructions to its own forces the requirement that the other contractor or its own forces, as the case may be, comply with the policies and procedures of and the directions and instructions from the <i>Contractor</i> with respect to occupational health and safety and related matters.”</p>
SC47.5	9.4.5	<p><u>Delete</u> GC 9.4.5 in its entirety and <u>replace</u> it with the following:</p> <p>“9.4.5 Prior to the commencement of the <i>Work</i>, the <i>Contractor</i> shall submit to the <i>Owner</i>:</p> <ul style="list-style-type: none"> .1 a current WSIB clearance certificate; .2 copies of the <i>Contractor’s</i> insurance policies having application to the <i>Project</i> or certificates of insurance, at the option of the <i>Owner</i>; .3 documentation setting out the <i>Contractor’s</i> in-house safety programs; .4 a copy of the Notice of Project filed with the Ministry of Labour naming itself as “constructor” under the <i>OHSA</i>; and .5 copies of any documentation or notices to be filed or delivered to the authorities having jurisdiction for the regulation of occupational health and safety at the <i>Place of the Work</i>,”
SC47.6	9.4.6 to 9.4.12	<p><u>Add</u> new GC 9.4.6, 9.4.7, 9.4.8, 9.4.9, 9.4.10, 9.4.11, and 9.4.12 as follows:</p> <p>“9.4.6 The <i>Contractor</i> shall indemnify and save harmless the <i>Owner</i>, its agents, trustees, officers, directors, employees, consultants, successors, appointees, and assigns from and against the consequences of any and all safety infractions committed by the <i>Contractor</i> under <i>OHSA</i> and any other occupational health and safety legislation in force at the <i>Place of the Work</i> including the payment of legal fees and disbursements on a solicitor and client basis. Such indemnity shall apply to the extent to which the <i>Owner</i> is not covered by insurance.</p> <p>9.4.7 If the <i>Owner</i> is of the reasonable opinion that the <i>Contractor</i> has not taken such precautions as are necessary to ensure compliance with the requirements of paragraph 9.4.1, the <i>Owner</i> may take any remedial measures which it deems necessary, including stopping the performance of all or any portion of the <i>Work</i>, and</p>



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		<p>the <i>Owner</i> may use its employees, the <i>Contractor</i>, any <i>Subcontractor</i> or any other contractors to perform such remedial measures.</p> <p>9.4.8 The <i>Contractor</i> shall file any notices or any similar document required pursuant to the <i>Contract</i> or the safety regulations in force at the <i>Place of the Work</i>. This duty of the <i>Contractor</i> will be considered to be included in the <i>Work</i> and no separate payment therefore will be made to the <i>Contractor</i>.</p> <p>9.4.9 Unless otherwise provided in the <i>Contract Documents</i>, the <i>Contractor</i> shall develop, maintain and supervise for the duration of the <i>Work</i> a comprehensive safety program that will effectively incorporate and implement all required safety precautions. The program shall, at a minimum, respond fully to the applicable safety regulations and general construction practices for the safety of persons or property, including, without limitation, any general safety rules and regulations of the <i>Owner</i> and any workers' compensation or occupational health and safety statutes or regulations in force at the <i>Place of the Work</i>.</p> <p>9.4.10 The <i>Contractor</i> shall provide a copy of the safety program described in GC 9.4.9 hereof to the <i>Consultant</i> for delivery to the <i>Owner</i> prior to the commencement of the <i>Work</i>, and shall, ensure, as far as it is reasonably practical to do so, that every employer and worker performing work in respect of the <i>Project</i> complies with such program.</p> <p>9.4.11 The <i>Contractor</i> shall arrange regular safety meetings, and shall supply and maintain, at its own expense, at its office or other well-known place at the job site, safety equipment necessary to protect the workers and general public against accident or injury as prescribed by the authorities having jurisdiction at the <i>Place of the Work</i>, including, without limitation, articles necessary for administering first-aid to any person and an emergency procedure for the immediate removal of any injured person to a hospital or a doctor's care.</p> <p>9.4.12 The <i>Contractor</i> shall promptly report in writing to the <i>Owner</i> and the <i>Consultant</i> all accidents of any sort arising out of or in connection with the performance of the <i>Work</i>, whether on or adjacent to the job site, giving full details and statement of witnesses. If death or serious injuries or damages are caused, the accident shall be promptly reported by the <i>Contractor</i> to the <i>Owner</i> and the <i>Consultant</i> by telephone or messenger in addition to any reporting required under the applicable safety regulations.”</p>
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PART 10 GOVERNING REGULATIONS

SC48 GC 10.1 TAXES AND DUTIES

SC48.1	10.1.2	<p><u>Amend</u> paragraph 10.1.2 by <u>adding</u> the following sentence to the end of the paragraph:</p> <p>“For greater certainty, the <i>Contractor</i> shall not be entitled to any mark-up for overhead or profit on any increase in such taxes and duties and the <i>Owner</i> shall not be entitled to any credit relating to mark-up for overhead or profit on any decrease in such taxes. The <i>Contractor</i> shall provide a detailed breakdown of <u>Additional taxes</u> if requested by the <i>Owner</i> in a form satisfactory to the <i>Owner</i>.”</p>
SC48.2	10.1.3	<p><u>Add</u> new paragraph 10.1.3 as follows:</p> <p>“10.1.3 Where the <i>Owner</i> is entitled to an exemption or a recovery of sales taxes, customs duties, excise taxes or <i>Value Added Taxes</i> applicable to the <i>Contract</i>, the <i>Contractor</i> shall, at the request of the <i>Owner</i>, assist with the application for any exemption, recovery or refund of all such taxes and duties and all amounts recovered or exemptions obtained shall be for the sole benefit of the <i>Owner</i>. The</p>



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		<i>Contractor</i> agrees to endorse over to the <i>Owner</i> any cheques received from the federal or provincial governments, or any other taxing authority, as may be required to give effect to this paragraph."
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SC49 GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

SC49.1	10.2.5	<p><u>Amend</u> paragraph 10.2.5 by <u>adding</u> the words "Subject to paragraph 3.4" at the beginning of the paragraph.</p> <p>-and-</p> <p><u>Add</u> the following to the end of the second sentence:</p> <p>"...and no further <i>Work</i> on the affected components of the <i>Contract</i> shall proceed until these directives have been obtained by the <i>Contractor</i> from the <i>Consultant</i>."</p>
SC49.2	10.2.6	<p><u>Amend</u> paragraph 10.2.6 by <u>adding</u> the following sentence to the end of the paragraph:</p> <p>"In the event the <i>Owner</i> suffers loss or damage as a result of the <i>Contractor's</i> failure to comply with paragraph 10.2.5 and notwithstanding any limitations described in paragraph 12.1.1, the <i>Contractor</i> agrees to indemnify and to hold harmless the <i>Owner</i> and the <i>Consultant</i> from and against any claims, demands, losses, costs, damages, actions suits or proceedings resulting from such failure by the <i>Contractor</i>."</p>
SC49.3	10.2.7	<p><u>Amend</u> paragraph 10.2.7 by inserting the words "which changes were not, or could not have reasonably been known to the <i>Owner</i> or to the <i>Contractor</i>, as applicable, at the time of bid closing and which changes did not arise as a result of a public emergency or other <i>Force Majeure</i> event" to the second line, after the words "authorities having jurisdiction".</p>
SC49.4	10.2.8	<p><u>Add</u> new paragraph 10.2.8 as follows:</p> <p>"10.2.8 The <i>Contractor</i> shall furnish all certificates that are required or given by the appropriate governmental authorities as evidence that the <i>Work</i> as installed conforms with the laws and regulations of authorities having jurisdiction, including certificates of compliance for the <i>Owner's</i> occupancy or partial occupancy. The certificates are to be final certificates giving complete clearance of the <i>Work</i>, in the event that such governmental authorities furnish such certificates."</p>

SC50 GC 10.4 WORKERS' COMPENSATION

SC50.1	10.4.1	<p><u>Delete</u> paragraph 10.4.1 and <u>replace</u> with the following:</p> <p>"10.4.1 Prior to commencing the <i>Work</i>, and with each and every application for payment thereafter, including the <i>Contractor's</i> application for payment of the holdback amount following <i>Substantial Performance of the Work</i> and again with the <i>Contractor's</i> application for final payment, the <i>Contractor</i> shall provide evidence of compliance with workers' compensation legislation in force at the <i>Place of the Work</i>, including payments due thereunder."</p>
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SC51 GC 11.1 INSURANCE

SC51.1	11.1	<p><u>Delete</u> entirety of GC 11.1 and <u>replace</u> with the following:</p> <p>"GC 11.1 INSURANCE</p>
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		<p>11.1.1 Without restricting the generality of GC 12 – INDEMNIFICATION, the <i>Contractor</i> shall provide, maintain, and pay for the insurance coverages specified in GC 11.1 – INSURANCE. Unless otherwise stipulated, the duration of each insurance policy shall be from the date of commencement of the <i>Work</i> until the expiration of the warranty periods set out in the <i>Contract Documents</i>. Prior to commencement of the <i>Work</i> and upon the placement, renewal, <u>amendment</u>, or extension of all or any part of the insurance, the <i>Contractor</i> shall promptly provide the <i>Owner</i> 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 <u>amending</u> endorsements.</p> <p>.1 General Liability Insurance</p> <p>General liability insurance shall be in the name of the <i>Contractor</i>, with the <i>Owner</i> and the <i>Consultant</i> named as <u>Additional</u> insureds, with limits of not less than \$10,000,000.00 inclusive per occurrence for bodily injury, death, and damage to property, including loss of use thereof, for itself and each of its employees, <i>Subcontractors</i> and/or agents. The insurance coverage shall not be less than the insurance required by IBC Form 2100, or its equivalent <u>replacement</u>, provided that IBC Form 2100 shall contain the latest edition of the relevant CCDC endorsement form. To achieve the desired limit, umbrella, or excess liability insurance may be used. All liability coverage shall be maintained for completed operations hazards from the date of <i>Ready-for-Takeover</i>, as set out in the certificate of <i>Ready-for-Takeover</i>, on an ongoing basis for a period of 6 years following <i>Ready-for-Takeover</i>. Where the <i>Contractor</i> maintains a single, blanket policy, the <u>Addition</u> of the <i>Owner</i> and the <i>Consultant</i> is limited to liability arising out of the <i>Project</i> and all operations necessary or incidental thereto. The policy shall be endorsed to provide the <i>Owner</i> with not less than 30 days' notice, in writing, in advance of any cancellation and of change or <u>amendment</u> restricting coverage.</p> <p>.2 Automobile Liability Insurance</p> <p>Automobile liability insurance in respect of licensed vehicles shall limits of not less than \$5,000,000.00 inclusive per occurrence for bodily injury, death and damage to property, covering all licensed vehicles <i>owned</i> or leased by the <i>Contractor</i>, and endorsed to provide the <i>Owner</i> with not less than 30 days' notice, in writing, in advance of any cancellation, change or <u>amendment</u> restricting coverage. Where the policy has been issued pursuant to a government-operated automobile insurance system, the <i>Contractor</i> shall provide the <i>Owner</i> with confirmation of automobile insurance coverage for all automobiles registered in the name of the <i>Contractor</i>.</p> <p>.3 Aircraft and Watercraft Liability Insurance</p> <p>Where determined necessary by the <i>Contractor</i>, acting reasonably, aircraft and watercraft liability insurance will be obtained in accordance with the provisions of paragraph 11.1.3. 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 <i>Work</i>, including use of <u>Additional</u> premises, shall be subject to limits of not less than \$2,000,000.00 inclusive per occurrence for bodily injury, death and damage to property, including loss of use thereof and limits of not less than \$2,000,000.00 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the <i>Owner</i>. The policies shall be endorsed to provide the <i>Owner</i> with not less than 30 days' notice, in writing, in advance of cancellation, change or <u>amendment</u> restricting coverage.</p> <p>.4 Property and Boiler and Machinery Insurance</p> <p>(1) Builder's Risk property insurance shall be in the name of the <i>Contractor</i> with the <i>Owner</i> and the <i>Consultant</i> named as <u>Additional</u> insureds. The policy shall</p>
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		<p>insure against all risks of direct physical loss or damage to the property insured which shall include all property included in the <i>Work</i>, whether owned by the <i>Contractor</i> or the owner or owned by others, so long as the property forms part of the <i>Work</i>. The property insured also includes all materials and supplies necessary to complete the work, whether installed in the work temporarily or permanently, in storage on the project site, or in transit to the project site, as well as temporary buildings, scaffolding, falsework forms, hoardings, excavation, site preparation and similar work. The insurance shall be for not less than the sum of the amount of the contract price and the full value of products that are specified to be provided by the owner for incorporation into the work, if applicable, with the deductible of \$10,000.00 payable by the contractor. The insurance shall include the foregoing and, otherwise, shall not be less than the insurance required by IBC Form 4042 or its equivalent <u>replacement</u> provided that the IBC Form 4042 shall include the latest <u>Addition</u> of the relevant CCDC endorsement form. The coverage shall be based on a completed value form and shall be maintained continuously until ten (10) days after the date of the final certificate of payment.</p> <p>(2) Boiler and machinery insurance shall be in the name of the <i>Contractor</i>, with the <i>Owner</i> and the <i>Consultant</i> named as <u>Additional</u> insureds, for not less than the <u>replacement</u> value of the boilers, pressure vessels and other insurable objects forming part of the <i>Work</i>. The insurance provided shall not be less than the insurance provided by the “Comprehensive Boiler and Machinery Form” and shall be maintained continuously from commencement of use or operation of the property insured and until 10 days after the date of the final certificate for payment.</p> <p>(3) The policies shall allow for partial or total use or occupancy of the <i>Work</i>.</p> <p>(4) The policies shall provide that, in the case of a loss or damage, payment shall be made to the <i>Owner</i> and the <i>Contractor</i> as their respective interests may appear. The <i>Contractor</i> shall act on behalf of the <i>Owner</i> 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 <i>Contractor</i> shall proceed to restore the <i>Work</i>. Loss or damage shall not affect the rights and obligations of either party under the <i>Contract</i> except that the <i>Contractor</i> shall be entitled to such reasonable extension of the <i>Contract Time</i>, relative to the extent of the loss or damage, as determined by the <i>Owner</i>, in its sole discretion.</p> <p>(5) The <i>Contractor</i> shall be entitled to receive from the <i>Owner</i>, in <u>Addition</u> to the amount due under the <i>Contract</i>, the amount at which the <i>Owner’s</i> interest in restoration of the <i>Work</i> has been appraised, such amount to be paid as the restoration of the <i>Work</i> proceeds and as provided in GC 5.2 – APPLICATIONS FOR PROGRESS PAYMENT and GC 5.3 – PROGRESS PAYMENT. In <u>Addition</u>, the <i>Contractor</i> shall be entitled to receive from the payments made by the insurer the amount of the <i>Contractor’s</i> interest in the restoration of the <i>Work</i>.</p> <p>(6) In the case of loss or damage to the <i>Work</i> arising from the work of other contractors, or the <i>Owner’s</i> own forces, the <i>Owner</i>, in accordance with the <i>Owner’s</i> obligations under paragraph 3.2.2.4 of GC 3.2 – CONSTRUCTION BY OWNER OR OTHER CONTRACTORS, shall pay the <i>Contractor</i> the cost of restoring the <i>Work</i> as the restoration of the <i>Work</i> proceeds and as provided in GC 5.2 – APPLICATIONS FOR PROGRESS PAYMENT and GC 5.3 – PROGRESS PAYMENT.</p> <p>.5 Contractors’ Equipment Insurance</p> <p>“All risks” contractors’ equipment insurance covering construction machinery and equipment used by the <i>Contractor</i> for the performance of the <i>Work</i>, excluding boiler insurance, shall be in a form acceptable to the <i>Owner</i> and shall not allow subrogation claims by the insurer against the <i>Owner</i>. The policies shall be endorsed to provide the <i>Owner</i> with not less than 30 days’ notice, in writing, in</p>
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		<p>advance of cancellation, change or <u>amendment</u> restricting coverage. Subject to satisfactory proof of financial capability by the <i>Contractor</i> for self-insurance of his equipment, the <i>Owner</i> agrees to waive the equipment insurance requirement.</p> <p>11.1.2 The <i>Contractor</i> shall be responsible for deductible amounts under the policies except where such amounts may be excluded from the <i>Contractor's</i> responsibility by the terms of GC 9.1 - PROTECTION OF WORK AND PROPERTY and GC 9.2 - DAMAGES AND MUTUAL RESPONSIBILITY.</p> <p>11.1.3 Where the full insurable value of the <i>Work</i> is substantially less than the <i>Contract Price</i>, the <i>Owner</i> may reduce the amount of insurance required to waive the course of construction insurance requirement.</p> <p>11.1.4 If the <i>Contractor</i> fails to provide or maintain insurance as required by the <i>Contract Documents</i>, then the <i>Owner</i> shall have the right to provide and maintain such insurance and provide evidence of same to the <i>Contractor</i>. The <i>Contractor</i> shall pay the costs thereof to the <i>Owner</i> on demand, or the <i>Owner</i> may deduct the amount that is due or may become due to the <i>Contractor</i>.</p> <p>11.1.5 All required insurance policies shall be with insurers licensed to underwrite insurance in the jurisdiction of the <i>Place of the Work</i>."</p>
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SC52 *NEW* GC 11.2 CONTRACT SECURITY

SC52.1	GC 11.2	<p><u>Add</u> new GC 11.2 – CONTRACT SECURITY as follows:</p> <p>"GC 11.2 CONTRACT SECURITY</p> <p>11.2.1 The <i>Contractor</i> shall, prior to the execution of the <i>Contract</i>, furnish a performance bond and labour and material payment bond which meets the requirements under paragraph 11.2.2.</p> <p>11.2.2 The performance bond and labour and material payment bond shall:</p> <ul style="list-style-type: none"> .1 be issued by a duly licensed surety company, which has been approved by the <i>Owner</i> and is permitted under the <i>Construction Act</i>, .2 be issued by an insurer licensed under the <i>Insurance Act</i> (Ontario) and authorized to transact a business of suretyship in the Province of Ontario; .3 shall be in the form prescribed by the <i>Construction Act</i>, .4 have a coverage limit of at least 50 per cent of the <i>Contract Price</i>, or such other percentage of the <i>Contract Price</i> as stated in the <i>Contract Documents</i>; .5 extends protection to <i>Subcontractors</i>, <i>Suppliers</i>, and any other persons supplying labour or materials to the <i>Project</i>; and .6 shall be maintained in good standing until the fulfillment of the <i>Contract</i>, including all warranty and maintenance periods set out in the <i>Contract Documents</i>.. <p>11.2.3 It is the intention of the parties that the performance bond shall be applicable to all of the <i>Contractor's</i> obligations in the <i>Contract Document</i> and, wherever a performance bond is provided with language which conflicts with this intention, it shall be deemed to be amended to comply. The <i>Contractor</i> represents and warrants to the <i>Owner</i> that it has provided its surety with a copy of the <i>Contract Documents</i> prior to the issuance of such bonds.</p>
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		<p>11.2.4 Without limiting the foregoing in any way, the bonds shall indemnify and hold harmless the <i>Owner</i> for and against costs and expenses (including legal and <i>Consultant</i> services and court costs) arising out of or as a consequence of any default of the <i>Contractor</i> under this <i>Contract</i>.</p> <p>11.2.4 The <i>Contractor</i> shall be responsible for notifying the surety company of any changes made to the <i>Contract</i> during the course of construction.</p> <p>11.2.5 The premiums for bonds required by the <i>Contract Documents</i> shall be included in the <i>Contract Price</i>.</p> <p>11.2.6 Should the <i>Owner</i> require additional bonds by the <i>Contractor</i> or any of his <i>Subcontractors</i>, after the receipt of bids for the <i>Work</i>, the <i>Contract Price</i> shall be increased by all direct costs attributable to providing such bonds. The <i>Contractor</i> shall promptly provide the <i>Owner</i>, through the <i>Consultant</i>, with any such bonds that may be required.”</p>
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PART 12 OWNER TAKEOVER

SC53 GC 12.1 READY-FOR-TAKEOVER

SC53.1	12.1.1	<p><u>Delete</u> GC 12.1.1 in its entirety and <u>replace</u> it with the following:</p> <p>“12.1.1 <i>Ready-for-Takeover</i> shall be achieved when all of the following has occurred, as verified and approved by the <i>Owner</i>:</p> <ol style="list-style-type: none"> .1 <i>Substantial Performance of the Work</i> has been achieved, as certified by the <i>Consultant</i>; .2 a permit for occupancy of the <i>Place of the Work</i> has been obtained from the authorities having jurisdiction; .3 the <i>Work</i> to be performed under the <i>Contract</i> has satisfied the requirements for deemed completion in accordance with Section 2(3) of the <i>Construction Act</i>, .4 final cleaning and waste removal, as required by the <i>Contract Documents</i>; .5 the <i>Contractor</i> has delivered to the <i>Consultant</i> and the <i>Owner</i> all inspection certificates from authorities having jurisdiction with respect to any component of the <i>Work</i> which has been completed; .6 subject only to GC 12.1.2, the entire <i>Work</i> has been completed to the requirements of the <i>Contract Documents</i>, including completion of all items on the punch list prepared at the time of <i>Substantial Performance of the Work</i> and the <i>Work</i> is being used for its intended purpose, and is so certified by the <i>Consultant</i>; .7 subject only to GC 12.1.2, the <i>Contractor</i> has submitted to the <i>Owner</i> and the <i>Consultant</i> in a collated and organized matter, all <i>Close-Out Documentation</i> and any other materials or documentation required by the <i>Contract Documents</i>; .8 subject only to GC 12.1.2, all <i>Products</i>, systems and components of the <i>Project</i> have been commissioned and certified for operation and accepted by the <i>Owner</i> and <i>Consultant</i>, and
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		9 subject only to GC 12.1.2, the <i>Contractor</i> has submitted to the <i>Owner</i> and the <i>Consultant</i> full and complete as-built drawings and <i>Specifications</i> revised by the <i>Contractor</i> to reflect the as-built state of the <i>Work</i> , clearly showing changes to the <i>Drawings</i> and <i>Specifications</i> from the original <i>Contract Documents</i> , all of which have been approved by the <i>Owner</i> acting reasonably.”
SC53.2	12.1.2	<u>Delete</u> GC 12.1.2 in its entirety and <u>replace</u> it with the following: “12.1.2 The <i>Owner</i> may, in its sole, absolute, and unfettered discretion, waive compliance with a requirement, or a part thereof, for achieving <i>Ready-for-Takeover</i> set out in GC 12.1.1.6 to 12.1.1.9 (inclusive). Where the <i>Owner</i> exercises the discretion afforded under this GC 12.1.2, the <i>Contractor</i> shall be required to comply with GC 5.5.1.2 as part of its application for final payment and the <i>Owner</i> and the <i>Contractor</i> , in consultation with the <i>Consultant</i> , shall establish a reasonable date for completing the <i>Work</i> .”
SC53.3	12.1.3	<u>Delete</u> GC 12.1.3 in its entirety and <u>replace</u> it with the following: “12.1.3 When the <i>Contractor</i> considers the <i>Work Ready-for-Takeover</i> , it shall submit a written application to the <i>Owner</i> and the <i>Consultant</i> for review.”
SC53.4	12.1.4	In GC 12.1.4, <u>delete</u> the words “list and” from the second line.
SC53.5	12.1.5	<u>Delete</u> GC 12.1.5 in its entirety and <u>replace</u> it with the following: “12.1.5 Following the confirmation of the date of <i>Ready-for-Takeover</i> by the <i>Consultant</i> and as confirmed by the <i>Owner</i> , the <i>Contractor</i> may submit a final application for payment in accordance with GC 5.5 – FINAL PAYMENT.”
SC53.6	12.1.6	<u>Delete</u> GC 12.1.6 in its entirety.

SC54 GC 12.2 EARLY OCCUPANCY

SC54.1	GC 12.2	<u>Delete</u> GC 12.2 – EARLY OCCUPANCY BY THE OWNER in its entirety, including all subparagraphs thereunder and <u>replace</u> it with the following: “12.2.1 The <i>Owner</i> reserves the right to take possession of and use for any intended purpose any portion or all of the undelivered portion of the Project even though the <i>Work</i> may not have reached Substantial Performance of the <i>Work</i> , provided that such taking possession and use will not unduly interfere, in any material way, with the progress of the <i>Work</i> . The taking of possession or use of any such portion of the Project shall not be deemed to be the <i>Owner</i> ’s acknowledgement or acceptance of the <i>Work</i> or Project nor shall it relieve the <i>Contractor</i> of any of its obligations under the Contract. 12.2.2 Whether the Project contemplates <i>Work</i> by way of renovations in buildings which will be in use or be occupied during the course of the <i>Work</i> or where the Project involves <i>Work</i> that is adjacent to a structure which is in use or is occupied, the <i>Contractor</i> , without in any way limiting its responsibilities under this Contract, shall take all reasonable steps to avoid interference with fire exits, building access and egress, continuity of electric power and all other utilities, to suppress dust and noise and to avoid conditions likely to propagate mould or fungus of any kind and all other steps reasonably necessary to promote and maintain the safety and comfort of the users and occupants of such structures or adjacent structures.”
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SC55 GC 12.3 WARRANTY

SC55.1	12.3.2	<u>Delete</u> from the first line of paragraph 12.3.2 the word “The” and <u>replace</u> it with the words “Subject to GC 1.1.3, the...”
SC55.2	12.3.7 to 12.3.12	<p><u>Add</u> new paragraphs 12.3.7 to 12.3.12 as follows:</p> <p>“12.3.7 Where required by the <i>Contract Documents</i>, the <i>Contractor</i> shall provide a maintenance bond as security for the performance of the <i>Contractor’s</i> obligations as set out in GC 12.3 WARRANTY.</p> <p>12.3.8 The <i>Contractor</i> shall provide fully and properly completed and signed copies of all warranties and guarantees required by the <i>Contract Documents</i>, containing:</p> <ul style="list-style-type: none"> .1 the proper name of the <i>Owner</i>; .2 the proper name and address of the <i>Project</i>; .3 the date the warranty commences, which shall be at the “<i>Ready-for-Takeover</i>” unless otherwise agreed upon by the <i>Consultant</i> in writing. .4 a clear definition of what is being warranted and/or guaranteed as required by the <i>Contract Documents</i>; and .5 the signature and seal (if required by the governing law of the <i>Contract</i>) of the company issuing the warranty, countersigned by the <i>Contractor</i>. <p>12.3.9 Should any <i>Work</i> be repaired or replaced during the time period for which it is covered by the specified warranty, a new warranty shall be provided under the same conditions and for the same period as specified herein before. The new warranty shall commence at the completion of the repair or replacement.</p> <p>12.3.10 The <i>Contractor</i> shall ensure that its <i>Subcontractors</i> are bound to the requirements of GC 12.3 – WARRANTY for the <i>Subcontractor’s</i> portion of the <i>Work</i>.</p> <p>12.3.11 The <i>Contractor</i> shall ensure that all warranties, guarantees or other obligations for <i>Work</i>, services or <i>Products</i> performed or supplied by any <i>Subcontractor</i>, <i>Supplier</i> or other person in connection with the <i>Work</i> are obtained and available for the direct benefit of the <i>Owner</i>. In the alternative, the <i>Contractor</i> shall assign to the <i>Owner</i> all warranties, guarantees or other obligations for <i>Work</i>, services or <i>Products</i> performed or supplied by any <i>Subcontractor</i>, <i>Supplier</i> or other person in connection with the <i>Work</i> and such assignment shall be with the consent of the assigning party, where required by law, or by the terms of that party’s contract. Such assignment shall be in addition to, and shall in no way limit, the warranty rights of the <i>Owner</i> under the <i>Contract Documents</i>.</p> <p>12.3.12 The <i>Contractor</i> shall commence or correct any deficiency within 2 <i>Working Days</i> after receiving a <i>Notice in Writing</i> from the <i>Owner</i> or the <i>Consultant</i>, and shall complete the <i>Work</i> as expeditiously as possible, except in the case where the deficiency prevents maintaining security or where basic systems essential to the ongoing business of the <i>Owner</i> and/or its tenants cannot be maintained operational as designed. In those circumstances all necessary corrections and/or installations of temporary replacements shall be carried out immediately as an emergency service. Should the <i>Contractor</i> fail to provide this emergency service within 8 hours of a request being made during the normal business hours of the <i>Contractor</i>, the <i>Owner</i> is authorized, notwithstanding GC 3.1, to carry out all necessary repairs or replacements at the <i>Contractor’s</i> expense.”</p>



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PART 13 INDEMNIFICATION AND WAIVER

SC56 GC 13.1 INDEMNIFICATION

SC56.1	GC 13.1	<p><u>Delete</u> GC 13.1 – INDEMNIFICATION in its entirety and <u>replace</u> it with the following:</p> <p>“13.1.1 The <i>Contractor</i> shall indemnify and hold harmless the <i>Owner</i>, its parent, subsidiaries and affiliates, their respective partners, trustees, officers, directors, agents and employees and the <i>Consultant</i> from and against any and all claims, liabilities, expenses, demands, losses, damages, actions, costs, suits, or proceedings (hereinafter called “claims”), whether in respect of claims suffered by the <i>Owner</i> or in respect of claims by third parties, that directly or indirectly arise out of, or are attributable to, the acts or omissions of the <i>Contractor</i>, its employees, agents, <i>Subcontractors</i>, <i>Suppliers</i> or any other persons for whom it is in law responsible (including, without limitation, claims that directly or indirectly arise out of, or are attributable to, loss of use or damage to the <i>Work</i>, the <i>Owner’s</i> property or equipment, the <i>Contractor’s</i> property or equipment or equipment or property adjacent to the <i>Place of the Work</i> or death or injury to the <i>Contractor’s</i> personnel).</p> <p>13.1.2 The <i>Owner</i> shall indemnify and hold the <i>Contractor</i>, its agents and employees harmless from and against claims, demands, losses, costs, damages, actions, suits or proceedings arising out of the <i>Contractor’s</i> performance of the <i>Contract</i> which are attributable to a lack of or defect in title or an alleged lack of or defect in title to the <i>Place of the Work</i>.</p> <p>13.1.3 The provisions of GC 13.1 - INDEMNIFICATION shall survive the termination of the <i>Contract</i>, howsoever caused and no payment or partial payment, no issuance of a final certificate of payment and no occupancy in whole or in part of the <i>Work</i> shall constitute a waiver or release of any of the provisions of GC 13.1</p> <p>13.1.4 Notwithstanding the provisions of GC1.1 - CONTRACT DOCUMENTS, GC 1.1.6, GC13.1 - INDEMNIFICATION shall govern over the provisions of GC 1.3.1 of GC1.3 – RIGHTS AND REMEDIES.”</p>
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SC57 GC 13.2 WAIVER OF CLAIMS

SC57.13	13.2.1	<p>In paragraph 13.2.1 in the third line after the word “limitation” <u>add</u> the words “claims for delay pursuant to GC 6.5 DELAYS”</p> <p>-and-</p> <p><u>add</u> the words “(collectively “Claims”)” after “<i>Ready-for-Takeover</i>” in the fourth line.</p>
SC57.14	13.2.1.1	<p>In subparagraph 13.2.1.1, in each instance change the word “claims” to “Claims” and change the word “claim” to “Claim”.</p>
SC57.15	13.2.1.2	<p>In subparagraph 13.2.1.2 change the word “claims” to “Claims”.</p>
SC57.16	13.2.1.3	<p><u>Delete</u> subparagraph 13.2.1.3 in its entirety.</p>
SC57.17	13.2.1.4	<p>In paragraph 13.2.1.4 change the word “claims” to “Claims”.</p>
SC57.18	13.2.2.1	<p>In paragraph 13.2.2.1 <u>delete</u> the words “in paragraphs 13.2.1.2 and 13.2.1.3” and <u>replace</u> them with “in paragraph 13.2.1.2”</p> <p>-and-</p> <p>change the word “claims” to “Claims” in both instances and change the word “claim” to “Claim”.</p>



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SC57.19	13.2.3	<u>Delete</u> paragraph 13.2.3 in its entirety.
SC57.20	13.2.4	<u>Delete</u> paragraph 13.2.4 in its entirety.
SC57.21	13.2.5	<u>Delete</u> paragraph 13.2.5 in its entirety.
SC57.22	13.2.6	In paragraph 13.2.6 change the word “claim” to “Claim” in all instances in the paragraph.
SC57.23	13.2.8	In paragraph 13.2.8 change “The party” to “The <i>Contractor</i> ” -and- change the word “claim” to “Claim” in all instances in the paragraph.
SC57.24	13.2.9	In paragraph 13.2.9 <u>delete</u> the words “under paragraphs 13.2.1 or 13.2.3” and <u>replace</u> them with “under paragraph 13.2.1” -and- change both instances of the words “the party” to “the <i>Contractor</i> ”. Change the word “claim” to “Claim” in all instances in the paragraph.

SC58 *NEW* PART 14 OTHER PROVISIONS

SC58.1	14.1	<u>Add</u> new PART 14 – OTHER PROVISIONS as follows: “PART 14 OTHER PROVISIONS GC 14.1 OWNERSHIP OF MATERIALS 14.1.1 Unless otherwise specified, all materials existing at the <i>Place of the Work</i> at the time of execution of the <i>Contract</i> shall remain the property of the <i>Owner</i> . All <i>Work</i> and <i>Products</i> delivered to the <i>Place of the Work</i> by the <i>Contractor</i> shall be the property of the <i>Owner</i> . The <i>Contractor</i> shall remove all surplus or rejected materials as its property when notified in writing to do so by the <i>Consultant</i> .”
SC58.2	14.2	<u>Add</u> new GC 14.2 – CONSTRUCTION LIENS as follows: “GC 14.2 LIENS 14.2.1 Notwithstanding any other provision in the <i>Contract</i> , the <i>Consultant</i> shall not be obligated to issue a certificate, and the <i>Owner</i> shall not be obligated to make payment, subject to the <i>Owner’s</i> requirement to issue a <i>Notice of Non-Payment</i> (Form 1.1) to the <i>Contractor</i> , if at the time such certificate or payment was otherwise due: .1 a claim for lien has been registered against the <i>Project</i> lands by a <i>Subcontractor</i> or a <i>Supplier</i> that has not been vacated or discharged by the <i>Contractor</i> in accordance with the requirements of this <i>Contract</i> , or .2 if the <i>Owner</i> or a mortgagee of the <i>Project</i> lands has received a written notice of a lien that has not been resolved by the <i>Contractor</i> through the posting of security or otherwise. 14.2.2 In the event a construction lien arising from the performance of the <i>Work</i> is registered or preserved against the <i>Project</i> lands by a <i>Subcontractor</i> or a <i>Supplier</i> , or a written notice of a lien is given or a construction lien action is commenced



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		<p>against the <i>Owner</i> by a <i>Subcontractor</i> or a <i>Supplier</i>, then the <i>Contractor</i> shall, at its own expense:</p> <ul style="list-style-type: none"> .1 within 10 calendar days of registration of the construction lien, vacate or discharge the lien from title to the premises (i.e. the <i>Place of the Work</i>). If the lien is merely vacated, the <i>Contractor</i> shall, if requested, undertake the <i>Owner's</i> defence of any subsequent action commenced in respect of the lien, at the <i>Contractor's</i> sole expense; .2 within 10 calendar days of receiving notice of a written notice of a lien, post security with the Ontario Superior Court of Justice so that the written notice of a lien no longer binds the parties upon whom it was served; and .3 satisfy all judgments and pay all costs arising from such construction liens and actions and fully indemnify the <i>Owner</i> against all costs and expenses arising from same, including legal costs on a full indemnity basis. <p>14.2.3 In the event that the <i>Contractor</i> fails or refuses to comply with its obligations pursuant to paragraph 14.2.2, the <i>Owner</i> shall, at its option, be entitled to take all steps necessary to address any such construction liens including, without limitation and in addition to the <i>Owner's</i> rights under paragraph 13.2.4, the posting of security with the Ontario Superior Court of Justice to vacate the claim for lien from title to the <i>Project</i> lands, and in so doing will be entitled to a full indemnity from the <i>Contractor</i> for all legal fees, security, disbursements and other costs incurred and will be entitled to deduct same from amounts otherwise owing to the <i>Contractor</i>.</p> <p>14.2.4 In the event that any <i>Subcontractor</i> or <i>Supplier</i> registers any claim for lien with respect to all or part of the <i>Place of Work</i>, the <i>Owner</i> shall have the right to withhold, in addition to the statutory holdback, the full amount of said claim for lien plus either: (a) \$250,000 if the claim for lien is in excess of \$1,000,000 or (b) 25% of the value of the claim for lien and to bring a motion to vacate the registration of said claim for lien and any associated certificate of action in respect of that lien, in accordance with Section 44 of the <i>Act</i>, by paying into court as security the amount withheld.</p> <p>14.2.5 Nothing in this GC 14.2 serves to preclude the <i>Contractor</i> from preserving and perfecting its lien in the event of non-payment by the <i>Owner</i>.”</p>
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APPENDIX 1
to the Supplementary Conditions

Project-specific requirements for a “*Proper Invoice*”

To satisfy the requirements for a *Proper Invoice*, the following criteria, as may be applicable in each case, must be included with the *Contractor's* application for payment:

- .1 the written bill or request for payment must be in writing;
- .2 the *Contractor's* name and current address;
- .3 the *Contractor's* HST registration number;
- .4 the date the application for payment was prepared by the *Contractor*;
- .5 the period of time in which the services or materials were supplied to the *Owner*;
- .6 the purchase order number provided by the *Owner*;
- .7 reference to the provisions of the *Contract* under which payment is being sought (e.g. GC 5.3 –PAYMENTS for progress payments, GC 5.4 – SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK GC 5.5 – FINAL PAYMENT for final payment, etc.);
- .8 a description, including quantities where appropriate, of the services or materials, or a portion thereof, that were supplied and form the basis of the *Contractor's* request for payment;
- .9 the amount the *Contractor* is requesting to be paid by the *Owner*, set out in a statement based on the schedule of values approved under GC 5.2.4, separating out any statutory or other holdbacks, set-offs and HST;
- .10 a sworn Statutory Declaration in the form CCDC 9A-2018, only for second and subsequent progress payments;
- .11 a current Workplace Safety Insurance Board clearance certificate;
- .12 a pre-approved schedule of values, supplied by the *Contractor*, for Divisions 1 through 14 of the *Specifications* (or equivalent Construction Specifications Institute Masterformat) of the *Work*, aggregating the total amount of the *Contract Price*, including all supporting invoicing;
- .13 a separate pre-approved schedule of values, supplied by each *Subcontractor*, for each of Division 15, 16, and 17 of the *Specifications* (or equivalent Construction Specifications Institute Masterformat) of the *Work*, aggregating the total amount of the *Contract Price*, including all supporting invoicing;
- .14 invoices and other supporting documentation for all claims against the cash allowance;
- .15 a current, acceptable, and up to date *Construction Schedule Update*;
- .16 if requested by the *Owner*, a current and valid certificate(s) of insurance as required under GC 11.1 – INSURANCE;
- .17 the name, title, telephone number and mailing address of the person at the place of business of the *Contractor* to whom payment is to be directed;
- .18 a current, up to date, and approved *Shop Drawing* log;
- .19 in the case of the *Contractor's* application for final payment, in addition to the foregoing requirements (as applicable):
 - (a) any *Close-Out Documentation*, together with complete and final as-built drawings;



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- (b) the *Contractor's* written request for release of the deficiency holdback, including a statement that no written notices of lien have been received by it;
- (c) the *Contractor's* written certification that there are no outstanding claims, pending claims or future claims from the *Contractor* or their *Subcontractors* or *Suppliers*; and
- (d) sufficient evidence of the *Contractor's* compliance with GC 3.11.



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APPENDIX 2
to the Supplementary Conditions

SPECIAL SUPPLEMENTARY CONDITIONS

The Standard Construction Document CCDC 2 2020 for a Stipulated Price Contract, English version, consisting of the Agreement Between *Owner* and Contractor, Definitions and General Conditions of the Stipulated Price Contract, Parts 1 to 12 inclusive, governing same, together with the changes with the new Construction Act is hereby made part of these Contract Documents, with the following amendments, additions and modifications:

SC59 ARTICLE A-10 TIME OF THE ESSENCE

SC59.1	Article A-10	<p><u>Delete</u> the header for Article A-10 being “ARTICLE A-10 TIME OF THE ESSENCE” and <u>replace</u> it with the following:</p> <p>“ARTICLE A-10 TIME OF THE ESSENCE/LIQUIDATED DAMAGES”.</p>
SC59.2	Articles 10.3 to 10.7	<p><u>Insert</u> the following new Articles 10.3 to 10.7 as follows:</p> <p>10.3 The <i>Contractor</i> further acknowledges that it understands that the <i>Owner</i> is responsible and must account to the students and staff of Waterloo Catholic District School Board. A failure by the <i>Contractor</i> to attain <i>Ready-for-Takeover</i> within the time prescribed in the Contract could result in damages to the <i>Owner</i> and to the students and staff of the Waterloo Catholic District School Board, which would be difficult or impractical to quantify but would nevertheless have a significant negative impact on the <i>Owner</i> and its ability to provide services the <i>Owner</i> is obliged to provide to the students and staff of the Waterloo Catholic District School Board.</p> <p>10.4 Given the significance of the requirement for the Contractor to achieve <i>Ready-for-Takeover</i>, as described in Article A-10.3, without limiting the <i>Owner's</i> entitlement to any additional or other damages, if the <i>Contractor</i> fails to achieve <i>Ready-for-Takeover</i> by the time prescribed in Article A-1, the <i>Owner</i> will incur substantial damages and the extent of such damages shall be incapable or very difficult to accurately measure. Nonetheless, the parties acknowledge that as of the effective date of this <i>Contract</i>, the amount of liquidated damages set forth in Article A-10.5 below represents a good faith estimate on the part of the parties as to the actual potential damages that the <i>Owner</i> would suffer as a result of late completion of the <i>Project</i>. The amount of such liquidated damages does not include any penalty. Notwithstanding the foregoing, the <i>Owner</i> shall be entitled to the greater of (i) the liquidated damages as calculated pursuant to Article A-10.5, or (ii) in the event that the <i>Contractor</i> claims that this liquidated damages provision is invalid or unenforceable and the <i>Contractor</i> prevails on such a defence, the damages arising from the delay suffered by the <i>Owner</i> including, without limitation, consequential, special, incidental, and indirect damages, costs and expenses incurred or suffered by the <i>Owner</i>.</p> <p>10.5 The <i>Contractor</i> shall pay to the <i>Owner</i> (or have deducted from <i>Contract</i> payments) liquidated damages of \$ _____ [NTD: Include per diem rate] for each calendar day of delay beyond the prescribed date for <i>Ready-for-Takeover</i>, until <i>Ready-for-Takeover</i> is achieved and certified pursuant to the terms of the <i>Contract</i>. Liquidated damages will be assessed as incurred and reflected as deductions from amounts that may be due under any applications for payment pending at the time that such liquidated damages are assessed.</p> <p>10.6 All liquidated damages that have not been deducted from payments prior to final payment shall be deducted from the final payment to be made by the <i>Owner</i> to the <i>Contractor</i> pursuant to GC 5.5 FINAL PAYMENT, and any amount of liquidated</p>



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		<p>damages in excess of the final payment amount, shall be paid by the <i>Contractor</i> to the <i>Owner</i>, within 30 calendar days following a written demand by the <i>Owner</i> for such payment.</p> <p>10.7 The liquidated damages payable under this Article A-10 are in addition to and without prejudice to any other remedy, action or any other alternative claim that may be available to the <i>Owner</i>.”</p>
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END OF AMENDMENTS TO CCDC 2 - 2020



MTE Consultants

520 Bingham Centre Drive, Kitchener, Ontario N2B 3X9

March 9, 2025

MTE File No.: C61104_003

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**RE: 2025 Asbestos Audit Update
St. Joseph Catholic Elementary School
980 Westminster Drive South, Cambridge, Ontario**

1.0 INTRODUCTION

MTE Consultants Inc. (MTE) was authorized by the Waterloo Catholic District School Board (WCDSB) to conduct the 2025 asbestos inspection of the subject building.

The purpose of the assignment was to re-assess and document the location, type, and condition of identified asbestos-containing materials (ACM) present within the building and make appropriate recommendations for management, abatement or remedial activities, as required.

The audit was conducted in accordance with the Ontario Ministry of Labour, *Regulation 278/05- Designated Substance-Asbestos on Construction Projects and in Buildings and Repair Operations* (O. Reg. 278/05). This report shall replace previous audit reports.

2.0 SCOPE OF WORK

The Scope of Work for this assessment was completed by MTE and included the following activities:

- Review of existing and historical reports and documentation pertaining to ACM within the building;
- Visual inspection to assess the condition of previously identified ACM, excluding portable structures;
- Collection of building material samples that are suspect ACM, as applicable;
- Submission of samples to an accredited laboratory, as applicable;
- Photographic log of damaged materials; and
- Preparation of this report with findings and recommendations.

3.0 METHODOLOGY AND ASSESSMENT CRITERIA

This inspection was conducted by visual and laboratory identification methods for the assessment of ACM and their corresponding location, use, condition, and friability. The areas outlined in Section 2.0 were inspected limited to building components, materials and service

connections. Notwithstanding that reasonable attempts were made to identify all ACMs, the possibility of concealed material exists and may not become visible until substantial demolition has occurred and therefore are currently undocumented and did not include the following.

- Locations that may be hazardous to the surveyor, such as electrical equipment;
- Where invasive inspection could cause consequential damage to the property or impair the integrity of the equipment, such as roof systems, underground services or components of mechanical equipment;
- Locations concealed by building finishes that require substantial demolition or removal for access or determination of quantities;
- Materials that is present in such an inconsistent fashion that without complete removal of finishes, the extent cannot be determined;
- Non-permanent items or personal contents, furnishings; and
- Settled dust or airborne agents unless otherwise stated.

3.1 Condition of ACM

During the audit process the general condition of ACMs were observed and noted. Materials which are damaged can pose an increased exposure risk to workers, building occupants and the public. While assessing damage can be subjective, abatement items were grouped into two categories to aid in remedial prioritization:

Monitor Annually

These are items which display minor isolated damage; however, do not pose an immediate risk to workers from exposure to asbestos fibres due to the current condition of the material and/or location. No remediation is required at this time; however, these items should be monitored on a yearly basis for evidence of continued degradation. Should the condition of the material change an evaluation should be completed by a competent person to determine remedial action.

Abatement Action Required

These are items which display damage and may pose potential risk to workers from exposure to asbestos fibres due to the physical condition and/or location of the material. Clean-up, repair or removal of these materials is required as soon as reasonably possible.

4.0 FINDINGS

An inspection of building was conducted by MTE on March 9, 2025. The one-storey school building was constructed in 1959 with additions in 1962 and 1967.

The summary of identified ACM is provided in Table 1 of **Appendix A** and associated Figures are provided in **Appendix B**. These together provide a current summary of the ACM identified throughout the building.

The bulk asbestos sample location and analytical summary is provided in Table 2 of **Appendix A**.

4.1 Analytical Results

During this inspection, no samples were collected.

4.2 Removed ACM

No ACM has been removed since the previous audit.

4.3 Discovery of Additional ACM

No additional ACM or suspect ACM was identified.

4.4 Damaged ACM

Damaged ACM was identified and requires removal, repair or annual monitoring.

5.0 CONCLUSIONS AND RECOMMENDATIONS

A detailed summary of recommended actions is provided in **Appendix A**.

5.1 Remedial

Damaged ACM was identified and requires removal, repair or annual monitoring.

Any materials requiring annual monitoring display minor damage; however, do not pose an immediate risk to workers from exposure to asbestos fibres due to the current condition of the material and/or location. No remediation is required at this time; however, these items should be monitored on a yearly basis for evidence of continued degradation. Should the condition of the material change an evaluation should be completed by a competent person to determine remedial action.

All asbestos work must be conducted by contractors who are trained and experienced in the type of asbestos operations required, and should be overseen by a qualified third party Health, Safety and Environmental professional. In order to conduct Type 3 asbestos operations, contractors must be certified as Asbestos Abatement Workers AAW (Trade code 253W) and Asbestos Abatement Supervisors AAS (Trade code 253S) by The Ministry of Training, Colleges and Universities (Ministry of Advanced Education and Skills Development) as prescribed by Section 20 of O. Reg. 278/05.

5.2 Long Term Management

This audit was conducted for the long term management of ACM within the building. If any construction, renovation, alteration, or maintenance activities are required or planned, additional inspections are required. A Designated Substance Assessment is required prior to completing any demolition or renovation activities at a facility as outlined in the Section 30 OHS Act.

ACM may also be present in concealed locations. If any construction, renovation, alteration, or maintenance activities are required or planned, invasive inspections of concealed locations for potential ACM must be performed prior to such activities. Should any suspect ACM be discovered, work should cease and the materials should not be disturbed. Suspect ACM must be treated as asbestos-containing or sampled and proven to not contain asbestos. Any activities that require disturbance of ACM must be performed in accordance with O. Reg. 278/05.

There are no requirements under current legislation to remove ACM from a building simply because it is present. However, O. Reg. 278/05 requires that an Asbestos Management Program be implemented and maintained by the owner/employer where ACM is identified or suspected present.

6.0 LIMITATIONS

Services performed by **MTE Consultants Inc.** (MTE) were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the Environmental Engineering & Consulting profession. No other representation expressed or implied as to the accuracy of the information, conclusions or recommendations is included or intended in this report.

This report was completed for the sole use of MTE and The Client. It was completed in accordance with the approved Scope of Work referred to in this report. As such, this report may not deal with all issues potentially applicable to the site and may omit issues which are or may be of interest to the reader. MTE makes no representation that the present report has dealt with all important environmental features, except as provided in the Scope of Work. All findings and conclusions presented in this report are based on site conditions as they existed during the time period of the investigation. This report is not intended to be exhaustive in scope or to imply a risk-free facility.

Any use which a third party makes of this report, or any reliance on, or decisions to be made based upon it, are the responsibility of such third parties. MTE accepts no responsibility for liabilities incurred by or damages, if any, suffered by any third party as a result of decisions made or actions taken, based upon this report. Others with interest in the site should undertake their own investigations and studies to determine how or if the condition affects them or their plans.

It should be recognized that the passage of time may affect the views, conclusions and recommendations (if any) provided in this report because environmental conditions of a property can change. Should additional or new information become available, MTE recommends that it be brought to our attention in order that we may reassess the contents of this report.

If you have any further questions, please do not hesitate to call.

Yours Truly,

MTE Consultants Inc.

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JAS: smk
Attach.

https://mte85.sharepoint.com/sites/61104_003/Shared Documents/Reports/St Joseph CES/61104_003_2025-03-09_ltr rpt_Asbestos Audit Update_St Joseph CES.docx

Appendix A

Tables

Table 1 - Summary of Asbestos-Containing Material and Recommended Actions

St. Joseph Catholic Elementary School






Material	Location	Material Description	Approximate Quantity	Photograph	Management Requirements If No Impacts to Material	Recommended Actions If Material Will Be Or Likely Be Impacted By Maintenance, Renovation, Construction or Demolition Activities
Damaged Asbestos Non-Friable	Exterior of Building (103)	Asbestos Cement (Transite) Board	< 0.5 m ²		In place management in accordance with O. Reg. 278/05	Removal/Repair in accordance with O. Reg. 278/05 as a Type 1 Operation
Damaged Asbestos Non-Friable	Exterior of Building (103)	Asbestos Cement (Transite) Board	< 0.5 m ²		In place management in accordance with O. Reg. 278/05	Removal/Repair in accordance with O. Reg. 278/05 as a Type 1 Operation
Damaged Asbestos Non-Friable	111	Drywall Joint Compound	< 0.5 m ²		In place management in accordance with O. Reg. 278/05	Removal in Accordance with O. Reg. 278/05: <1 m ² as a Type 1 Operation >1m ² as a Type 2 Operation Hand tools only in conjunction with dust suppression
Damaged Asbestos Non-Friable	104, 108	9"x9" Grey with White Streak Vinyl Floor Tiles (Associated Mastic is Non-ACM)	10 m ²		In place management in accordance with O. Reg. 278/05	Removal as a Type 1 Operation in Accordance with O. Reg. 278/05
Asbestos Friable	105, 106, 111, 115, 120, 122, 145	Pipe Fitting Insulation	126 Fittings		In place management in accordance with O. Reg. 278/05	Removal as a Type 2 Glove Bag Operation in Accordance with O. Reg. 278/05

Table 1 - Summary of Asbestos-Containing Material and Recommended Actions

St. Joseph Catholic Elementary School






Material	Location	Material Description	Approximate Quantity	Photograph	Management Requirements If No Impacts to Material	Recommended Actions If Material Will Be Or Likely Be Impacted By Maintenance, Renovation, Construction or Demolition Activities
Asbestos Non-Friable	Throughout Interior (Excluding Rooms 128, 133)	Drywall Joint Compound	-		In place management in accordance with O. Reg. 278/05	Removal in Accordance with O. Reg. 278/05: <1 m2 as a Type 1 Operation >1m2 as a Type 2 Operation Hand tools only in conjunction with dust suppression
Asbestos Non-Friable	104, 108	9"x9" Grey with White Streak Vinyl Floor Tiles (Associated Mastic is Non-ACM)	10 m ²		In place management in accordance with O. Reg. 278/05	Removal as a Type 1 Operation in Accordance with O. Reg. 278/05
Asbestos Non-Friable	139	9"x9" Grey with Black Streak Vinyl Floor Tiles (Associated Mastic is Non-ACM)	10 m ²		In place management in accordance with O. Reg. 278/05	Removal as a Type 1 Operation in Accordance with O. Reg. 278/05
Asbestos Non-Friable	Throughout Interior	White Sealant at Perimeter of Interior Steel Doors	-		In place management in accordance with O. Reg. 278/05	Removal as a Type 1 Operation in Accordance with O. Reg. 278/05
Asbestos Non-Friable	Exterior	Grey Sealant at Perimeter of Exterior Steel Doors	-		In place management in accordance with O. Reg. 278/05	Removal as a Type 1 Operation in Accordance with O. Reg. 278/05

Table 1 - Summary of Asbestos-Containing Material and Recommended Actions

St. Joseph Catholic Elementary School

Material	Location	Material Description	Approximate Quantity	Photograph	Management Requirements If No Impacts to Material	Recommended Actions If Material Will Be Or Likely Be Impacted By Maintenance, Renovation, Construction or Demolition Activities
Asbestos Non-Friable	Exterior Overhangs (Outside 103, 105, 114)	Asbestos Cement (Transite) Board	< 10 m ²		In place management in accordance with O. Reg. 278/05	Removal as a Type 1 Operation in Accordance with O. Reg. 278/05
Suspect Asbestos Non-Friable	Exterior of Building	Roofing materials (Paper/Felts/Mastics/Sealants)	-	-	In place management in accordance with O. Reg. 278/05	Sample prior to maintenance/renovations/ construction/demolition activities and if confirmed ACM, removal in accordance with O. Reg. 278/05
Suspect Asbestos Non-Friable	Exterior/Interior of Building	Exterior/Interior Sealants in Windows/Doors	-	-	In place management in accordance with O. Reg. 278/05	Sample prior to maintenance/renovations/ construction/demolition activities and if confirmed ACM, removal in accordance with O. Reg. 278/05
Suspect Asbestos Non-Friable	Exterior of Building	Brick Mortar	-	-	In place management in accordance with O. Reg. 278/05	Sample prior to maintenance/renovations/ construction/demolition activities and if confirmed ACM, removal in accordance with O. Reg. 278/05
Potentially Concealed Asbestos	Interior of Building	Floor Mastics and Leveling Compounds	-	-	In place management in accordance with O. Reg. 278/05	Invasive sampling prior to maintenance/renovations/construction/demolition activities, if sampling confirms as ACM, removal in accordance with O. Reg. 278/05
Potentially Concealed Asbestos	Electrical Wiring Throughout Interior of Building	Jacketing on Electrical Wiring	-	-	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
Potentially Concealed Asbestos	Doors Throughout Building	Door Core Insulation	-	-	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
Potentially Concealed Asbestos	Wall Cavities, Attic Spaces	Vermiculite Loose-Fill Insulation	-	-	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
Potentially Concealed Asbestos	Dome Light Fixtures	Heat Shields	-	-	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
Potentially Concealed Asbestos	Toilet Fixtures	Pipe Gasket/Flange at Floor Connection	-	-	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
Potentially Concealed Asbestos	Concealed by Wall/Ceiling/Exterior Finishes	Asbestos Cement (Transite) Sheets	-	-	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
Potentially Concealed Asbestos	Underground Piping Systems	Asbestos Cement (Transite) Pipe	-	-	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05

Table 1 Summary of ACM for St. Joseph CES

Table 1 - Summary of Asbestos-Containing Material and Recommended Actions

St. Joseph Catholic Elementary School

Material	Location	Material Description	Approximate Quantity	Photograph	Management Requirements If No Impacts to Material	Recommended Actions If Material Will Be Or Likely Be Impacted By Maintenance, Renovation, Construction or Demolition Activities
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Notes:

- 1) A copy of this report should be provided to all prospective contractors prior to tender or quotation, in accordance with Section 30 of the Occupational Health and Safety Act.
- 2) Recommended actions are the minimum required actions, as prescribed by the appropriate Acts, regulations, guidelines, standards, codes and general best practice measures. Prior to demolition, the Contractor may choose to alter the approach and combine or break out sections of work. This is acceptable provided that the appropriate Acts, regulations, guidelines, standards and codes are followed and afford protection for the health and safety of workers, occupants and the public that is at least equal to the protection that would be provided by complying with the minimum requirements.
- 3) All waste generated is subject to characterization and disposal in accordance with Ontario Regulation 347.

TABLE 2: BULK ASBESTOS SAMPLING SUMMARY

Sample #	Location	Material Description	Asbestos Content (%)	Fibre Type	Is Material ACM		
2007 Asbestos Audit Update Sample Summary							
S01A	Boiler Room	Ceiling Plaster	ND	-	No		
S01B			ND	-	No		
S01C			ND	-	No		
S02A	Boiler Room	Parging	ND	-	No		
S02B			ND	-	No		
S02C			ND	-	No		
S03A	Storage Room and Washrooms	Plaster	ND	-	No		
S03B			ND	-	No		
S03C			ND	-	No		
S03D			ND	-	No		
S03E			ND	-	No		
S04A	Hallway	1' x 1' Ceiling Tile - Random Pinhole	ND	-	No		
S04B			ND	-	No		
S04C			ND	-	No		
S04D			ND	-	No		
S04E			ND	-	No		
S05A	Vestibule Ceiling	Texture Coat	ND	-	No		
S05B			ND	-	No		
S05C			ND	-	No		
S06A	Offices	Drywall Joint Compound	ND	-	No		
S06B			ND	-	No		
S06C			ND	-	No		
S06D	Staff Room		ND	-	No		
S06E			ND	-	No		
S06F			ND	-	No		
S06G			Gym Storage Room	0.80%	Chrysotile	Yes	
2012 Asbestos Audit Update Sample Summary							
S01A	Washroom (MTE Room #121)		Vinyl Sheet Flooring	Vinyl: ND	-	No	
S01B		Paper: ND		-	No		
		Mastic: ND		-	No		
		Vinyl: ND		-	No		
S01C		Paper: ND		-	No		
		Mastic: ND		-	No		
		Vinyl: ND		-	No		
S02A		Barrier-Free Washroom (MTE Room #128)		Drywall Joint Compound	ND	-	No
S02B					ND	-	No
S02C	ND		-		No		
2016 Asbestos Audit Update							
S01A	104	9"x9" Vinyl Floor Tile Grey with White Streaks & Associated Mastic	Title: 0.74%	Chrysotile	Yes		
S01B			Mastic: <MDL	Chrysotile	No		
			Title: NA	Chrysotile	Yes		
			Mastic: <MDL	Chrysotile	No		
S01C	119	9"x9" Vinyl Floor Tile Tan with Brown/White Streaks & Associated Mastic	Title: NA	Chrysotile	Yes		
S02A			Mastic: <MDL	Chrysotile	No		
			Title: 0.76%	Chrysotile	Yes		
			Mastic: <MDL	Chrysotile	No		
S02B	119	9"x9" Vinyl Floor Tile Tan with Brown/White Streaks & Associated Mastic	Title: NA	Chrysotile	Yes		
S02C			Mastic: <MDL	Chrysotile	No		
			Title: NA	Chrysotile	Yes		
S02C			Mastic: <MDL	Chrysotile	No		

Table 2 Sample Summary Table for St. Joseph CES

TABLE 2: BULK ASBESTOS SAMPLING SUMMARY

Sample #	Location	Material Description	Asbestos Content (%)	Fibre Type	Is Material ACM
S03A	133	9"x9" Vinyl Floor Tile Brown with Beige Streak & Associated Mastic	Title: 2.15%	Chrysotile	Yes
			Mastic: ND	-	No
S03B			Title: NA	Chrysotile	Yes
			Mastic: NA	-	No
S03C			Title: NA	Chrysotile	Yes
			Mastic: NA	-	No
S04A	133	9"x9" Vinyl Floor Tile Beige with Brown Streak & Associated Mastic	Title: 3.66%	Chrysotile	Yes
			Mastic: ND	-	No
S04B			Title: NA	Chrysotile	Yes
			Mastic: NA	-	No
S04C			Title: NA	Chrysotile	Yes
			Mastic: NA	-	No
2017 Designated Substance Audit - May 18, 2017					
S01A	133	Mastic Associated with 9"x9" Vinyl Floor Tile - Beige with Brown Streak	<MDL	Chrysotile	No
S01B			<MDL	Chrysotile	No
S01C			<MDL	Chrysotile	No
S02A	111	Carpet Leveling Compound	ND	-	No
S02B			ND	-	No
S02C			ND	-	No
S01A	Roof A	Ballast/Bitumen	ND	-	No
S01A		Fibreboard	ND	-	No
S01A		Black Paper	ND	-	No
S01B	Roof B	Ballast/Bitumen	ND	-	No
S01B		Fibreboard	ND	-	No
S01C	Roof C	Ballast/Bitumen	ND	-	No
S01C		Fibreboard	ND	-	No
S01C		Black Paper	ND	-	No
S01D	Roof D	Ballast/Bitumen	ND	-	No
S01D		Fibreboard	ND	-	No
S01D		Black Paper	ND	-	No
S01E	Roof E	Ballast/Bitumen	ND	-	No
S01E		Fibreboard	ND	-	No
S01E		Black Paper	ND	-	No
S01F	Roof F	Ballast/Bitumen	ND	-	No
S01F		Fibreboard	ND	-	No
S01G	Roof G	Ballast/Bitumen	ND	-	No
S01G		Fibreboard	ND	-	No
S01G		Black Paper	ND	-	No
S02A	Roof	Flashing sealant	ND	-	No
S02B			ND	-	No
S02C			ND	-	No
2017 Designated Substance Audit - June 15, 2017					
S01A	105	Red Sealant at Door Perimeter	ND	-	No
S01B			ND	-	No
S01C			ND	-	No
S02A	105	Black Window Glaze on Steel Doors	ND	-	No
S02B			ND	-	No
S02C			ND	-	No
S03A	106	White Interior Door Sealant	1.6	Chrysotile	Yes
S03B			NA	Chrysotile	Yes
S03C			NA	Chrysotile	Yes
S04A	120	Grey Interior Steel Door Sealant	0.53	Chrysotile	Yes
S04B			NA	Chrysotile	Yes
S04C			NA	Chrysotile	Yes
S05A	133	Brown Mastic under 1'x1' Cellulose Ceiling Tile	ND	-	No
S05B			ND	-	No
S05C			ND	-	No
S06A	133	Drywall Joint Compound - Walls	ND	-	No
S06B			ND	-	No
S06C			ND	-	No

Table 2 Sample Summary Table for St. Joseph CES

TABLE 2: BULK ASBESTOS SAMPLING SUMMARY

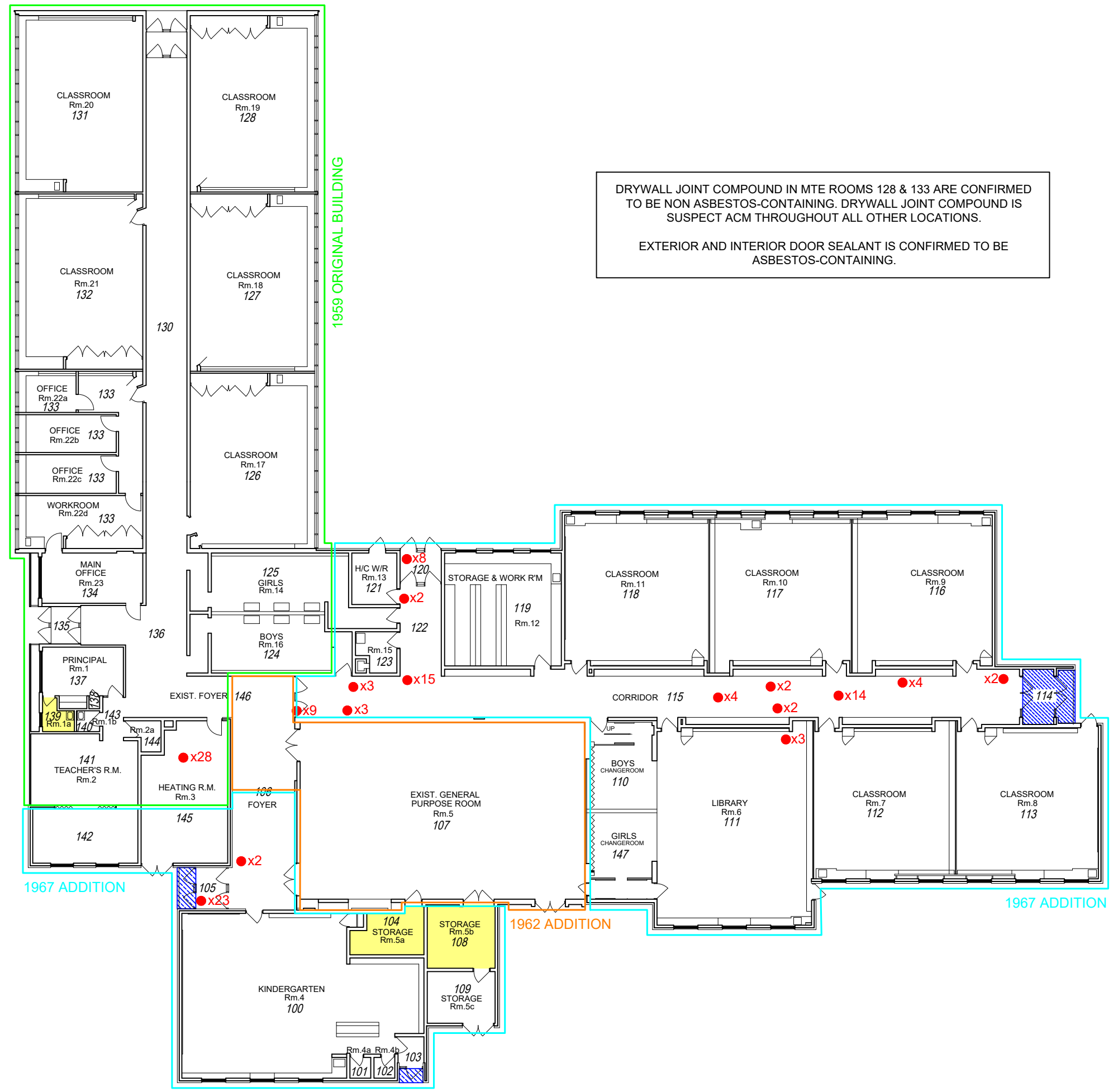
Sample #	Location	Material Description	Asbestos Content (%)	Fibre Type	Is Material ACM
S07A	126	Grey Window/Cupboard Sealant	ND	-	No
S07B			ND	-	No
S07C			ND	-	No
S08A	130 (Exterior)	Hard Texture Coat Overhang	ND	-	No
S08B			ND	-	No
S08C			ND	-	No

NA: Not Analyzed due to stop positive method **ND:** No asbestos fibres detected above the laboratory minimum detection limit

A bulk material sample containing 0.5% or more asbestos therefore establishes that material as asbestos-containing. In accordance with Table 1 of O. Reg. 278/05, a minimum number of samples for the material to be classified as non asbestos. A homogeneous material is defined by O. Reg. 278/05 "as material that is uniform in colour and texture". Homogeneous samples are identified by an alphabetical suffix to sample names to represent multiple samples of a homogeneous material. When a homogeneous material is analysed it is determined to be asbestos-containing upon the first positive detection of asbestos equal to or greater than 0.5%. Subsequent samples of the same material are therefore not analysed. Some bulk samples are comprised of multiple layers and as such will require multiple analysis. In such cases each layer is isolated at the laboratory and analysed individually to determine asbestos content. As a result the laboratory may report additional samples beyond the submitted number of samples or include multiple analyses as subsets within a sample.

Appendix B

Figures



DRYWALL JOINT COMPOUND IN MTE ROOMS 128 & 133 ARE CONFIRMED TO BE NON ASBESTOS-CONTAINING. DRYWALL JOINT COMPOUND IS SUSPECT ACM THROUGHOUT ALL OTHER LOCATIONS.

EXTERIOR AND INTERIOR DOOR SEALANT IS CONFIRMED TO BE ASBESTOS-CONTAINING.

NOTES:
 ALL DRAWINGS TO BE REFERENCED WITH THE ASSOCIATED REPORT, LOCATIONS AND QUANTITIES ARE APPROXIMATE.
 ALL KNOWN OR SUSPECT ASBESTOS-CONTAINING MATERIALS ARE NOT DEPICTED ON THIS DRAWING. REFER TO THE REPORT FOR A COMPLETE LIST OF IDENTIFIED MATERIALS.
 THIS FIGURE IS COLOUR DEPENDENT. PHOTOCOPIES MAY ALTER INTERPRETATION OF THE FIGURE. ALWAYS REFER TO ORIGINAL DRAWINGS AND REPORT.

Legend
 13 Location Number
 [Grey Box] No Access

- Asbestos-Containing Materials (ACM):**
- [Yellow Box] Floor Tile
 - [Green Box] Rolled Flooring
 - [Blue Hatched Box] Ceiling Tile
 - [Red Hatched Box] Friable Soft Textured Ceiling
 - [Blue Dotted Box] Non-Friable Hard Textured Ceiling
 - [Red Dotted Box] Spray-On Fire Proofing
 - [Blue Hatched Box] Transite (Asbestos Cement) Paneling
 - [Orange Box] Duct Insulation
 - [Red Dot] x2(1) Pipe Fitting Insulation w Quantity (Brackets Indicate # of Damaged Fittings)
 - [Red Line] Pipe Insulation (Vertical and Horizontal)
 - [Blue Line] Transite (Asbestos Cement) Pipe (Vertical and Horizontal)
 - [Blue Line with Brackets] x2(1) Duct Expansion Joints w Quantity (Brackets Indicate # of Damaged Joints)
 - [Red Cloud] Friable Debris



Ph. (519) 743-6500 www.mte85.com

CLIENT
 WATERLOO CATHOLIC DISTRICT SCHOOL BOARD

PROJECT
 2025 ASBESTOS AUDIT UPDATE

DRAWING
 ST. JOSEPH CATHOLIC ELEMENTARY SCHOOL (CAMBRIDGE)

FIRST FLOOR

Project Manager	PXS	Date	MARCH 2025
Design By	WCDSB	Project No.	61104_003
Drawn By	SGL	Drawing No.	1.0
Scale	N.T.S.		

PART 1 - GENERAL

1.1. DESCRIPTION OF WORK

- .1 Work under this Contract covers construction of the:

St Joseph CES Renovation

- .2 Maintain at job site, one copy each of the following:
 - .1 Contract drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed shop drawings.
 - .5 Contract Instructions/Bulletins
 - .6 Change orders.
 - .7 Field test reports
 - .8 Copy of approved work schedule.
 - .9 Manufacturers' installation and application instructions
 - .10 Site visit reports

1.2. CODES AND STANDARDS

- .1 Perform work in accordance with the current edition of the Ontario Building Code (OBC) and any other code of provincial or local application provided that in any case of conflict or discrepancy, more stringent requirements shall apply.
- .2 Meet or exceed requirements of specified standards, codes, and referenced documents.

1.3. PROJECT MEETINGS

- .1 Contractor will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.

1.4. SETTING OUT OF WORK

- .1 Assume full responsibility for an execute complete layout of work to locations, lines and elevations indicated.
- .2 Provide devices needed to lay out and construct work.
- .3 Supply such devices as straight edges and templates required to facilitate inspection of work.
- .4 Supply stakes and other survey markers required for laying out work.

1.5. LOCATIONS OF EQUIPMENT & FIXTURES

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.

- .2 Locate equipment, fixtures, and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety.
- .3 Inform Consultant of impending installation and obtain approval for actual location.
- .4 Submit field drawings to indicate relative position of various services and equipment when required by Consultant.

1.6. CONCEALMENT

- .1 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

1.7. CUTTING, FITTING AND PATCHING

- .1 Execute cutting (including excavation), fitting and patching required to make work fit properly together.
- .2 Where new work connects with existing and where existing work is altered, cut, patch, and make good to match existing work.
- .3 Define and mark energy sources, provide appropriate shut off or lockout provisions to ensure safety prior to any cutting, boring or demolition.
- .4 Obtain all required locates, maintain service markings, keep accurate records of service locations, and notify Owner and Consultant of locate outcomes.
- .5 Obtain Structural Consultant's approval before cutting, boring or sleeving load-bearing members.
- .6 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.
- .7 Fit work airtight to pipes, sleeves, ducts, and conduits.
- .8 Cutting and patching of new or existing work to accommodate installation of work of Mechanical and Electrical trades is the responsibility of the trade performing the installation.

1.8. EXISTING SERVICES

- .1 Before commencing Work, establish location and extent of service lines in area of work and notify Consultant of findings.
- .2 Where unknown services are encountered, immediately advise Consultant, and confirm findings in writing.

1.9. ADDITIONAL DRAWINGS

- .1 N/A
- .2 Consultant may furnish additional drawings to assist proper execution of work. These drawings will be issued for clarification only. Such drawings shall have the same meaning and intent as if they were included in original documents.
- .3 Drawings provide overall dimensions to finished surfaces or grid lines. The General Contractor is responsible for verifying all dimensions and determining any additional dimensions required for layout or coordination.

- .4 The General Contractor shall coordinate the layout of all building components and systems, including ceilings, bulkheads, and service spaces to avoid interference before installation. The General Contractor shall revise services or components not properly coordinated in advance, at no additional cost to the Owner.

1.10. WORK SCHEDULE

- .1 Provide schedule showing anticipated progress stages and final completion of work within time period required by Contract Documents.
- .2 Utilize a digital Gantt chart format correlated to cost breakdown format showing progress of each trade division against a baseline.
- .3 Provide an updated schedule with each payment application. Failure to provide an acceptable schedule will result in the monthly general accounts being withheld.

1.11. COST BREAKDOWN

- .1 Submit breakdown of Contract prices by Specification Division and Section and aggregating contract price. After approval by Consultant, cost breakdown will be used as the basis for progress payment.
- .2 Indicate initial set up costs separately from ongoing site operation costs. Provide a complete list of initial costs with invoices for specific items including insurance and bonds.
- .3 Ongoing site operation costs shall include the cost of the Superintendent at full time for the duration of the work.

1.12. CONTRACTOR'S USE OF SITE

- .1 The General Contractor shall restore surfaces damaged by construction outside of the construction area to their original condition, at no additional cost to the Contract.

1.13. WORKMANSHIP

- .1 Workmanship is to be of the best quality, executed by workers experienced and skilled in respective duties for which they are employed.
- .2 Do not employ any unfit person or anyone unskilled in their required duties. A minimum of five years' trade experience is required for work on this project or tradesman who has completed and passed their apprenticeship program or other educational program acceptable to the Consultant. An apprentice accompanied by a qualified trade instructor is allowed.
- .3 When requested by the Consultant, provide a completely finished sample of each element of the work for review by the Consultant. Once accepted, this sample will be used to determine the workmanship expected for the remaining work.
- .4 Decisions as to quality or fitness of workmanship in cases of dispute rest solely with the Consultant, whose decision is final. The General Contractor shall enforce such decisions with the respective subtrades.

1.14. DEFICIENCIES

- .1 The Consultant will periodically review the work and advise the General Contractor in writing of review.
- .2 Deficiencies which remain outstanding for over one month's time will entitle the Consultant to not certify any further payment for that respective trade division until the deficiencies are corrected to the Consultant's satisfaction.

END OF SECTION

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 01001 General Conditions.
- .2 Details of work covered by cash allowance: in respective Section.

1.2 Cash Allowances

- .1 Refer to CCDC 2 - 2008, GC 4.1.
- .2 Include in the Contract Price the cash allowances stated herein.
- .3 Expenditures under cash allowances shall occur only with Consultant's prior consent.
- .4 Where costs under cash allowances exceed the total amount of the cash allowances indicated by less than 10% of the aggregated stated values, the Contractor will be compensated for any excess incurred and substantiated, without any allowance for overhead and profit.
- .5 Where costs under cash allowances exceed the total amount of the cash allowances indicated by more than 10% of the aggregate stated values, the Contractor will be compensated for any excess incurred and substantiated plus an allowance for overhead and profit as set out in the Contract Documents.
- .6 Progress payments on accounts of work authorized under cash allowances shall be included in the Consultant's monthly certificate for payment. Submit invoices in support of claims.
- .7 Where costs under a specific cash allowance exceed of the amount of the allowance, unexpended amounts from other specific cash allowances shall be reallocated at the Consultant's direction to cover the shortfall.
 - .8 The amount of allowance covers for the school, for Work specified in the respective specification Sections, shall be **Twenty Thousand (\$20,000.00)** not including Harmonized Sales Tax (HST):
 - .1 overall under the CA we will have
 - .2 BAS
 - .3 Hardware
 - .4 Abetment

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

End of Section

1.1 WORK OF THIS CONTRACT

- .1 *Work* of this *Contract* comprises the following:

St Joseph CES Renovation

- .2 Municipal Address: **980 Westminster Dr S, Cambridge, ON N3H 1V2**

1.2 DIVISION OF WORK

- .1 Division of the *Work* among *Subcontractors* and *Suppliers* is solely the *Contractor's* responsibility. *Consultant* and *Owner* assume no responsibility to act as an arbiter to establish subcontract limits between Sections or Divisions of the *Work*.

1.3 SPECIFICATIONS LANGUAGE AND STYLE

- .1 These specifications are written in the imperative mood and in streamlined form. The imperative language is directed to *Contractor*, unless stated otherwise.
- .2 Complete sentences by reading "shall", "*Contractor* shall", "shall be", and similar phrases by inference. Where a colon (:) is used within sentences and phrases, read the words "shall be" by inference.
- .3 Fulfill and perform all indicated requirements whether stated imperatively or otherwise.
- .4 When used in the context of a *Product*, read the word "provide" to mean "supply and install to result in a complete installation ready for its intended use".

1.4 CONTRACT DOCUMENTS FOR CONSTRUCTION PURPOSES

- .1 *Consultant* will supply *Contractor* with a complete set of *Contract Documents* in electronic form before commencement of the *Work*. *Contractor* may print hard copies for construction purposes as required.

1.5 DOCUMENTS AT THE SITE

- .1 Keep the following documents at *Place of the Work*, stored securely and in good order and available to *Owner* and *Consultant* in hard copy and electronic form:
- .1 Current *Contract Documents*, including *Drawings*, *Specifications* and addenda.
 - .2 *Change Orders*, *Change Directives*, and *Supplementary Instructions*.
 - .3 Reviewed *Shop Drawings*, *Product* data and samples.
 - .4 Field test reports and records.

- .5 Construction progress schedule.
- .6 Meeting minutes.
- .7 Manufacturer's certifications.
- .8 Permits, inspection certificates, and other documents required by authorities having jurisdiction.
- .9 Current as-built drawings.
- .10 Material Safety Data Sheets (MSDS) for all controlled *Products*.

1.6 CONTRACTOR'S USE OF PREMISES

- .1 Except as otherwise specified, *Contractor* has unrestricted use of *Place of the Work* from time of *Contract* award until *Ready-for-Takeover*.
- .2 Confine *Construction Equipment*, *Temporary Work*, storage of *Products*, waste products and debris, and all other construction operations to limits required by laws, ordinances, permits, and *Contract Documents*, whichever is most restrictive. Do not unreasonably encumber *Place of the Work*.

1.7 OWNER-SUPPLIED PRODUCTS

- .1 *Owner* Responsibilities:
 - .1 Order and pay for *Owner*-supplied *Products* not already in *Owner's* possession.
 - .2 Arrange and pay for delivery of *Owner*-supplied *Products* F.O.B. the site, within time frames required by *Contractor's* progress schedule.
 - .3 Advise *Contractor* in writing of the value of *Owner*-supplied *Products* for *Contractor's* insurance purposes.
 - .4 Arrange and pay for delivery to *Contractor* of reviewed *Shop Drawings*, *Product* data, samples, and manufacturer's installation instructions.
 - .5 Inspect deliveries jointly with *Contractor*.
 - .6 Arrange for replacement of damaged, defective or missing items identified at time of delivery.
 - .7 Arrange for delivery of manufacturer's warranties to *Contractor* for inclusion in operation and maintenance manual.

.2 *Contractor* Responsibilities:

- .1 Designate in progress schedule, time frames for delivery of *Owner-supplied Products* to the site and for receipt of related submittals.
- .2 Review all required submittals and notify *Consultant* of any observed discrepancies or anticipated problems.
- .3 Ensure that course of construction insurance is adequate to cover *Owner-supplied Products*.
- .4 Receive and unload *Owner-supplied Products* at the site.
- .5 Inspect deliveries jointly with *Owner*. Record and notify *Owner* and *Consultant* of shortages and visibly damaged or defective items.
- .6 Handle *Owner-supplied Products* at site, including uncrating and storage. Dispose of waste materials and debris.
- .7 Take appropriate precautions to protect *Owner-supplied Products* from loss or damage.
- .8 Repair or replace items damaged on site.
- .9 Assemble, install, connect, adjust, and finish *Owner-supplied Products* as specified.
- .10 Arrange for inspections required by authorities having jurisdiction as specified.
- .11 Arrange for or perform testing as specified.
- .12 Workmanship warranty for installation.

.3 Schedule of *Owner-supplied Products*:

- .1 Washroom accessories: Soap dispensers, paper towel dispensers, toilet tissue dispensers, napkin disposals, napkin dispensers, and additional collapsible hooks already not included in the Specifications.

END OF SECTION

1.1 GENERAL

- .1 Refer to General Conditions of the Contract as amended by Section 00730 – Supplementary Conditions, PART 5 - PAYMENT of these Specifications.

1.2 PRE- INVOICE SUBMISSION

- .1 Three (3) working days prior to date of the Application of Payment, the *Contractor* shall submit a draft application for payment (a "*Pre-Invoice Submission*") to the *Owner* and the *Consultant* for review with confirmation that all of the criteria for a *Proper Invoice* are satisfied. If not satisfied, the application for payment will be returned to the *Contractor* with reasons from the *Owner* or the *Consultant* setting out why the application for payment is not a valid *Proper Invoice*.

1.3 PROPER INVOICE SUBMISSION DATE

- .1 The Proper Invoice Submission Date and date on the Proper Invoice shall be the same date, which is the first day of the month, and shall include work completed at the Place of the Work up and until the last day of the previous month.

1.4 DELIVERY OF APPLICATION FOR PAYMENT

- .1 The Application for Payment must be delivered to the *Owner* and the *Consultant* on the same day as the *Proper Invoice* date and the *Proper Invoice Submission Date*, which is the first day of the month.
- .2 Delivered by e-mail to:
 - .1 the *Owner's* representative **Ronnie Magar** at **ronniem@wcdsb.ca**
and,
 - .2 the Consultant Sonia Diaz at **sonia.d@1721architects.ca**,
- .3 e-mail subject line must contain:
 - .1 WCDSB project number,
 - .2 type of payment application; Draft, Progress, Substantial Performance or Final,
 - .3 contractor invoice number,

1.5 PROPER INVOICE FOR APPLICATIONS FOR PAYMENT

- .1 To satisfy the requirements for *Proper Invoice*, the following criteria, as may be applicable in each case, must be included with the *Contractor's* application for payment:
 - .1 *Contractor's* name and current address on company letterhead;
 - .2 *Contractor's* HST registration number;
 - .3 identify the name of school or facility;
 - .4 a unique invoice number and, the certificate or draw number;
 - .5 School project number, and Consultant project number;
 - .6 Proper Invoice Submission Date and the due date;
 - .7 period of time in which services or materials were supplied to the *Owner*,
 - .8 a description, including quantities where appropriate, of the services or

materials, or a portion thereof, that were supplied with confirmation that all Product delivered to the Place of Work is free and clear of any security interests, liens, encumbrances and any other claims of third parties;

- .9 an amount the *Contractor* is requesting to be paid by the *Owner*, separating out any statutory or other holdbacks, set-offs and HST;
 - .10 Submit a statutory declaration in the form of CCDC 9A – Statutory Declaration of Progress Payment Distribution by *Contractor* except the first payment application;
 - .11 a current Workplace Safety Insurance Board clearance certificate;
 - .12 a pre-approved schedule of values (refer to 1.6 below), supplied by the *Contractor*, for Divisions 1 through 14 of the *Specifications* of the *Work*, including a current list of change orders and cash allowances aggregating the total amount of the *Contract Price*, including all supporting invoicing;
 - .13 a separate pre-approved schedule of values (refer to 1.6 below), supplied by *Subcontractor*, for each of Division 15 and 16 of the *Specifications*, aggregating the total amount of the *Contract Price*, including all supporting invoicing;
 - .14 where the invoice amount includes amounts charged on the basis of unit rates, documentation evidencing what part(s) of the *Work* was completed in relation to the overall *Work* to be completed, including delivery receipts identifying products and materials for which payment is being applied for;
 - .15 where the invoice amount includes amounts charged on the basis of hourly rates, documentation in support of the amount claimed, including dates that services were performed, identify of the person(s) involved, the hours spent, and a description of the services performed;
 - .16 a statement, on company letterhead, indicating current Construction Schedule is accurate and, if not, attach a Construction Schedule Update as per Section 01320 – Construction Progress Documentation, 1.2.2 Construction Schedule Update of these bid documents;
 - .17 the name, title, telephone number, mailing address and e-mail address of the person at the place of business of the *Contractor* to whom the payment information is to be directed;
- .2 in the case of the *Contractor's* application for Substantial Performance of the Work or Payment of Holdback, in addition to the foregoing requirements (as applicable):
- .1 include a complete deficiency list in the form listed in GC 5.8 Deficiency Holdback to be utilized for the calculation of *Substantial Performance of the Work*,
 - .2 a statement that no written notices of lien have been received.
- .3 in the case of the *Contractor's* application for final payment, in addition to the two foregoing requirements (as applicable):
- .1 a statement that all requirements pursuant to Section 01770 – Closeout Procedures, 1.2 *Ready-For-Takeover* have been completed;
 - .2 written request for release of remaining deficiency holdback, including a statement that no written notices of lien have been received, and;

- .3 written certification that there are no outstanding claims, pending claims or future claims from the *Contractor* or their *Subcontractors* or *Suppliers*.

1.6 SCHEDULE OF VALUES

- .1 Refer also to General Conditions of the Contract as amended by Section 00730 – Supplementary Conditions, GC5.2.4, GC 5.2.5.
- .2 Fifteen (15) days prior to the first application for payment, submit for *Consultant's* review an initial schedule of values. Modify the initial schedule of values if and as requested by *Consultant*. Obtain *Consultant's* written acceptance of the initial schedule of values prior to the first application for payment.
- .3 Together with the first and all subsequent applications for payment, submit updated versions of the schedule of values to indicate the values, to the date of application for payment, of work performed and *Products* delivered to *Place of the Work*.
- .4 Provide the schedule of values in an electronic spreadsheet format that provides for inclusion of the following information:
 - .1 Identifying information including title and location of the *Work*, name of *Contractor*, number and date of application for payment, and period covered by the application for payment.
 - .2 A work breakdown structure that is sufficiently detailed and comprehensive to facilitate *Consultant's* evaluation of applications for payment at an appropriate level of detail.
 - .3 Provisions for approved *Change Orders*, and allowances, so that the breakdown amounts indicated in the schedule of values aggregate to the current total *Contract Price*. Also provide for indicating the estimated value of *Change Directives* within the schedule of values, separately from the current total *Contract Price*.
 - .4 For each item in the work breakdown structure, provide as a minimum the following information, under headings as indicated:
 - .1 Breakdown Amount: A dollar amount, including an appropriate pro rata portion of *Contractor's* overhead and profit.
 - .2 Closeout Document Holdback: A 1% value of the Breakdown Amount to account for the cost of closeout submittals, demonstration and training, start-up and testing, and commissioning, stated in dollars with a minimum amount of \$300.00.
 - .3 Closeout Document Holdback Release: The value will be released once Closeout Procedure information is provided by the *Contractor* and / or *Subcontractor* to the *Contractor* and *Owner*.

- .4 Performed to Date: The value of *Work* performed and *Products* delivered to *Place of the Work* up to the date of the application for payment, stated as a percentage of the *Contract Price* less 1% Closeout Procedure value and in dollars.
- .5 Previously Performed: The value of *Work* performed and *Products* delivered to the *Place of the Work* for which payment has been previously certified, stated in dollars.
- .6 Current Period: The value of *Work* performed and *Products* delivered to *Place of the Work* for which *Contractor* is currently applying for payment, stated in dollars.
- .7 Balance to Complete: The value of *Work* not yet performed and *Products* not yet delivered to *Place of the Work*, stated in dollars.

END OF SECTION

Waterloo Catholic District School Board
St Joseph CES Renovation
17|21 architects inc.
Project No. RFT 2026-12

Section 01 29 00
PAYMENT PROCEDURES
Page 5 of 4

1.1 CONSTRUCTION START-UP MEETING

- .1 Promptly after *Contract* award, *Consultant* will establish the time and location of a construction start-up meeting to review and discuss administrative procedures and responsibilities. *Consultant* will notify *Contractor* at least 5 *Working Days* before the meeting.
- .2 Senior representatives of *Owner*, *Consultant*, sub-consultants, and *Contractor*, including *Contractor's* project manager and site superintendent, and major *Subcontractors*, shall be in attendance.
- .3 *Consultant's* representative will chair the meeting and record and distribute the minutes.
- .4 Agenda will include following:
 - .1 List of Attendees.
 - .2 Appointment of official representatives of *Owner*, *Contractor*, *Subcontractors*, *Consultant*, and sub-consultants and area of responsibility.
 - .3 *Project* lines of communications.
 - .4 Status of Contracts, Criminal Background Check
 - .5 *Contract Documents* for construction purposes.
 - .6 Documents at the site.
 - .7 *Contractor's* use of premises.
 - .8 *Owner-supplied Products*.
 - .9 Work restrictions.
 - .10 Cash allowances.
 - .11 Substitution procedures.
 - .12 *Contract* modification procedures.
 - .13 Payment procedures.
 - .14 Construction progress meetings.
 - .15 Construction progress schedule, including long lead time items.
 - .16 Submittals schedule and procedures.
 - .17 Special procedures.
 - .18 Quality requirements, including testing and inspection procedures.
 - .19 *Contractor's* mobilization.
 - .20 Temporary utilities.
 - .21 Existing utility services.
 - .22 Construction facilities.
 - .23 Temporary barriers and enclosures.
 - .24 Temporary controls.
 - .25 Field engineering and layout of work.
 - .26 Construction and site safety.
 - .27 Site security.
 - .28 Cleaning and waste management.
 - .29 Closeout procedures and submittals.
 - .30 Commissioning.
 - .31 Other items.

1.2 CONSTRUCTION PROGRESS MEETINGS

- .1 Schedule regular bi-weekly construction progress meetings for the duration of the *Work*. *Contractor* shall prepare meeting agendas, chair the meetings, and record and distribute the minutes. The *Owner* may request weekly meetings as circumstances may reasonably require.
- .2 Arrange for and provide physical space for meetings.
- .3 *Contractor* shall record in the meeting minutes significant decisions and identify action items and action dates by attendees or the parties they represent and shall also include the following:
 - .1 list of attendees.
 - .2 weather conditions of *Working Days* since last scheduled meeting, include low and high temperatures.
 - .3 start and completion dates of any trades in each area of the *Project*.
 - .4 construction progress and upcoming work
 - .5 date of next scheduled meeting.
- .4 *Contractor* shall distribute copies of minutes within three (3) *Working Days* after each meeting to meeting attendees and any affected parties who may not be in attendance.
- .5 Ensure that *Subcontractors* attend as and when appropriate to the progress of the *Work*.
- .6 Agenda for each meeting shall include the following, as a minimum:
 - .1 Approval of minutes of previous meeting.
 - .2 Work progress since previous meeting.
 - .3 Field observations, including any problems, difficulties, or concerns.
 - .4 Construction progress schedule.
 - .5 Submittals schedule.
 - .6 Proposed changes in the *Work*.
 - .7 Requests for information.
 - .8 Site safety issues.
 - .9 Other business.

END OF SECTION

1.1 **SUMMARY**

- .1 This Section specifies *Contractor's* responsibilities for preparation and submission of schedules and other documentation related to tracking construction progress as described in the General Conditions of the Contract as amended by Section 00730 Supplementary Conditions, GC 3.8 SHOP DRAWINGS AND OTHER SUBMITTALS in these Contract Documents.
- .2 The purpose of submitting progress schedules is to:
 - .1 Inform *Owner* and *Consultant* of actual progress versus planned progress.
 - .2 Provide assurance that scheduling issues are being proactively identified and addressed in a timely manner, and that planned progress is being maintained as closely as possible.

1.2 **CONSTRUCTION SCHEDULE**

- .1 Construction Schedule means the schedule for the performance of the *Work* to be provided by the *Contractor* as described in the General Conditions of the Contract as amended by Section 00730 Supplementary Conditions, GC 3.4 - CONSTRUCTION SCHEDULE of these *Contract Documents*.
- .2 Construction Schedule Update means an update to the Construction Schedule by the *Contractor* that accurately depicts the progress of the *Work* relative to the critical path established in the approved Construction Schedule (or any approved successor Construction Schedule), aligns with the currently approved date for *Ready for Takeover* of the *Work*, shows up-to-date projected major activity sequences and durations, and shows any changes or delays in anticipated completion dates of major activities in the *Work* relative to the previous Construction Schedule or Construction Schedule Update, and includes a record version of the updated Construction Schedule in PDF format.
- .3 Format and Content:
 - .1 Prepare schedule employing construction scheduling software in the form of a Critical Path Method (CPM) Gantt chart that permits the progress of the *Work* to be monitored in relation to the critical path established in the schedule.
 - .2 Provide a work breakdown structure identifying key activities, work packages, stages, phases, and major milestones, including long delivery *Products* whose delivery is critical to the schedule for the *Work* or are required by the *Contract* to be included in a *Products* delivery schedule, inspection and testing activities, preparation and review of mock-ups, *Owner* decisions for cash allowances, delivery of *Owner* supplied *Products*, demonstration and training activities, and similar items, at a sufficient level of detail to effectively manage construction progress.

- .3 Indicate milestone dates for both *Substantial Performance of the Work* and *Ready-for-Takeover*.
- .4 Submission:
 - .1 Submit initial schedule to *Owner* and *Consultant* within ten (10) *Working Days* after *Contract* award.
 - .2 Submit schedule via e-mail as PDF electronic file.
 - .3 *Consultant* will review format and content of initial schedule and request necessary changes, if any, within five (5) *Working Days* after receipt.
 - .4 If changes are required, resubmit finalized initial schedule within five (5) *Working Days* after return of review copy.

1.3 **SUBMITTALS SCHEDULE**

- .1 Prepare a *Shop Drawings* schedule acceptable to the *Owner* and the *Consultant* prior to the first application for payment. A draft of the proposed *Shop Drawings* schedule shall be submitted by the *Contractor* to the *Consultant* and the *Owner* for approval. The draft *Shop Drawings* schedule shall clearly indicate the phasing of *Shop Drawings* and other *Submittals* submissions. The *Contractor* shall periodically re-submit the *Shop Drawings* schedule to correspond to changes in the construction schedule.
- .2 Format and Content:
 - .1 Prepare schedule identifying all required *Shop Drawing*, *Product* data, and sample submissions.
 - .2 Prepare schedule in electronic format.
 - .3 Provide a separate line for each required submittal, organized by *Specifications* section names and numbers, and further broken down by individual *Products* and systems as required.
 - .4 For each required submittal, show planned earliest date for initial submittal and latest date for return of reviewed submittal without causing delay.
 - .5 Allow time in schedule for resubmission of submittals, should resubmission be necessary.
- .2 Submission:
 - .1 Submit initial schedule to *Consultant* within fifteen (15) *Working Days* after *Contract* award.

- .2 Submit schedule via e-mail as electronic .pdf file.
- .3 Consultant will review format and content of initial schedule and request necessary changes, if any, within five (5) *Working Days* after receipt.
- .4 If changes are required, resubmit finalized schedule within 5 *Working Days* after return of review copy.
- .5 Submit updated submittals schedule at each bi-weekly project meeting to *Owner* and *Consultant*.

1.4 SCHEDULE MANAGEMENT

- .1 A schedule submitted as specified and accepted by *Consultant* shall become the baseline schedule and shall be used as the baseline for updates.
- .2 At each regular project meeting, review and discuss current construction progress and submittals schedules with *Consultant* and *Owner*, including activities that are behind schedule and planned measures to regain schedule slippage in key areas on or near the critical path.
- .3 Activities considered behind schedule are those with start or completion dates later than the dates shown on the baseline schedule.
- .4 Schedules that are behind schedule will require a Construction Schedule Update as per to 1.2.2 above and as described in the General Conditions of the Contract as amended by Section 00730 Supplementary Conditions of these *Contract Documents*.

1.5 RECORDING ACTUAL SITE CONDITIONS ON AS-BUILT DRAWINGS

- .1 Obtain a hard copy set of construction *Drawings* for the purpose of creating as-built drawings. Record information and maintain as-built drawings in clean, dry and legible condition.
- .2 Clearly label each drawing as “AS-BUILT DRAWING”. Record information concurrently with construction progress. Do not conceal *Work* until required information is recorded.
- .3 Record actual construction including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

- .3 Measured locations of pipes, ducts, conduits, outlets, fixtures, access panels, and appurtenances, referenced to visible and accessible features of construction.
- .4 Field changes of dimension and detail.
- .5 Changes made by *Change Orders* and *Supplemental Instructions*
- .6 References to *Shop Drawings*, where *Shop Drawings* show more detail.
- .4 Do not use as-built drawings for construction purposes.
- .5 Scan completed hard copy as-built drawings to electronic pdf format and send electronic file to *Owner* and *Consultant*. Refer to Section 01780 – Closeout Submittals.

1.6 PROGRESS DRONE VIDEO

- .1 The *Owner* may arrange for drone video to document and provide a video record of the progress of *Work*.
- .2 Allow drone pilot to complete flight path over the *Place of the Work* bi-weekly or as needed throughout the *Work*.

END OF SECTION

ADMINISTRATIVE

- .1 Submit specified submittals to *Consultant* for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in the *Work*. Failure to submit in ample time is not considered sufficient reason for an extension of *Contract Time* or for *Product* substitutions or other deviations from the *Drawings* and *Specifications*.
- .2 Where required by authorities having jurisdiction, provide submittals to such authorities for review and approval. Expedite these submittals.
- .3 Do not proceed with *Work* affected by a submittal until review is complete.
- .4 Present *Shop Drawings*, *Product* data, and samples in metric units. Where items or information is not produced in metric units, converted values are acceptable.
- .5 Review submittals, provide verified field measurements where applicable, and affix *Contractor's* review stamp prior to submission to *Consultant*. *Contractor's* review stamp represents that necessary requirements have been determined and verified, and that the submittal has been checked and coordinated with requirements of the *Work* and *Contract Documents*.
- .6 Verify field measurements and that affected adjacent work is coordinated.
- .7 Submittals not meeting specified requirements will be returned with comments.
- .8 Reproduction of construction *Drawings* to serve as background for *Shop Drawings* is permitted. If construction *Drawings* are used for this purpose, remove references to *Consultant*.
- .9 Do not propose Substitutions or deviations from *Contract Documents* via *Shop Drawing*, *Product* data and sample submittals.

1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 Indicate *Products*, methods of construction, and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of the *Work*.
- .2 Where *Products* attach or connect to other *Products*, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross-references to *Drawings*, *Specifications* and other already reviewed *Shop Drawings*.
- .3 The *Contractor* shall not use the term "by others" on *Shop Drawings* or other *Submittals*. The related trade, *Subcontractor* or *Supplier* shall be stated.
- .4 Certain Sections require the *Shop Drawings* and other *Submittals* to bear the seal and signature of a professional engineer. Such professional engineer must be

registered in the jurisdiction of the *Place of the Work* and shall have expertise in the area of practice reflected in the *Shop Drawings* and other *Submittals*.

- .5 Accompany submittals with a transmittal information including:
 - .1 Date.
 - .2 *Project* title and number.
 - .3 *Contractor's* name and address.
 - .4 Identification of each submittal item and quantity.
 - .5 Other pertinent data.

- .6 *Shop Drawing* submittals 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, date, and signature of *Contractor's* authorized representative responsible for *Shop Drawing* review, indicating that each *Shop Drawing* has been reviewed for compliance with *Contract Documents* and, where applicable, that field measurements have been verified.
 - .5 Details of appropriate portions of the *Work* as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Fastening or anchorage details, if exposed to view, provide layout.
 - .4 Setting or erection details.
 - .5 Capacities.
 - .6 Performance characteristics.
 - .7 Standards.
 - .8 Operating weight.
 - .9 Wiring diagrams.
 - .10 Single line and schematic diagrams.
 - .11 Relationships to other parts of the *Work*.

- .7 *Product* data submittals shall include material safety data sheets (MSDS) for all controlled *Products*.

- .8 Submit one (1) electronic copy of *Shop Drawings* where specified in the technical *Specifications*.

- .9 Submit one (1) electronic copy of *Product* data sheets or brochures where specified in the technical *Specifications*.

- .10 Where a submittal includes information not applicable to the *Work*, clearly identify applicable information and strike out non-applicable information.

- .11 Supplement standard information to include details applicable to *Project*.

- .12 Allow five (5) *Working Days* for *Consultant's* review of each submittal and incorporate in submittals schedule specified in Section 01320 – Construction Progress Documentation. Allow additional two (2) *Working Days* where sub-*Consultant* or commissioning agent review is required.
- .13 If upon *Consultant's* review no errors or omissions are discovered, or if only minor corrections are required as indicated, submittal will be returned and fabrication or installation of *Work* may proceed.
- .14 If upon *Consultant's* review significant errors or omissions are discovered, a so noted copy will be returned for correction and resubmission. Do not commence fabrication or installation.
- .15 *Consultant's* notations on submittals are intended to ensure compliance with *Contract Documents* and are not intended to constitute a change in the *Work* requiring change to the *Contract Price* or *Contract Time*. If *Contractor* considers any *Consultant's* notation to be a change in the *Work*, promptly notify *Consultant* in writing before proceeding with the *Work*.
- .16 Resubmit corrected submittals through same procedure indicated above, before any fabrication or installation of the *Work* proceeds. When resubmitting, notify *Consultant* in writing of any revisions other than those requested by *Consultant*.

1.3 SAMPLES

- .1 Submit samples for *Consultant's* review in duplicate where specified in the technical *Specifications*. Label samples as to origin, *Project* name, and intended use.
- .2 Deliver samples prepaid to *Consultant's* business address.
- .3 Notify *Consultant* in writing of any deviations in samples from requirements of *Contract Documents*.
- .4 Where a required colour, pattern or texture has not been specified, submit full range of available *Products* meeting other specified requirements.
- .5 *Consultant* selection from samples is not intended to change the *Contract Price* or *Contract Time*. If a selection would affect the *Contract Price* or *Contract Time*, notify *Consultant* in writing prior to proceeding with the *Work*.
- .6 Resubmit samples as required by *Consultant* to comply with *Contract Documents*.
- .7 Approved sample will be returned as a single sample, marked "Approved".
- .8 Reviewed and accepted samples will establish the standard against which installed *Work* will be reviewed.
- .9 Large samples, samples requiring assembly or require evaluation at the *Place of the Work*, may be delivered to the *Place of the Work* with *Consultant* approval.

END OF SECTION

Part 1 General

GENERAL REQUIREMENTS

- .1 This Section is intended to describe method of cutting, fitting and patching required to complete the work or to make its many parts fit together properly. Refer to Section 01 00 05 for additional information
- .2 Notify Consultant of alteration which affects
 - .1 Structural Integrity
 - .2 Moisture or Air Barriers
 - .3 Fire Separations.
- .3 Execute cutting, fitting, and patching to complete the work and to make good all surface appearances to blend in with adjoining surfaces without blemish.
- .4 Fit parts together, to integrate and bond into with other work.
- .5 Remove and replace defective and non-conforming work.
- .6 Refer to Structural Drawings for lintels required for carrying building components above openings.
- .7 Inspect and acquaint oneself with knowledge of existing conditions, including elements subject to damage or movement during cutting and patching.
- .8 Beginning of cutting or patching means acceptance of existing conditions.

1.2. PATCHING

- .1 Use only compatible patching materials of the same or higher quality as the material being patched.

1.3. CUTTING

- .1 Execute cutting by the most suitable methods to avoid damage to other work, and which will provide proper surfaces to receive finishes.

1.4. FITTING

- .1 Fit together different parts of the work to create a consistent finished appearance.

1.5. PATCHING

- .1 Refinish patched surfaces to match adjacent surfaces. Provide control joints in continuous surfaces to terminate patching.

END OF SECTION

Part 1 General

1.1. RELATED WORK SPECIFIED ELSEWHERE

- .1 Refer to particular requirements for inspection testing to be carried out by a qualified testing laboratory as specified under various Sections.

1.2. APPOINTMENT AND PAYMENT

- .1 Unless otherwise specified, the Consultant will appoint the Testing and Inspection Agency on behalf of the Owner to carry out the inspection and testing specified in various Sections of the Specifications.
- .2 Where so specified, payment for the services of the Testing and Inspection Agency will be paid for by Cash Allowance – refer to Section 01 21 00.
- .3 The Contractor shall be responsible for and pay for the following:
 - .1 Inspection and testing required by laws, ordinances, rules, regulations, or orders of public authorities.
 - .2 Inspection and testing performed exclusively for the Contractor's convenience.
 - .3 Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment, and systems.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by the Contractor.
- .4 Where tests or inspections by designated testing laboratory reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests or inspections as Consultant may require, to verify acceptability of corrected work.

1.3. CONTRACTOR'S RESPONSIBILITIES

- .1 Furnish labour and facilities to:
 - .1 Provide access to work to be inspected and tested.
 - .2 Facilitate inspections and tests.
 - .3 Make good work disturbed by inspection and test.
 - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
- .2 Notify testing laboratory sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
- .3 Where materials are specified to be tested, provide representative samples in required quantity to testing laboratory.
- .4 Pay costs for uncovering and making good work that is covered before required inspection or testing is complete and approved by Consultant.

END OF SECTION

PART ONE - GENERAL

1.1 Related Sections

- .1 Section 01535 -Temporary Facilities
- .2 Section 01560 - Temporary Controls
- .3 The requirements of this Section apply to all other Sections of the specifications.

1.2 Installation, Maintenance and Removal

- .1 Provide temporary utilities in order to execute work expeditiously.
- .2 Remove from site all such work after use.
- .3 Maintain temporary utilities and plant in good operating order.
- .4 Use utilities and execute work to prevent waste of utilities.

1.3 Dewatering

- .1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

1.4 Sanitary Facilities

- .1 Coordinate with client for designated washroom on site
- .2 Maintain in clean condition.

1.5 Water Supply

- .1 The Owner will provide a continuous supply of potable water for construction use.
- .2 Provide temporary connections to existing supply points, and pay all costs for installation, maintenance and removal.

1.6 Temporary Heating

- .1 Provide temporary heating if required during construction period, including attendance, maintenance and fuel (unless otherwise specified) for exterior work, or work exposed to exterior conditions, during construction period as required to:
 - .1 Facilitate progress of work.
 - .2 Protect work and products against dampness and cold.
 - .3 Prevent moisture condensation on surfaces.
 - .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
 - .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .2 Construction heaters used inside building must be vented to outside or be flameless type. Solid fuel salamanders not permitted. Maintain fire watch during use of open flame heaters.
- .3 Do not use electricity for temporary heating except with Owner's prior permission.
- .4 Maintain temperatures of minimum 10 degrees C in areas where construction is in progress, unless indicated otherwise, or as may be required by manufacturer's instructions for materials being installed during heating period.
- .5 Existing, permanent heating system of building, or portions thereof, may be used when available. Be responsible for damage thereto. Do not modify or alter existing system without written direction from Consultant, except that filters shall be installed and maintained clean at return air inlets and exhaust air inlets to prevent soiling of system.
- .6 On completion of work for which permanent heating system is used as construction heating, replace permanent filters, and leave equipment clean.
- .7 With Owner's permission, temporary connection may be made to natural gas service for construction purposes. Provide meter, and compensate Owner for cost of fuel consumed at Owner's costs. Obtain all necessary permits and inspections. Owner shall be final authority to determine costs. Provide all other piping, fittings, connections, hoses, etc. as required for temporary connection.

- .8 Where work is solely renovation of an existing building, Owner will pay natural gas utility charges when temporary heat source is existing building equipment. General Contractor to justify it before client agree to pay for it.
- .9 Be responsible for damage to work due to failure in providing adequate heat and protection during construction.
- .10 Prevent excessive use or waste of utilities, and minimize utility costs to Owner.
- .11 Maintain strict supervision of operation of temporary heating equipment to:
 - .1 Conform to applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.

1.7 Temporary Ventilation

- .1 Ventilate heated areas keep building free of exhaust or combustion gases.
- .2 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
- .3 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
- .4 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
- .5 Ventilate storage spaces containing hazardous or volatile materials.
- .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .7 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
 - .1 Conform to applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.
- .8 New and existing equipment and systems shall not be used for temporary ventilating.

1.8 Temporary Power and Light

- .1 The General Contractor will pay for temporary power during construction for temporary lighting and operating of power tools to maximum available supply. Site verify available supply, including voltages, amperages and phases. Unless otherwise ascertained or verified. Do not interrupt occupants' use of power when using power for construction purposes.
- .2 Provide temporary connections to existing supply points, and pay all costs for installation, maintenance and removal. Make connections in accordance with Electrical Safety Code.
- .3 Provide and maintain temporary lighting throughout project. Level of illumination on all floors and stairs shall not be less than 15 foot-candles (162 Lx).
- .4 Do not use electricity to provide temporary construction heating except with prior permission of Owner.

1.9 Temporary Telephone

- .1 Maintain telephone services for own use and use of Consultant and Owner.
- .2 Telephone service shall be separate from Owner's existing telephone service.

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- .3 Telephone service shall be complete with answering machine or voice mail messaging system. Cell phone system acceptable for projects with a Contract Price of less than \$300,000. For projects with a Contract Price of \$300,000 or more, provide telephone and facsimile machine in site office.
 - .4 Facsimile machine not required for projects with a Contract Price of less than \$300,000.

1.10 Fire Protection

- .1 Provide and maintain temporary fire protection equipment during performance of work required by governing codes, regulations and bylaws and by Owner's requirements.
- .2 Open and burning rubbish are not permitted on site.
- .3 General Contractor to ensure Life Safety Systems is in operation at all times

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

End of Section

- 1.0 GENERAL**
- .1 **Related Work**
.1 Hoarding and Protection due to Excavation, included in this Section.
- .2 **Shop Drawings**
.1 Indicate & describe in detail complete perimeter hoarding and side walk protection. Include all means of access/vehicular entrances.
.2 Provide Shop Drawings to and obtain from, approval from both the Consultant and the authorities having jurisdiction. Make all revisions as required by these authorities at no additional cost to the Owner.
- .3 **Permits and Fees**
.1 Apply for, obtain and pay for all necessary permits required by authorities having jurisdiction for the Work of this Section.
- .4 **By-laws**
.1 Comply with the By-laws of the City of Kitchener, and all others having jurisdiction over the Work of this Section including the Occupational Health and Safety Act and Regulations for Construction Projects
- 2.0 PRODUCTS**
- .1 **Materials – For Internal Barriers**
.1 Plywood 13 mm minimum thickness Douglas Fir exterior grade plywood "B" or better for paint finish.
.2 Structural Lumber: Rafters, posts, planking and bracing, N.L.G.A. No. 2 grade minimum.
.3 Waterproof Membrane: "Bituthene" Regular by W.R. Grace Materials Ltd., or approved alternative.
.4 Exterior alkyd paint to approved manufacturer.
.5 Interior fire retardant paint to approved manufacturer.
.6 Steel Studs: 0.55 mm thick, wipe coated galvanized, having knurled flanges 32 mm wide with edges doubled back at least 4.8 mm, with girts as required.
.7 Gypsum Board: To meet specified requirements of CAN/CSA-A82.27-M91; **fire rated board classified for hazard by ULC and labelled as such.**
- .2 **Chain-Link Fencing: For Exterior Site Enclosures**
.1 Galvanized Link Fabric: 50mm mesh, No. 9 gauge woven steel wire, zinc coated after weaving, to meet specified requirements of ASTM A392.
.2 Tube: 90mm diameter for end posts, 45mm for top rail, 60mm for line posts, standard, butt welded steel, galvanized, Schedule 40, to meet specified requirements of ASTM A120. Hollow metal structural steel tubing with minimum wall thickness of 0.100" and meeting specified requirements of CSA G40.21, Grade 50W.
.3 Tension Wire: No. 6 gauge single strand, finished to match fabric.
.4 Fabric Bands: Galvanized steel to fit tubing.
.5 Rail Fittings: Galvanized steel for caps, top tails guides.
.6 Galvanizing: Galvanize fittings, accessories and steel tube by hot dip method after fabrication to meet specified requirements of CSA Standard G164.

- .7 Approved manufacturers: Frost Fencing, Lundy Steel Fencing, Donald Greening or other approved alternate. Materials need not be new however, they must be able to remain in place and perform as required for the duration of the Project.
- .8 Fence height: 1830mm high unless noted otherwise.
- .9 **Commercially available temporary construction fencing may be approved at the discretion of the architect.**

3.0 EXECUTION

- .1 **Fabrication and Installation**
 - .1 **Hoarding**
 - .1 Install hoarding, fencing and sidewalk protection to the exterior of the building in accordance with approved Shop Drawings and By-laws of the City of Sarnia, and in accordance with documents.
 - .2 Provide posts, planking and plywood.
 - .3 Provide pedestrian and vehicular entrances as required, complete with swing or sliding gates, screened openings and all necessary hardware including locks.
 - .4 Paint complete hoarding in colour selected by Consultant.
 - .5 Maintain hoarding in good condition at all times.
 - .6 Repair any hoarding removed or damaged, to satisfaction of the Consultant and authorities.
 - .7 Wash all hoarding at least every two months.
 - .8 Remove hoarding and fencing from site only when authorized by the Consultant.
 - .2 **Barrier**
 - .1 Install barrier within the existing building to separate a work area from the remainder of the building.
 - .2 Barrier shall be erected such that it is self-supporting and braced on work area side.
 - .3 Erect a barrier of one hour fire rated drywall construction and to meet the requirements of Section 09250 and ULC Design No.W408 or W409
 - .4 Barrier shall not allow for the passage of airborne dust.
 - .5 Maintain minimum clearance for exits and access to exits.
 - .6 Relocate, temporarily any existing life safety devices which may become hidden or obscure due to the erection of barrier.
 - .7 Maintain barriers in good stable condition at all times.
 - .3 **Chain Link Fencing**
 - .1 Posts shall be spaced at 3000mm on centre maximum and shall be driven into the ground a

minimum of 1200mm deep.

- .2 Install at 40mm above grade, a single strand of tension wire with turnbuckles at each end.
- .3 Install at top of fabric, a 45mm diameter top rail with appropriate caps and holders.
- .4 Install fabric under tension under anchor to the posts, top rail and bottom tension wire at 450mm on centre.
- .5 At end post, attach fabric and 6mm x 19mm tension bands at 300mm on centre.
- .6 Provide a 45mm diameter brace between end posts at mid height.
- .7 At completion of project, completely remove temporary fencing and patch all disturbed areas to match existing.
- .8 All fencing and components will remain the property of the Contractor.

.2 **Exception**

- .1 Temporary/movable perimeter fencing barriers for site work is may be approved by the consultant where construction activities require staged construction perimeters.
- .2 Where permanent hoarding is not specifically indicated, provide safety fencing at perimeter of property adjacent of streets and adjacent residential properties, separating public access areas from the work site, where no other barrier is present.

End of Section

PART ONE - GENERAL

1.1 Related Sections

- .1 Section 01510 - Temporary Utilities.
- .2 Section 01560 - Temporary Controls.
- .3 Section 01710 - Cleaning
- .4 The requirements of this Section apply to all other Sections of the specifications.

1.2 Use of Owner's Temporary Facilities

- .1 Use of Owner's temporary facilities, such as portable ladders, work lights, extension cords, tools, etc. is prohibited. Contractor to provide all such items.

1.3 Installation and Removal

- .1 Provide temporary construction facilities in order to execute work expeditiously.
- .2 Maintain temporary facilities and plant in good operating order.
- .3 Remove from site all such work after use.

1.4 Scaffolding

- .1 Provide and maintain scaffolding, ramps, ladders, platforms, temporary stairs and other temporary access devices as required to complete the Work.

1.5 Hoisting

- .1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for use thereof.
- .2 Hoists and cranes shall be operated by qualified operator.

1.6 Elevators

- .1 Use of existing elevators to move personnel and materials prohibited without Owner's prior consent.
- .2 Where elevator use is permitted, provide temporary protection to elevator finishes. Make good all damage arising from use of elevators.

1.7 Site Storage/Loading

- .1 In accordance with CCDC 2 - 2008, GC 3.11.
- .2 Confine work and operations of employees to limits indicated by Contract documents or where no limits shown on drawings, to immediate area of work. Do not unreasonably encumber premises with products.
- .3 On-site storage of construction materials and equipment shall be kept to a minimum at all times. All materials being stored shall be protected by the Contractor from damage or loss and shall be repaired or replaced by the Contractor should damage or loss occur.
- .4 Do not load or permit to load any part of work with a weight or force that will endanger the work, or any part of existing structures, components or elements.
- .5 Do not store goods and materials within existing buildings except with Owner's prior permission. Materials are to be stored in a location and manner to cause the least interference with work activities, pedestrian or vehicular traffic.
- .6 Where storage is not permitted within existing buildings, provide lockable sheds and trailers to store goods and materials. Pay parking costs associated with storage trailers.
- .7 Determine with the Owner those locations that are suitable for receiving and storage of materials and equipment.
- .8 All materials and equipment shall be kept in a secure area, at contractor's expense, or removed from the job site when work is not actually in progress.

1.8 Construction Parking

- .1 Owner's available parking on Site. GC to coordinate with owner
- .2 Owner's requirements take precedence over Contractor's use of site.

1.9 Security

- .1 For unoccupied buildings, ensure that buildings are maintained locked at all times, except when doors are unlocked and continuously monitored by Contractor.
- .2 For occupied buildings, cooperate with Owner's schedule of unlocking and locking. Maintain locking schedule unless otherwise directed by Owner. Continuously monitor all doors unlocked at periods when Owner would normally maintain locked doors.
- .3 Comply with Owner's security requirements. Coordinate with owner signing out security key FOBs and goldbox key. Pay the refundable deposit
- .4 Refer also to other sections for security provisions during periods when building systems (e.g., fire alarm) are out of service.
- .5 Comply with Owner's directives regarding security of existing buildings.
- .6 See also other Sections, in particular Section 01560 Temporary Controls.

1.10 Offices

- .1 Provide and maintain in clean condition during progress of work, adequately lighted, heated and ventilated temporary Contractor's office with space for filing and layout of Contract Documents and Contractor's normal site office staff. At Owner's discretion, portions of existing building may be used for these purposes.
- .2 Provide adequate required aid facilities.
- .3 Subcontractors may provide their own offices as necessary. Direct location of these offices.

1.11 Equipment, Tool and Materials Storage

- .1 Materials may be stored in building subject to other requirements regarding overloading structure and Owner's ongoing use.
- .2 Where materials cannot be stored in building, provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .3 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.
- .4 Any damage to the site or building due storage material to be repaired at Contractor's expenses

1.12 Waste Disposal Containers and Services

- .1 Provide for garbage chutes, on-site debris collection and disposal equipment, and services needed to dispose of all debris. Do not use Owner's waste containers for disposal of debris arising from work of this Contract. Provide and pay for dedicated waste disposal for work of this Contract.

1.13 Construction Sign

- .1 Generally, for interior projects and other work with a Contract Price up to \$300,000, the minimum sign requirements shall be:
 - .1 Provide within two (2) weeks of award of Contract, and prior to submitting first claim for payment, minimum 11" x 17" and maximum 24" x 36" sign(s), sufficient in number to fully alert building occupants and public of work, listing project title, Owner's project number, name of Owner's representative (Construction Co-ordinator) complete with telephone extension, Contractor's name, address and telephone number; sign background shall be white; letters for names minimum 0.75" high, black text. Paper signs accepted. At Contractor's discretion, subcontractors may be listed on the construction sign, space permitting. Sign shall be executed with exhibit lettering produced by a computer or professional sign manufacturer/painter.
 - .2 Maintain sign(s) as required to adequately advise members of the public of the Work, posting signs at each entrance to the work area. For example, this may require signs at each end of corridors in which work is occurring, at entrances to rooms in which is occurring, or on guards surrounding work area.
- .2 For all other work with a Contract Price of more than \$300,000 the minimum sign requirements shall be:

- .1 Provide within two (2) weeks of signing Contract, and prior to submitting first claim for payment, minimum 4' x 8' x 5/8" G1S plywood sign, complete with wood framing and supports, listing project title, Owner's project number, name of Owner's representative (Construction Co-ordinator) complete with telephone extension, consultant and contractor complete with name and address for all; sign background and rear face of sign shall be white; letters for names 1.25" high, black paint; typeface as respective corporate standard; provide logo for each firm listed, in corporate colour. Provide 1.25" vertical space between parties. Submit sign sketch for Consultant's approval before fabrication. At Contractor's discretion, subcontractors may be listed on the construction sign, space permitting. Sign shall be executed with exhibit lettering produced by a professional sign manufacturer/painter.
 - .2 Locate sign as directed by Consultant and with Owner's consent.
 - .3 Supplement sign in paragraph 1.12.2. with signs as 1.12.1 in occupied premises.
- .3 Maintain sign in good condition for duration of work. Clean periodically. Remove immediately after Substantial Performance of the Contract, or at Completion of Contract as defined in applicable lien legislation where there is no application for Substantial Performance of the Contract.
- .4 No other signs or advertisements, other than warning signs, or signs required by law, are permitted on site, without Owner's consent.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

End of Section

**CONSTRUCTION
SAFETY MEASURES**

- .1 Observe and enforce construction safety measures required by National Building Code 1990, Canadian Construction Safety Code 1977, Occupational Health and Safety Act 1980 and all latest amendments including the Regulations for Construction Projects, Ontario Building Code, Ontario Regulations 413/90 and all latest amendments, Workers' Compensation Board and municipal statutes and authorities.
- .2 In the event of conflict between provisions of above authorities the most stringent provision applies.
- .3 The General Contractor shall be designated the "Constructor", as defined by the Occupational Health and Safety Act. All Contractors on the Work site shall consider themselves as "employers" as defined by the Occupational Health and Safety Act.
- .4 Do not permit any work in the existing building which may be hazardous or harmful to the occupants of the existing building. All such work must be scheduled for times the existing building will be unoccupied. Such work will include, but not be limited to, hoisting of materials and equipment over normally occupied spaces; the rise of toxic solvents or adhesives, the rise of carbon monoxide or carbon dioxide fumes generated by fuel-fired appliances or equipment, etc.
- .5 Smoking in any part of the building or on any part of the Owner's property is prohibited.
- .6 The Contractor is to provide the Ministry of Labour with a "Notice of Project" and post conspicuously on site.
- .7 The contractor must complete the requirements of the Waterloo Regional District School Board.

**FIRE SAFETY
REQUIREMENTS**

- .1 Comply with requirements of standard for Building Construction Operations FCC no. 301 - June 1982, issued by Fire Commissioner of Canada. This standard may be viewed at Regional Engineer's office and copies may be obtained from the Ontario Fire Marshal's Office, Toronto.
- .2
- .3 Hot Work Permit
 - .1 General Contractor is expected to establish and enforce a "Hot Work" permit system for any and all work or temporary operation which involves open flames or which produces heat and/or sparks.
 - .2 It is the intent of the Hot Work Permit system to ensure authorization of "hot work" only under specific fire-safe conditions.
 - .3 Contractor Hot Work Information and Responsibilities
 - .1 The Owner has adopted the Factory Mutual System recommendation regarding "hot work" and are modified as follows.
 - .2 If hot work cannot be avoided, the Contractor is expected to follow the procedures which follow.
 - .3 The Contractor will be expected to appoint a Fire Safety Supervisor for this project who will be expected to enforce the procedure.
- .4 "Hot Work" Rules
 - .1 A "hot work" permit is required for any temporary operation involving open flame or producing sparks. This includes but shall not be limited to: brazing, grinding, soldering, pipe thawing, torch applied air barriers, waterproofing and roofing, and any welding.
 - .2 If there is a practical and safer way to do the job without hot work, then the alternative method shall be used.
 - .3 No "hot work" is permitted without authorization from the Contractor's appointed Fire Safety Supervisor, in the form of a signed "hot work" permit. This permit will be valid for a specified time frame only. After this time period, another permit

- .4 must be obtained before the "hot work" can continue.
Specific firefighting equipment and protection material will be required at the "hot work" site before any work can be started. The Contractor undertaking the "hot work" shall provide the firefighting equipment.
- .5 No "hot work" is permitted without a designated fire watch present. This role will be provided by the Fire Safety Supervisor. If unsafe conditions are observed by the Fire Safety Supervisor during the "hot work" operation, the work will be stopped until the hazard can be neutralized or eliminated.
- .6 The Contractor undertaking the "hot work" will verify that all the "hot work" equipment is in proper working order and in fire-safe condition. An inspection of the equipment will be completed by the Fire Safety Supervisor. Any unsafe equipment will be removed from the Owner's property.
- .7 Any Contractor's equipment or material that is to be stored in the facility overnight must be properly secured in an area designated by the Fire Safety Supervisor.
- .8 Violation of these rules will result in termination of the "hot work" and the Contractor's personnel will be escorted from the Owner's property.
- .9 The Owner will provide the permit form required for use to the Fire Safety Supervisor.

**FIRE SAFETY
REQUIREMENTS**

- .4 Procedure
 - .1 If it is necessary to do "hot work", an individual designated as Fire Safety Supervisor shall determine and identify the following information on a permit:
 - the location and the nature of the "hot work",
 - the exact name of the individual and the Contractor who will be doing the work,
 - and expiration date and time for the "hot work",
 - emergency notification procedures,
 - completed checklist on the permit.
 - .2 The Supervisor signs and issues the permit.
 - .3 The Contractor shall hang the permit in a visible place in the work area.
 - .4 A fire watch is to be put in place during the "hot work" in order to maintain a constant vigil for stray sparks, ignition or other fire hazards and is ready to provide initial fire response.
 - .5 Once the work is done, the fire watch is to remain in the area for one hour after the work has been completed and shall carefully inspect the area including the floors above and below and the adjacent rooms. Once the inspection has been completed, the fire watch signs the permit.
 - .6 The "hot work" area shall be further monitored for an additional 3 hours after the work has been completed.
 - .7 When the monitoring period has ended, the fire safety supervisor shall conduct a final inspection, sign the permit, remove it and file as a record of the work.
 - .8 Authorization of the "hot work" permit shall only take place once the following procedures have been reviewed by the Fire Safety Supervisor and the Contractor and these same precautions put in place:
 - .1 An area of 11 meters around the "hot work" must be entirely clear of hazards:
 - flammable liquids, dust, lint and oily deposits are

- removed from the work area,
 - explosive atmosphere in area is eliminated,
 - floors are swept clean,
 - combustible floors are wet down, covered with damp sand or fire-resistive sheeting,
 - all combustible materials whether on floor or walls are removed or covered by fire-resistant tarps protected by metal skids,
 - all wall and floor openings are covered with non-combustible materials including the closing of all doors and windows.
- .2 The area has been provided with operable sprinklers, hose stream and fire extinguishers.
- .3 The "hot work" equipment is in proper working order.
- .4 "Hot work" shall be prohibited when an area cannot be made safe:
 - where processes involving flammable liquids, gases and dusts cannot be shut down and made safe,
 - where lint conditions are severe beyond correction,
 - on partitions, walls, ceilings or roofs with combustible coverings,
 - on partitions of combustible, sandwich-type construction,
 - on pipe or other metals that can conduct enough heat to ignite combustible materials adjacent to the pipe,
 - where there are large amounts of combustibles that are impractical to move or cover such as roll paper, cotton or jute.

FALSEWORK

- .1 Design and construct falsework in accordance with CSA S269.1-1975.

SCAFFOLD

- .1 Design and construct scaffolding in accordance with CAN/CSA S269.2-M87.

VISITORS

- .1 Provide hard hats and safety shoes for use by all visitors.
- .2 The Contractor must control all personnel visiting the site and the work. Representatives of the Owner shall be limited to personnel from the Facilities Services Department. Others who wish to visit the site must have prior approval from the Owner via the Architect. The Contractor must maintain a log book of all visitors to the site. Record dates, times, and names of all visitors.

End of Section

PART ONE – GENERAL

1.1 Related Sections

- .1 Refer to CCDC-2
- .2 Section 01710 Cleaning
- .3 The requirements of this Section apply to all other Sections of the specifications.

1.2 Progressive Cleaning

- .1 Refer to Section 01710 Cleaning

1.3 Review/Take-over Procedures

- .1 Review/Takeover Procedures
 - .1 In accordance with OAA/OGCA Document 100, latest edition, except where specified otherwise.
 - .2 In OAA/OGCA Document 100, where the term "Architect" is used, substitute the term "Consultant", and where the term "inspection" is used in relation to the Consultant's assessment of the Work, substitute the term "review".
- .2 Arrange and pay for review by local authorities to obtain permission to occupy/occupancy permit (where applicable) prior to requesting Substantial Performance.
- .3 Refer also to Section 01025 Changes, Payments and Certificates for requirements related to applications for certificates and for applications for payment.

1.4 Project Closeout

- .1 Final Cleaning
 - .1 Refer to CCDC 2 – 2020, GC 12.1 and Section 01710 Cleaning.
- .2 Systems Demonstration
 - .1 Prior to final review, demonstrate operation of each system to Owner. Ten (10) days prior to demonstration, provide an agenda for demonstration and a written description of operating procedure and maintenance, including schematics and diagrams for operation and maintenance of building services equipment and systems being demonstrated.
 - .2 Responsible personnel from Contractor, Subcontractors and equipment suppliers whose work is being demonstrated shall be present as required at these demonstrations.
 - .3 Instruct personnel in operation, adjustment, and maintenance of equipment and systems, using provided operation and maintenance data as basis for instruction.
- .3 Operating and Maintenance Manuals
 - .1 Collect reviewed submittals and assemble documents executed by Subcontractors, suppliers, and manufacturers.
 - .2 Minimum two weeks prior to Substantial Performance of the Work, submit to Consultant, Two (2) copies and 1 digital (USB stick) of operating and maintenance manuals. Where Substantial Performance of the Work is not certified, and the Contract proceeds directly to Completion of Contract as defined in applicable lien legislation, submission shall be minimum two (2) weeks prior to Completion of Contract
 - .3 Bind contents in a three-ring, hard covered, black plastic jacketed binder, with labelling pocket on spine and with 'D' type rings. Size for 8-1/2" x 11" size paper, enclose title sheet labelled "Operating and Maintenance Data Manual", project name, date and list of contents. Organize contents into applicable sections of work to parallel project specification breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.
 - .4 Include following information as applicable, plus data specified elsewhere: operational information on equipment, cleaning and lubrication schedules, filters, overhaul and adjustment schedules and similar maintenance information; copy of building permit; copy of final inspection certificate by Electrical Safety Authority; copy of fire alarm verification certificate; copy of sprinkler test verification certificate; copy of certificates issued by other utilities; copies of field tests; copies of all inspection and testing reports; maintenance instructions for finished surface and materials; copy of hardware and paint schedules; description, operation and maintenance instructions for equipment and systems, including complete list of equipment and parts list; indicate nameplate information such as make, size, capacity, serial number; names, addresses and phone numbers of Contractor, Subcontractors and Suppliers, including local source of supplies and replacement parts; manufacturer's product guarantees and warranties, executed in the name of the Owner, showing name and address of project and guaranty/warranty commencement date and duration of guaranty/warranty, and clear

indication of what is being guaranteed and what remedial action will be taken under guaranty/warranty; additional material used in project listed under various sections showing name of manufacturer and source of supply.

.5 For Mechanical and Electrical include: description of system; controls including diagrams; maintenance and testing schedule; method of operation for each piece of equipment, and list of equipment with replacement parts, parts number, suppliers, addresses, etc. Refer also to Division 15, Division 16 and Division 17 as applicable for particular requirements relevant to respective Division.

.6 Neatly type lists and notes. Use clear drawings, diagrams or manufacturers' literature.

.7 Each set of manuals shall include complete set of reviewed shop drawings and product data sheets, indicating corrections and changes made during fabrication and installation.

.4 Maintenance Materials and Spare Parts:

.1 Where supply of maintenance materials and spare parts are specified, deliver to Owner as follows:

.1 Use unbroken cartons, or if not supplied in cartons, they shall be strongly packaged. Supply maintenance materials and spare parts in quantities specified in individual specification sections.

.2 Provide only new materials as maintenance materials and spare parts, of the same manufacture, type and quality as incorporated into the Work.

.3 Store in locations directed, in a manner to prevent damage or deterioration.

.4 Clearly mark containers as to content.

.5 If applicable, give colour, room number, or area where material used.

.6 Obtain request of transmittal with corresponding receipt from Owner upon delivery of materials.

.5 Project Record Documents

.1 Accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by Consultant.

.2 Record locations of: concealed components of mechanical and electrical services; depths of various elements of foundations in relation to first floor, accurate location, depth, size and type of outside underground utilities; location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features or structure; field changes of dimension and detail; changes made by Change Order, Change Directive or Site Instruction.

.3 At completion of project and prior to final review, neatly transfer notations to second set of drawings and specifications and submit both sets to Consultant

.4 Record changes using a different colour of felt tip pen markers for each major system.

.5 Mark up specifications to record actual construction, including manufacturer, trade name, and catalogue number of each item actually installed, particularly alternative, optional and substitute items.

.6 Identify drawings and specifications as "Project Record Copy". Maintain in new condition and make available for review on site by Consultant.

.7 Minimum 2 weeks prior to application for final payment, submit record documents to Consultant.

.8 General Contractor to provide Two (2) copies and 1 digital (USB stick) of any as-built drawings, including Architectural, Structural, Civil, Mechanical and Electrical.

.6 Financial Close-Out

.1 Execute transition of Performance and Labour and Materials Payment Bond, if any, to warranty period requirements.

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

.3 Consultant will issue a final change order reflecting approved adjustments to Contract Price not previously made.

PART 2 - PRODUCTS Not Used.
PART 3 - EXECUTION Not Used.

End of Section

PART 1 - GENERAL

1.1. General Procedures

- 1.1.1. Conduct cleaning and disposal operations to comply with local ordinances, anti-pollution laws, and recommendations of Construction Safety Association.
- 1.1.2. Store volatile wastes in covered metal containers, and remove from premises daily.
- 1.1.3. Prevent accumulation of wastes which create hazardous conditions.
- 1.1.4. Provide adequate ventilation during use of volatile or noxious substances.
- 1.1.5. Provide instructions designating proper methods and materials to be used in final cleaning of Work.

1.2. Material

- 1.2.1. Use only cleaning materials recommended by the manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

1.3. Cleaning During Construction

- 1.3.1. Maintain project grounds, public streets, and public sidewalks free from accumulations of waste materials and rubbish. Do not allow rubbish to accumulate in work under construction or on low roofs.
- 1.3.2. Provide on-site containers for collection of waste materials and rubbish.
- 1.3.3. Vacuum clean interior building areas when ready to receive finish painting, and continue vacuum cleaning on an as-needed basis until building is ready for substantial completion or occupancy.
- 1.3.4. Schedule cleaning operations so that dust or other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
- 1.3.5. Cleaning operations shall include those areas used for temporary site access or used on a temporary basis to facilitate the Work.

1.4. Final Cleaning

- 1.4.1. In addition to the progressive removal of rubbish from the entire building and Site, and leaving the building's broom clean, the Contractor shall perform the following work before final acceptance:
 - 1.4.1.1 Clean glass both sides, and replace broken glass.
 - 1.4.1.2 Remove stains, spots, marks and dirt from decorated work, electrical and mechanical fixtures, casework and the like. Remove protective materials.
 - 1.4.1.3 Clean hardware, aluminum, stainless steel and the like.
 - 1.4.1.4 Remove paint spots and smears from all surfaces.
 - 1.4.1.5 Vacuum clean all building interiors affected in construction operations.
 - 1.4.1.6 Broom clean paved surfaces.
 - 1.4.1.7 Remove debris and materials from roof areas.

- 1.4.1.8 Clean all exterior walkways adjacent to the site.
- 1.4.1.9 Replace heating, ventilating and air conditioning filters if units were operated during construction.
- 1.4.1.10 Thoroughly clean floor finishes ready for seal and wax by owner.
- 1.4.1.11 Leave premises ready for immediate occupation without further cleaning, all to the Consultant's approval.

1.5. Operations and Maintenance Data

- 1.5.1. Each trade shall supply to the Contractor for inclusion into the Project Data Book, a written set of cleaning instructions.

End of Section

Part 1 General

1.1. SECTION INCLUDES

- .1 As-built, samples, and specifications
- .2 Equipment and systems
- .3 Product data, materials and finishes, and related information.
- .4 Operation and maintenance data
- .5 Spare parts, special tools, and maintenance materials
- .6 Warranties and bonds
- .7 Final site survey

1.2. RELATED SECTIONS

- .1 Section 01 31 10 – Project Coordination

1.3. SUBMISSION

- .1 Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- .2 Two weeks prior to Substantial Performance of the Work, submit to the Consultant one copy of operating and maintenance manuals.
- .3 Ensure spare parts, maintenance materials and special tools provided are new, undamaged, or defective, and of same quality and manufacture as products provided in Work.
- .4 If requested, furnish evidence as to type, source and quality of products provided.
- .5 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .6 Pay costs of transportation.
- .7 Provide two hard copies (three ring binder) + soft copy in UDB drive of final manuals incorporating Consultant's comments.
- .8 An amount of 1.5% of the contract (completion retention) will be withheld from the final progress payment until complete submittals required in this Section are received and accepted by the Consultant. For M&E retention refer to M&E specs in the drawings

1.4. FORMAT

- .1 Organize data in the form of an instructional manual.
- .2 Binders: Vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets
- .3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.
- .4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Arrange content by Section numbers and sequence of Table of Contents.

- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: Manufacturer's printed data, or typewritten data
- .8 Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .9 Provide AutoCAD files of all in .dwg format on USB drive discs.
- .10 Provide all Close-out manuals (Site Meeting Minutes, Bulletins, Change Directives, Change Orders, Site Instructions, As-Built, etc.) on flash drive.

1.5. CONTENTS – EACH VOLUME

- .1 Table of Contents: Provide title of project:
 - .1 Date of submission
 - .2 Names, addresses and telephone numbers of Consultant and Contractor with name of responsible parties.
 - .3 Schedule of products and systems indexed to content of volume.
- .2 For each product or system:
 - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- .6 Training: Schedule training of Owner's representatives on all systems, at the Owner's convenience.

1.6. AS-BUILT DRAWINGS AND SAMPLES

- .1 In addition to requirements in General Conditions, maintain at the site for Consultant one record copy of:
 - .1 Contract Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Change Orders and other modifications to the Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records
 - .7 Inspection certificates
 - .8 Manufacturer's certificates
- .2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.

- .4 Maintain record documents in clean, dry, and legible condition. DO not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Consultant.
- .6 Upon completion of project, provide AutoCAD files of all as-built drawings in .dwg format on USAB drive.

1.7. RECORD ACTUAL SITE CONDITIONS

- .1 Record information on set of drawings, provided by Consultant.
- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail
 - .5 Changes made by Change Orders.
 - .6 Details not on original Contract Drawings
 - .7 References to related Shop Drawings and modifications
- .5 Specifications: Legibly mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .6 Other Documents: Maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

1.8. EQUIPMENT AND SYSTEMS

- .1 Each Item of Equipment and Each System: Include description of unit or system and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- .2 Panel Board Circuit Directories: Provide electrical service characteristics, controls, and communications.
- .3 Include installed colour-coded wiring diagrams.
- .4 Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and any special operating instructions.
- .5 Maintenance Requirements: Include routine procedures and guide for troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

- .6 Provide servicing and lubrication schedule, and list of lubricants required.
- .7 Include manufacturer's printed operation and maintenance instructions.
- .8 Include sequence of operation and maintenance instructions.
- .9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- .10 Provide installed control diagrams by controls manufacturer.
- .11 Provide Contractor's coordination drawings, with installed colour-coded piping diagrams.
- .12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- .13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- .14 Include test and balancing reports.
- .15 Additional Requirements: As specified in individual specification sections.

1.9. MATERIALS AND FINISHES

- .1 Building Products, Applied Materials, and Finishes: Include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and Weather-exposed Products: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional Requirements: As specified in individual specifications sections.

1.10. SPARE PARTS

- .1 Provide spare parts, in quantities specified in individual specification sections.
- .2 Provide items of same manufacture and quality as items in Work.
- .3 Deliver to site, place, and store.
- .4 Receive and catalogue all items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.
- .5 Obtain receipt from Owner for delivered products and submit prior to final payment.

1.11. MAINTENANCE MATERIALS

- .1 Provide maintenance and extra materials, in quantities specified in individual specification sections.
- .2 Provide items of same manufacture and quality as items of Work.
- .3 Deliver to site, place, and store.
- .4 Receive and catalogue all items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.
- .5 Obtain receipt from Owner for delivered products and submit prior to final payment.

1.12. SPECIAL TOOLS

- .1 Provide special tools, in quantities specified in individual specification section.
- .2 Provide items with tags identifying their associated function and equipment.
- .3 Deliver to site location as directed, place and store.
- .4 Receive and catalogue all items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.

1.13. STORAGE, HANDLING AND PROTECTION

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and to satisfaction of Owner

1.14. WARRANTIES AND BONDS

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible Principal.
- .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, withing ten days after completion of the applicable item of work.
- .4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
- .5 Verify that documents are in proper form, contain full information, and are notarized.
- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- .1 Comply with Division One as applicable.
- .2 Restrictions on noise, dust, interference, obstructions, access, hours of work: Section 01000.
- .3 Temporary facilities, public safety, weather and dust barriers or partitions: Section 01005 General Instructions, Section 01500 Temporary Facilities.
- .4 Work described in Division 15000 and 16000.
- .5 The requirements of this Section apply to all other Sections of the specifications.

1.2 References

- .1 CSA S350-M1980, Code of Practice of Safety in Demolition of Structures.

1.3 Existing Conditions

- .1 Examine areas to be selectively demolished or dismantled, and confirm that their condition is substantially the same as the date on which bids closed, and as indicated in the Contract Documents. Advise the Consultant of any conditions that vary from this.
- .2 Be familiar with structural system of the building, and the elements being demolished or dismantled.
- .3 Inspect site and verify with Consultant items designated for removal and items to remain. Protect existing items designated to remain and materials designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Consultant and at no cost to Owner.
- .4 Demolition of spray or trowel-applied asbestos can be hazardous to health. Should material resembling spray or trowel-applied asbestos be encountered in the course of demolition work stop work and notify the Consultant immediately. Do not proceed until written instructions have been received from the Consultant.
- .5 Demolition of applied asbestos materials can be hazardous to health. Should material resembling asbestos be encountered in the course of demolition work, stop work and notify the Consultant immediately. Do not proceed until written instructions have been received from the Consultant.

1.4 Extent of Demolition

- .1 Drawings showing extent of selective demolition are intended to be schematic and do not indicate full extent of all selective demolition work. Examine all Documents to determine complete scope of selective demolition, removals and re-instatement, repair and make good required to complete the Work.

1.5 Protection

- .1 Prevent movement, settlement or damage of existing structures, services, walks, paving, trees, landscaping, adjacent grades and parts of existing building to remain.
- .2 Provide bracing, shoring and underpinning as required. Make good damage caused by demolition.
- .3 Take precautions to support affected structures and, if safety of building being demolished appears to be endangered, cease operations and notify Consultant.
- .4 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.

- .5 Provide bracing, shoring, or needling as required to support portions of existing structure or building to remain, where demolition or dismantling, cutting out, or partial removal of any elements, as specified in other Sections degrades the structural integrity of the structure to a point where it will not support all imposed loads. All bracing, shoring, and needling shall be designed to cause no damage to existing surfaces upon which the bracing, shoring or needling bears.
- .6 Shoring, bracing, or needling of structural items shall be designed by a Professional Engineer registered in the Province of Ontario, and drawings shall bear the seal of this Engineer. Submit drawings of shoring, bracing, or needling to the Consultant prior to installing.
- .7 Maintain temporary supports in place until permanent structure is able to fully support all imposed loads.
- .8 Make good damage to existing elements to remain caused by demolition.
- .9 Prevent debris from blocking surface drainage system, and obstructing mechanical and electrical systems which must remain in operation.
- .10 Protect salvaged elements from damage. Provide protective coverings and storage.

PART 2 – PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 Work

- .1 Dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction and in accordance with Section 01000 of the Specifications.
- .2 Remove materials and equipment as indicated in the documents. Salvage, and store, protect, and reinstall to suit execution of other parts of the Work as indicated in the documents.
- .3 Items for Demolition: Refer to drawings for specific details.
 - .1 Portions of existing terrazzo floor, VCT and sheet flooring.
 - .2 Door openings in walls, bulkheads, overhead lintels, portions of masonry walls.
 - .3 Miscellaneous plumbing, mechanical and electrical items.
 - .4 All other elements required to allow the Work to be completed, whether specifically indicated, or not.
- .4 Carefully dismantle items containing materials for salvage and stockpile salvaged materials on site at locations as indicated or as directed by Consultant.
- .5 Temporarily re-route service lines entering building or on the building in accordance with authorities having jurisdiction, and to suit the Work of this Contract. Post warning signs on electrical lines and equipment that must remain energized during period of work.
- .6 Do not disrupt active or energized utilities designated to remain undisturbed, without Consultant's consent.

.7 Reference the demolition of specific Mechanical and Electrical as documented in drawings and Specifications.

3.2 Safety Code

.1 Comply with all applicable legislation.

3.3 Dismantling and Demolition

.1 Do all work in a manner to prevent endangering safety of building or occupants.

.2 Selectively dismantle parts of the building as required to suit installation of new work and remedial work. Salvage and reinstall elements unless otherwise indicated. Make good disturbed surfaces.

.3 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.

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

.5 At end of each day's work, leave work in safe condition so that no part is in danger of toppling or falling. Protect interiors of parts not to be demolished from exterior elements at all times.

.6 Demolish to minimize dusting. Keep materials wetted as directed by Consultant.

.7 Do not throw or allow debris to fall uncontrolled from heights. Use chutes and other controls.

3.4 Restoration

.1 Upon completion of work, remove debris, trim surfaces and leave work site clean.

.2 Reinstate areas and existing works outside areas of demolition to conditions that existed prior to commencement of work.

End of Section

Part 1 General

1.1. DESCRIPTION

.1 General Instructions:

- .1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

.2 Related Work:

- Section 02510 - Hot Mix Asphalt Paving and Granular Bases

1.2. REQUIREMENTS OF REGULATORY AGENCIES

- .1 Ontario Building Code, as currently amended.
- .2 Occupational Health & Safety Act and Regulations for Construction Projects, 1980; local bylaws and all other regulations of the Ontario Ministry of Labour relating to the Work of this Section.
- .3 O.P.S.S. 1001 and O.P.S.S. 1010, "Material Specification for Aggregates – General" and "Granular A, B, M and Select" respectively.

1.3. DRAWINGS

- .1 Examine the drawings forming a part of this Contract and conform to the requirements of all such drawings.

1.4. COORDINATION AND COOPERATION

- .1 Coordinate the Work of this Section with the Work of all other Sections in accordance with the General Conditions.

1.5. EXAMINATION

- .1 Examine the site for the purpose of determining the conditions prevailing there, which may affect the Work of this Section, including available access to the site, site contours, etc.
- .2 Determine the nature and location of all existing services below and above ground, which may affect the Work of this Section.

1.6. UNIT PRICES

- .1 Provide where and if indicated, in the Tender Form, unit prices for the addition/deletion of:

- .1 Bulk excavation – per cubic metre
 - .2 Footing excavation by machine – per cubic metre
 - .3 Hand excavation – per cubic metre
 - .4 Compacted Class 'C' material – per cubic metre
 - .5 Compacted Class 'A' material – per cubic metre
- .2 Include all labour, equipment, materials, overhead, profit and applicable taxes in the unit prices so that each unit price represents the total cost for the completion of the Work including hauling, where applicable.

Part 2 Products

2.1. MATERIALS

- .1 Concrete: In accordance with Division 03 of this specification as follows:
 - .1 Mud slabs, lean concrete fill – $f_c = 15$ MPa., slump = 125 mm
- .2 Reinforcing Steel: In accordance with the requirements of Division 03.
- .3 Imported Granular Fills – Class 'A' and Class 'B': in accordance with current O.P.S.S. Form 1010 for Granular 'A' and Granular 'B'.
- .4 Granular materials shall be free draining and not susceptible to frost action as determined by current M.T.C. Standards.
- .5 Submit representative samples of each class of proposed material to the inspection company for testing and approval for use on this Project. Mark samples as to source of supply, including pit locations.
- .6 Supply only those materials approved for use on this Project by the inspection company.
- .7 Grout: Sand, cement dry pack mixture.

2.2. FABRICATION

- .1 Mixing, transporting, placing, curing and protection of concrete in accordance with Division 03.

2.3. SOURCE QUALITY CONTROL

- .1 All materials may be subject to test and inspection by a testing and inspection company appointed by the Architect.
- .2 Cost of testing will be paid from the Testing and Inspection Cash Allowance, in accordance with Division 01.
- .3 Provide access to pits or quarries for the personnel of the inspection company.

- .4 Provide representative samples of materials as may be required by the inspection company at no additional cost to the Owner.

Part 3 Execution

3.1. EXCAVATION

- .1 Excavate and remove all existing fill from within the building's general excavation.
- .2 Found footings on undisturbed soil at the elevations shown on the drawings but not less than 1200 below final finished grade for exterior footings, not 500 below the till surface for all.
- .3 Footings are designed for a maximum net safe allowable bearing pressure of 150 KPa (3000 psf) under service loads.
- .4 Notify the Architect of any unusual soil conditions encountered during excavation so that corrective action may be taken, if necessary.
- .5 Where excavations for footings are accidentally over-excavated, fill the over-excavated portion with lean concrete fill to the founding elevation shown on the plans, at no additional cost to the Owner.
- .6 Provide excavations for footings of sufficient width for the construction and inspection of formwork and the satisfactory, safe execution of the Work. In general, provide not less than 400 mm clear of all construction.
- .7 Trim the bottom of all excavations to elevations as shown on the drawings or approved by the Engineer.
- .8 Step footings from one elevation to another as shown on the drawings or approved by the Engineer.
- .9 Install footings at lower elevations prior to installing footings at higher elevations to ensure that bearing capacity of upper levels is not adversely disturbed.
- .10 Notify the testing company when each phase of the excavation is completed so that bearing surfaces may be inspected.

3.2. PUMPING AND DEWATERING

- .1 Keep all excavations, pits and trenches free from accumulations of water from all sources, including ground water, rain and surface water at all times by pumping or other methods satisfactory to the Engineer.
- .2 Conduct dewatering operations, when required, in such a manner as to avoid damage to work under construction or existing adjacent structures and so as not to weaken the strength of bearing soils or to endanger the stability of banks or slopes.

3.3. PROTECTION OF EXCAVATIONS

- .1 Protect all excavations against penetration of frost and damage from moisture before, during and after the placement of concrete.
- .2 Protect adjacent construction and underground services from damage resulting from the excavation operations and from frost penetrations.
- .3 If footings cannot be completed on the day of excavation, place a 75 thick concrete mud slab to protect the exposed soils. Note that this may require a slightly deeper excavation to maintain specified footing dimensions.

3.4. BACKFILL AND COMPACTION (WITHIN AND ADJACENT TO STRUCTURES)

- .1 After the construction of footings, pits, walls or piers and the approval of the Work by the Architect, backfill and compact with granular Class 'B' material to the elevations shown on the drawings. Backfill on both sides of perimeter foundation walls to be granular.
- .2 Backfill and compact in equal lifts on each side of walls below grade. Do not backfill and compact behind retaining walls until lower slab is placed and set.
- .3 Deposit and spread granular materials in uniform layers not exceeding 400 mm (loose measurement) in depth.
- .4 Compact all granular materials to not less than 98% of Standard Proctor Density, except as noted. Maintain optimum water content for proper compaction by the addition of water as required. Do not use frozen materials in the backfill.
- .5 Compact using approved vibratory plate tampers or vibratory rollers, except when working close to silt or other materials which may be adversely affected by vibration in which case, use approved non-vibratory rollers to avoid disturbance of the subgrade.
- .6 Do not compact adjacent to walls with earth on one side any closer than 2500 mm with heavy equipment. Use hand-controlled compaction equipment within this 2500 mm zone.

3.5. SUBFLOOR GRANULAR FILL

- .1 Prior to placing general area Class 'B' granular, remove all soft and loose materials, sub-excavate any soft spots and replace with compacted granular 'B'. Proof-roll sub-grade to 95% of Standard Proctor Density.
- .2 Place and compact Class 'B' granular to 98% Standard Proctor Density.
- .3 Provide a minimum of 200 of compacted Class 'A' under the slab-on-grade as shown on the drawings.
- .4 Compact Class 'A' granular using mechanical vibrating plate tampers to 100% of Standard Proctor Density.
- .5 Take care not to damage any underfloor mechanical systems.
- .6 Grade Class 'A' granular smooth and level ready for placing the vapour barrier.
- .7 Remove clay, silt, dirt and construction debris from Class 'A' granular and replace any contaminated material just before the vapour barrier is placed.

3.6. ROUGH GRADING

- .1 Rough grade all areas around the building in accordance with the site plan with due allowance for the existing and required grade shown, and as directed by the Architect.
- .2 Areas to receive sod or seeding shall be rough graded to an elevation 150 below finished grade.
- .3 For areas to receive paving or concrete slabs, refer elsewhere in this specification.
- .4 Slope ground so that water will be directed away from the building.
- .5 Rough graded areas shall be cleanly raked free of coarse material and left ready for final grade.

3.7. FIELD QUALITY CONTROL

- .1 All materials and workmanship shall be subject to test and inspection by a testing and inspection company appointed by the Architect.

- .2 The cost of testing except as noted, will be paid for from the Testing Allowance in accordance with the General Conditions.
- .3 Material or workmanship which fails to achieve the specified standards shall be recompacted or replaced as directed by the Engineer and additional tests made. The cost of such additional testing and the cost of remedial action shall be at no additional cost to the Owner.
- .4 The compaction tests are performed on behalf of the Owner to satisfy the Architect that the requirements of the Contract have been met. They are **not** intended as a substitute for the Contractor's quality control program.

3.8. CLEAN-UP

- .1 At the completion of the Work of this Section, remove from the site any excess materials, debris and equipment, **including stockpiled materials not required** for backfill, landscaping, road or parking lot construction.

END OF SECTION

Part 1 General

1.1. DESCRIPTION

.1 General Requirements:

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

1.2. TESTING

.1 Obtain Architect's approval of topsoil source.

.2 Test topsoil from source prior to stripping and stock piling, for NPK, Mg, soluble salt content organic matter and PH value.

.1 Use 23 mm diameter sampling tube or space and take 25 samples per hectare to full depth of topsoil at random across entire area to be stripped. Mix samples thoroughly before submitting for testing.

.2 Submit 0.5 Kg sample of topsoil to testing laboratory and indicate intended use, type of mulches to be applied, type of topsoil and quality of drainage. Prepare and ship sample according to provincial regulations.

.3 Determine required lime or Sulphur treatment to bring PH value of soil to 5.5 – 7.5 level.

.4 Submit two copies of soil analysis and recommendations for corrections to Architect.

.5 Inspection and testing of topsoil will be carried out by testing laboratory designated by Architect.

.6 The Owner will pay costs for testing. Refer to Section 01020.

1.3. SCHEDULING OF WORK

.1 Schedule placing of topsoil and finish grading to permit sodding operation within 2 days.

1.4. DELIVERY AND STORAGE

.1 Deliver and store fertilizer, lime Sulphur in waterproof bags showing weight, analysis and name of manufacturer.

Part 2 Products

2.1. MATERIALS

- .1 Topsoil: Original topsoil stock-piled on site. Material subject to analysis by testing laboratory, Agri-Lab in Guelph, at contractor's expense. Soil analysis must be submitted with bid, otherwise all topsoil must be imported.
- .2 Imported Topsoil: Friable, neither heavy clay nor of very light sandy nature, containing a minimum of 4% organic matter for clay loams and 2% for sandy loams to a maximum of 20% volume. Free from subsoil, roots, grass, weeds, toxic materials, stones, foreign objects and with an acidity range, PH of 5.5 to 7.5. Topsoil containing crabgrass, couchgrass, or noxious weeds is not acceptable.
- .3 Peatmoss: Decomposed plant material, fairly elastic and homogeneous, free of decomposed colloidal residue, wood, Sulphur and iron containing a minimum of 60% organic matter by weight and moisture content not exceeding 15%. Shredded particle may not exceed 6 mm in size. Minimum PH value of peat 4.5, maximum 6.0.
- .4 Fertilizer:
 - .1 Complete commercial synthetic slow release fertilizer with maximum 35% water soluble nitrogen.
 - .2 Formulation ratio: 1:4:4
- .5 Lime:
 - .1 Ground agricultural limestone containing a minimum 85% of total carbonates.
 - .2 Gradation Requirements: Percentage passing by weight, 90% passing 1.0 mm sieve, 50% passing 1.0 mm sieve, 50% passing 125 micrometer sieve.
 - .3 Use lime as indicated by acidity analysis of topsoil to bring PH to required level.
- .6 Bonemeal: Raw Bonemeal, finely ground with a minimum analysis of 3% nitrogen and 20% phosphoric acid.
- .7 Sand: Hard, granular sharp sand to CSA A82. 56-M1976, well-washed and free of impurities, chemical or organic matter.
- .8 Sulphur: Finely crushed agricultural elemental Sulphur, free of impurities.

2.2. SOIL MIXTURE AND PLANTING

- .1 Planting Soil:
 - .1 For planting of trees, mix topsoil with 20% peatmoss loose by volume.
 - .2 Incorporate Bonemeal into planting soil at rate of 3 Kg per cubic metre of soil mixture.

Part 3 Execution

3.1. PREPARATION

- .1 Grade subgrade, eliminating uneven areas and low spots, ensuring positive drainage. Remove debris, roots, branches, stones in excess of 50 mm diameter and other deleterious materials. Remove subsoil that has been contaminated with oil, gasoline or calcium chloride. Dispose of removed materials as directed.
- .2 Cultivate entire area which is to receive topsoil to a depth of 100 mm. Repeat cultivation in those areas where equipment used for hauling and spreading has compacted subgrade.

3.2. SPREADING OF TOPSOIL

- .1 Do not spread topsoil until Architect has inspected and approved subgrade.
- .2 Spread topsoil with adequate moisture in uniform layers during dry weather over approved, dry, unfrozen subgrade, where sodding or planting is indicated.
- .3 Keep topsoil 15 mm below finished grade for sodded areas; elsewhere bring topsoil up to finished grade.
- .4 Apply topsoil to the following minimum depths: 135 mm for seeded areas and 450 mm for shrub beds.
- .5 Remove stones, roots, grass, weeds, construction materials, debris and foreign, non-organic objects from topsoil.
- .6 Manually spread topsoil.

3.3. SOIL AMENDMENTS

- .1 Apply lime, Sulphur or other soil amendment at rate determined from soil sample test.

- .2 Mix soil amendment well into full depth of topsoil by cultivating or roto-tilling prior to application of fertilizer.

3.4. APPLICATION OF FERTILIZER

- .1 Apply fertilizer at least one week after lime application and at least 6 (six) days before sodding.
- .2 Spread fertilizer with mechanical spreaders over entire area of topsoil at manufacturer's recommended rate of application.
- .3 Mix fertilizer thoroughly into upper 50 mm of topsoil.

3.5. FINISH GRADING

- .1 Fine grade manually, entire topsoiled area to contours and elevations as indicated. Eliminate rough spots and low areas to ensure positive drainage.
- .2 Fine grade and loosen topsoil prior to sodding. Eliminate rough spots and low areas to ensure positive drainage. Prepare loose friable sod bed by means of discing and subsequent raking. Roll lightly and rake wherever topsoil is loose.
- .3 Roll topsoil with 50 Kg roller, minimum 900 mm wide, to compact and retain surface.
- .4 Leave surface smooth, uniform, firm against deep foot printing, with a fine loose texture.

3.6. RESTORATION OF STOCKPILE SITES

- .1 Restore stockpile sites within or adjacent to contract limits to a "rake clean" condition acceptable to Architect.

3.7. SURPLUS MATERIAL

- .1 Dispose of surplus topsoil not required for fine grading and landscaping off site.

END OF SECTION

Part 1 General

1.1. DESCRIPTION

.1 General Requirements:

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

.2 Related Work:

.1 Section 02225 – Excavation and Backfill

1.2. STANDARDS AND SPECIFICATIONS

.1 Ontario Provincial Standard Specifications as follows:

.1 OPSS 310, December 1983, "Construction Specification for Hot Mixed, Hot Laid, Asphaltic Concrete."

.2 OPSS Form 1150, December 1983, "Material Specification for Hot Mixed, Hot Laid Asphaltic Concrete."

1.3. ENVIRONMENTAL CONDITIONS

.1 Asphalt shall be laid only when base is dry and weather conditions are suitable.

.2 HL-8 Asphaltic Concrete shall be laid at minimum temperatures of 2°C (35°F) and rising.

1.4. UNIT PRICES

.1 Requirements for unit prices are specified in detail in Tender Form and Section 01026.

.2 Provide where and if indicated, in the tender form, unit prices for the addition and deletion of:

.1 HL-8 Asphaltic Concrete, per tonne.

.2 HL-3 (fine aggregate) Asphaltic Concrete Surface Course, per tonne.

.3 Granular 'A', compacted in place, per tonne.

.4 Granular 'B', compacted in place, per tonne.

- .3 Unit prices to include all overhead, profit, taxes, labour, materials, plant, trucking, and all other costs implied in completing the Work.

1.5. SPECIAL PROTECTION

- .1 Barricade paved surfaces from traffic for 72 hours and until surfaces are ready for normal traffic.

Part 2 Products

2.1. MATERIALS

- .1 HL-8 Asphaltic Concrete Base Course – to OPSS 1150.
- .2 HL-3 Asphaltic Concrete Base Course – to OPSS 1150.
- .3 Marking Paint – to OPSS 1710 “material Specification for Coning and Non-Coning Traffic Paint,’ colour, white.
- .4 Granular ‘A’: the material shall not be susceptible to frost action, and shall be clean, angular, crusher run natural stone, free from shale, clay, friable materials, roots, and vegetable matter and graded to the specifications. The coarse aggregate portion (larger than 4.75 mm; 0.19” sieve) shall be hard and durable and must contain at least 50% crushed material. The fine aggregate portion shall be durable, free from cementation, and must not contain chert in excess of 20%.
- .5 Granular ‘B’: the material shall not be susceptible to frost action, and shall be clean, free from friable, soluble materials or vegetable matter. The material may be bank or pit run and graded to the specifications.

Part 3 Execution

3.1. GRANULAR SUB-BASE AND BASE UNDER ROADWAYS, PARKING AREAS AND CONCRETE SURFACES

- .1 Carefully lay out areas to be paved to required lines and levels as detailed on the drawings.
- .2 Extend granular base course 300 mm (12”) minimum beyond the back edge of all curbs.

- .3 Remove all topsoil, fill and otherwise deleterious materials and grade to underside of Granular 'B' elevation. Compact subgrade to 96% of Standard Proctor Density. Proof roll the subgrade in the presence of the project geotechnical engineer.
- .4 All asphalted and concrete surface areas shall be brought to grade with an engineered fill constructed from Granular 'B' material.
- .5 Place Granular 'B' in no more than 300 mm lifts. Compact to 95% Standard Proctor Density.
- .6 Place Granular 'A' and compact to 98% Standard Proctor Density.

3.2. INSTALLATION OF ASPHALT PAVING

- .1 Over the compacted Granular 'A', apply a specified layer of HL-8 compacted as outlined in OPSS 310.
- .2 Finish off entire areas to be paved with a specified layer of HL-3 compacted as outlined in OPSS 310.
- .3 Temperature of asphalt shall not be less than 120 °C (245°F) after spreading and prior to initial rolling.
- .4 Use mechanical spreaders and compact using rollers of sufficient size and weight to achieve adequate compaction. The asphalt paving shall be compacted to at least 97% of Marshall Density.
- .5 Total thickness of compacted asphalt shall not be less than thickness specified on drawings.
- .6 Maintain specified slopes, elevations and "crowns" as shown on the site plan and in accordance with good construction practice.

3.3. PATCHING AND TYING IN

- .1 If and when patching is required, the area to be patched shall be cut out to its entire thickness and repaved making sure that the edges are primed and compacting is equal to that outlined in approved grades.
- .2 Where "tying in" to existing asphalt pavement, neatly cut existing asphalt to full depth. Prime existing edges and "iron in" as required to provide neat, smooth transition to approved grades. All road cuts are to be milled as detailed on the drawing.

3.4. QUALITY CONTROL

- .1 Notify the testing company of the granular placing and paving schedule, sufficiently in advance so that tests may be made.
- .2 Provide representative samples of the materials as requested by the testing and inspection company at no additional cost to the Owner.
- .3 The cost of any additional testing and/or the cost of replacement of any part of the asphalt to meet the test requirements, shall be borne by the Contractor.
- .4 Where field tests have been cut as block samples from the in-place asphalt concrete, replace and make good to the satisfaction of the Architect.

3.5. PROTECTION AND CLEAN-UP

- .1 Exercise care in granular placing and paving operations adjacent to curbs, lighting standards, sidewalks, etc., so as not to damage these items. Make good any damaged items to the satisfaction of the Architect.
- .2 At the completion of the Work of this Section, remove from the site all tools, equipment, surplus materials, and debris.

3.6. PAVEMENT MARKINGS

- .1 Layout lines as indicated on drawings and apply 100 mm wide lines for parking, use a mechanical application equipment. End limit of each line to have clean, sharp 90° corners with no overspray fogging. Thickness of paint application to be consistent throughout. Under-sprayed lines shall be repainted.

END OF SECTION

PART 1 - GENERAL

1.1 General Requirements

- .1 Read and be governed by conditions of the Contract and sections of Division 1.

1.2 Scope of Work

.1 Work Included

Provide all plant, labour, equipment and materials to complete the cast-in-place concrete work. The work includes, but is not limited to:

- reinforced concrete walls, beams, columns, slabs, and footings
- Slab-on-grade
- patching sleeves, pockets
- grouting of column bases
- concrete toppings
- cast-in-place concrete sign base
- concrete house keeping slabs

.2 Related Work Specified Elsewhere

- .1 Excavating, and Backfilling - Division 2
- .2 Masonry - Division 4
- .3 Self Adhering Sheet Waterproofing – Section 07115
- .4 Crystalline Capillary Waterproofing – Section 07161
- .5 Underslab Vapour Barrier - Section 07261
- .6 Concrete Floor Finishes - Section 03345

.3 Work Installed Under This Section, Supplied By Other Sections

- .1 Setting of anchors and sleeves for mechanical and electrical trades -Division 15 & 16.
- .2 Building in of iron and steel items - Divisions 5, 15, and 16.
- .3 Setting of anchors and other hardware to be cast into the concrete-Division 5, 15 & 16.

1.3 Reference Standards

- .1 Unless otherwise stated, the applicable provisions of these reference standards are to be considered a part of this application. Standards to be current issue.
- .2 Ontario Building Code.
- .3 C.S.A. Standard CAN3-A23.1-00 Concrete Materials and Methods of Construction.
- .4 C.S.A. Standard CAN13-A23.2-00 Methods of Test for Concrete.
- .5 C.S.A. Standard CAN3-A23.3-94 (R2000) Design of Concrete Structures.
- .6 CSA G30.18-M92(R2002) Billet-Steel Bars for Concrete Reinforcement.
- .7 CSA A3000-98 Cementitious Materials Compendium.

- .8 ASTM A775/A775M-00a Standard Specification for Epoxy Coated Reinforcing Steel Bars.
- .9 ASTM C309-98a Standard for Liquid Membrane Forming Compounds for Curing Concrete.
- .10 ASTM ASTM E1155-87, "Standard Test Method for Determining Floor Flatness and Levelness Using the F-Number System".
- .11 A.C.I. Standard 302.1R-96, "Recommended Practice for Concrete Floor and Slab Construction".
- .12 A.C.I. Standard 347, "Recommended Practice for Concrete Formwork".
- .13 A.C.I. Standard 301, "Specification for Structural Concrete for Buildings".
- .14 A.C.I. Standard 303.1-97 Standard Specification for Cast-In-Place Architectural Concrete.
- .15 Reinforcing Steel Institute of Canada (RSIC). "Reinforcing Steel Manual of Standard Practice"
- .16 Construction Safety Act or any other regulations of the Ontario Ministry of Labour relating to the work of this section.

1.4 Coordination & Cooperation

- .1 Coordinate the work of this Section with the work of other sections and advise other trades when materials to be built into the forms will be required.
- .2 Cooperate with other sections to ensure an uninterrupted sequence of construction.
- .3 Install any items furnished by others, miscellaneous iron work, anchors, anchor bolts, pipe sleeves, hardware, etc., that are to be built into the concrete work.
- .4 Form all holes and openings shown or required to accommodate the work of other trades.
- .5 Make good all openings left in construction around pipes, openings for struts, anchorages, etc. for other trades or where existing concrete must be broken out.

1.5 Shop Drawings

- .1 Examine all drawings forming a part of this Contract and conform to the requirements of all such drawings. Confirm all dimensions respecting anchor bolt requirements with related sections.
- .2 Submit shop drawings for the steel reinforcing and falsework for review by the Consultant. If such drawings are not satisfactory to the Consultant, make all required changes prior to the start of the work.
- .3 Shoring and falsework drawings are to show assumed values for all loads, types and grades of materials, dimensions, sizes and connection details. Shop drawings for falsework and shoring are to be signed and sealed by a Professional Engineer, who will be responsible for the design and implementation of these structural systems, including field review.
- .4 Shop drawings for reinforcing steel shall include detailed placing drawings and bar lists as outlined in the requirements of RSIC manual of standard practice. The placing drawing will show, quantity, bar size, bar grade, length or mark number, location, and spacing of bars. Bar lists will show bar size, bar grade, length and bending dimensions.
- .5 Submit one sepia and two prints of each shop drawing with minimum scale of 1:100.

- .6 The Consultant's review of the shop drawings does not relieve this Sub-Contractor of his responsibility for ensuring that all forming systems are constructed properly and are maintained in position as long as necessary to ensure the integrity of the structure during construction.
- .7 Provide dimensioned formwork drawings for 'exposed concrete' and 'architectural concrete' showing all joints, reglets, tie locations, tie types, and panel layouts for the Architect's review and approval. Shop drawings are to be submitted well in advance of pouring the wall and work on the forming the concrete elements can only commence after the shop drawings have been approved by the Architect.

1.6 Exposed Concrete

- .1 Exposed Concrete includes all concrete elements that are exposed to view in the finished structure. This includes but is not limited to exposed concrete columns, basement foundation walls, exposed slab soffits and beams.
- .2 Quality of Finish for Exposed Concrete: The quality of finish shall be such that, when the forms are stripped, it meets the standards set out below, without further finishing work other than treatment of tie holes and clean-up. This requirement is waived for smooth concrete to receive a paint finish, in which case grinding of joints and filling of voids will be permitted.
- .3 Dense, concrete finishes free of defects such as deep or extreme honeycombing, inconsistencies in plane, cold joint lines and loss of fines. Minor imperfections may be acceptable. Major defects will necessitate replacement. The judgement as to what constitutes major or minor defects will be the Consultant's. Patching will not be permitted and if used, will constitute a major defect. Repairs, i.e. removal of sections of a member, may be carried out if approved by the Consultant, but the repair shall match the colour and texture of the surrounding concrete.
- .4 Concrete finish shall be uniform in colour.
- .5 Concrete finishes shall exhibit sharp, accurate definition at corners, arrises, reglets and the like, generally free of chipped or spalled areas and within dimensional tolerances set out in A23.1. Members shall be visually straight.
- .6 Plane surfaces without protuberances, indentations, ridges or bulges.
- .7 Under no circumstances shall repair to any Exposed Concrete be undertaken without the Consultant's written consent. Concrete members which are repaired without the Consultant's consent will be classified as defective and the Consultant may require their removal and replacement.

1.7 Architectural Concrete

- .1 Architectural Concrete includes identified on the Architectural drawings as 'Architectural Concrete'. Special care in forming surfaces for these elements must adhere to the items 1.6.2 to 1.6.7 inclusive under the 'Exposed Concrete' heading with the added requirement that all Architectural Concrete elements are to be formed with new plywood only. No second use plywood or form liners will be allowed for these elements.
- .2 Concrete used to cast any 'Architectural Concrete' elements are to contain a superplasticizer to eliminate all honeycombing or other such surface imperfections.

1.8 Samples

- .1 Construct representative samples for each type of Architectural Concrete element that have a

exposed concrete finish. The consultant will review these samples in regard to colour, finish, tie pattern, rustication, etc. The sample panels will serve as a benchmark for minimum acceptance or rejection of all similar concrete work.

- .2 Samples are to be a minimum of 2000mm wide x 3000mm high to provide proper representation of the final element with interior and exterior corners, soffits, control joints and reglets, rustication and any other special features.
- .3 Panel to be constructed with specific concrete mix, forms, form release agents etc. that will be employed in the building of the final architectural concrete elements.
- .4 Repeat construction of the panel as many times as necessary until approved by the consultant.
- .5 At the discretion of the Consultant, samples may be part of the final structure located in a non-exposed area of the building.

1.9 Design Criteria – Formwork

- .1 Formwork, falsework and shoring is to be designed, erected, braced and maintained so that it will safely support:
 - .1 The liquid weight of the concrete.
 - .2 All applied construction loads, such as equipment, personnel, runways, and wind loads to which the system may be subjected.
 - .3 All supported loads including reshored slabs.
- .2 Follow the provisions of the Construction Safety Act as amended to-date and the recommendations of the current A.C.I. Standard 347.
- .3 Refer to equipment drawings for critical dimensions. Detail forms in these areas to provide the specified requirements.
- .4 Tolerances within C.S.A. Standard CAN3-A23.1 except that tolerances for equipment anchors, inserts, etc. to equipment supplier's requirements.
- .5 For Exposed and Architectural Concrete the Forming Contractor shall submit shop drawings showing the dimensioned locations of all reglets, tie cones, or other architectural features to be reflected in the finished concrete element. Shop drawings are to be submitted well in advance of pouring the wall and work on the forming the concrete elements can only commence after the shop drawings have been approved by the Architect.
- .6 The Forming Contractor shall only use ties approved by the Architect for all 'Exposed' and 'Architectural' concrete elements.

1.10 Design Criteria – Concrete

- .1 Design all concrete mixes for the compressive strength and slump requirements as specified in "Proportioning" of this section. Allow for the appropriate coefficient of variation for each strength class for the batch plant supplying the concrete.
- .2 Submit mix designs for each class of concrete for review by the Consultant at least two weeks prior to the commencement of concreting.

PART 2- PRODUCTS

2.1 Materials

- .1 Cement - in accordance with C.S.A. Standard CAN3-A5.
- .2 Aggregates:
 - .1 Fine and coarse aggregate materials and grading in accordance with Section 5 of C.S.A. Standard CAN3-A23.1-M. Maximum size of coarse aggregate to suit spacing of reinforcing bars in accordance with C.S.A. Standard CAN3-A23.1.
 - .2 Pit run gravel will not be acceptable.
 - .3 Use pea gravel (6 mm to 10 mm) where concentration of reinforcement requires the use of a smaller diameter aggregate and in toppings where the topping thickness is reduced below 50 minimum thickness.
- .3 Admixtures:
 - .1 Use only those chemical admixtures and air entraining agents currently approved for use by the Ontario M.T.C. in accordance with O.P.S.S. Form 1303, Material Specifications for Air Entraining Agents and Chemical Admixtures.
 - .2 Chemical admixtures shall be type 1, Water Reducing Admixtures by Grace.
 - .3 Admixtures to be compatible with the air entraining agent.
 - .4 Superplasticizer – Normal setting, high range water reducing superplasticizing admixture in accordance with ASTM C-494 WRDA by Grace, Conchem S.P.N. by Masterbuilders, Eucon-37 by Euclid Chemical or Sternflo by Sika Canada.
- .4 Reinforcing Steel (plain) - new deformed bars in accordance with CSA G30.18 with a guaranteed yield stress of 400 Mpa.
- .5 Reinforcing Steel (epoxy coated) same as for item D with epoxy coating to ASTM A775/A775M. All shop or field cut ends to be immediately coated in accordance with ASTM A775/A775M and MTO Form 1443.
- .6 Reinforcing Steel Supports - in accordance with R.S.I.O. Manual of Standard Practice. All wires, chairs and other bar supports to be plastic or plastic coated construction compatible with end use. All chairs supported on the formwork are to be plastic construction.
- .7 Vapour Barrier – As specified under section 07261.
- .8 Welded Wire Fabric - in accordance with CSA Standard G30.5.
- .9 Evaporation Retardant – Use for all concrete surfaces where evaporation rate exceeds the rate of bleeding and specifically for all floor slabs and toppings where the slab is unprotected from drying winds. Evapre by W.R. Meadows, Eucobar by Euclid Chemical Company, or equal.
- .10 Spray-Applied Curing, and Sealing Compounds - to conform with A.S.T.M. Standard C-309,

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- .1 For interior floors curing and sealing compound to be 1100-Clear, CS-309, or Vocomp 20 by W.R. Meadows, Clearseal WB 150 or Diamond Clear by Euclid Chemical Company, Florseal by Sika Canada. If concrete floors are to be left exposed the curing and sealing compounds are to be non-yellowing. Ensure all curing and sealing compounds used in areas to be covered with flooring are compatible with the flooring adhesives.
- .11 Lumber, Plywood and other formwork materials to C.S.A. Standard CAN3-A23.1, Article 11.3, except as noted.
- .1 Contact surfaces of forms for architectural concrete which will be exposed to view in the completed structure to be new, Douglas Fir Plywood, exterior grade, good one side. Good side to have phenolic resin overlay as per CSA 0121 -M1978.
- .2 For exposed architectural concrete new exterior grade Douglas Fir plywood, good one side.
- .12 Form Oil - colourless, non-staining, mineral oil, free of kerosene.
- .13 Form Ties:
- .1 For general wall areas, removable or snap-off metal ties that after removal of forms, no metal is within one inch of the finished surface.
- .2 Heavy duty ties for one sided form construction.
- .3 For exposed architectural walls, metal ties with plastic cone formers to suit architectural details, together with suitable plugs. At all 'Exposed' and 'Architectural' concrete elements only ties approved by the Architect will be allowed.
- .14 Grout - non-shrink, non-ferrous. M-Bed Stanadard by Sika Canada, CG-86 Construction Grout by W.R. Meadows, Dry Pack Grout by Euclid Chemical Company, or equal.
- .15 Sawcut Sealants
- .1 Shall be Euclid Chemical Company Euco 800 Sawcut Filler, or Sika Loadflex, or Sika Loadflex 2, Load Bearing Control Joint Filler, or approved equal.
- .16 Expansion and Control Joint Sealants
- .1 For horizontal joints shall be Sika Duoflex S.L. or W.R. Meadows Sealtight CM-60 S.L.
- .2 For vertical joints shall be Sika Duoflex N.S. or W.R. Meadows Sealtight CM-60 N.S.
- .3 Provide primers and foam backer rods as required.
- .17 Joint Fillers
- .1 Isolation
Joint fillers in slab-on-grade adjacent to foundation walls and in sidewalks, shall be asphalt impregnated fibreboard conforming to ASTM D1751-73, Meadows Fibre Expansion Joint Filler, or equal.
- .18 Circular Column or Light Standard Forms - Sonotube, seamless fibre forms with plastic liner to prevent transfer of spiral markings to concrete, as manufactured by Sonoco Products, Company Poli-Permaform with plastic liner as manufactured by Perma Tubes Ltd. or approved equal. Refer to Architectural and Electrical drawings and specifications if specially shaped forms are required for Light

Standard bases.

- .19 Latex Bonding Agent - for bonding toppings to slabs or cast-in-place concrete items. – Latex R by Sika, Intralok by W.R. Meadows, or approved equal.
- .20 Fiber Reinforcing for Toppings: 51mm (2”) long fibrillated polypropylene fibers complete with plasticizer to increase slump. Conloc Se Fibers by Pro Technologies Ltd., Fibermesh INFORCE™ e3™ fibers by SI Concrete Systems, or equal.
- .21 WaterStop: Provide flexible PVC (polyvinyl chloride) waterstop as manufactured by Greenstreak, Refer to typical details on structural drawings for style number. Provide factory made waterstop fabrications for all changes of direction, intersections, and transitions leaving only straight butt joint splices for the field. Provide hog rings or grommets spaced at 300 (12 inches) on center along length of waterstop

2.2 Proportioning of Concrete – General

- .1 Job-mixed concrete will not be allowed on this project.
- .2 Provide mixed-in-transit, ready-mixed concrete in accordance with C.S.A. Standard CAN3-A23.1-M, obtained from a supplier approved by the Consultant for use on this project.
- .3 Mix all concrete with materials so graded and proportioned to produce a plastic mass of such consistency that it will flow slowly under its own weight and which can be readily worked into corners of forms and under and around reinforcing without forming voids or honeycombed surfaces.
- .4 Furnish to the Sub-Contractor, a "delivery ticket" for each batch of concrete delivered to the site, which shall be kept on record for the inspection of the Consultant. Each ticket shall show the following:
 - . Date and truck number
 - . Sub-Contractor's name
 - . Job designation
 - . Specified concrete strength, slump, air content and admixture
 - . Batch volume
 - . Time of batching
- .5 For concrete mixes requiring entrained air, do not pre-mix the air entraining agent with a chemical admixture solution. Where both an air entraining agent and chemical admixture are used, dispense the two materials separately.
- .6 Accelerating or retarding chemical admixtures shall only be used with the prior approval of the Consultant or at the Consultant's written request. Do not use calcium chloride or products containing calcium chloride.
- .7 For fibre concrete provide fibres at a rate of 1kg. Per cubic metre of concrete. Provide a compatible slump enhancer to ensure that no slump loss occurs with the addition of fibres.
- .8 Chemical admixtures and air entraining agents shall be supplied by the same manufacturer and be compatible. Use in strict accordance with the manufacturer's directions.
- .9 The compressive strength of all concrete is to be determined from test cylinders made in accordance with C.S.A. Standard CAN3-A23.2-M.

- .10 Minimum truck load 1.5 cubic metre.
- .11 Proportion the materials in accordance with the mix designs supplied under Article 1.09 of this Section to provide the following specified design strengths, slumps and air contents.

Location	Specified 28 day Concrete Strength	Slump in inches	Air Content	Exposure Class
Lean fill	15 Mpa	125 max	nil	
Interior slab-on-grade (Water Cement Ratio shall not exceed 0.4 for all interior slab-on-grade concrete, Use of plasticizer is anticipated to meet this requirement)	25 Mpa	76 max. before adding plasticizer	nil	
Foundation walls and integral Columns	25 Mpa	76+25	5%+1%	F-2
Footings	20 Mpa	76+25	nil	
Isolated interior concrete columns	30 Mpa	76+25	nil	
Interior suspended slabs	30 Mpa	76+25	nil	
Exterior suspended slabs,	35 Mpa	76+25	6%+1%	C-1
Interior concrete walls, pool walls, pool floor slabs, and pool tanks	30 Mpa	76+25		
Slabs-on-grade, sidewalks, curbs	32 Mpa	76+25	6%+1%	C-2
Exterior retaining walls above footing level	30 Mpa	76+25	5%+1%	
Interior architectural concrete exposed to view	30 Mpa	76+25	nil	
Exterior architectural reinforced concrete exposed to view	35 Mpa	76+25	6%+1%	C-1
Toppings *	30 Mpa	76+25 ¹	nil	

* All toppings to include fibers.

1 – Slump to be 76+25 prior to added fibers and plasticizer.

2.3 Plant Quality Control

- .1 All materials, batching and mixing procedures are subject to test or inspection by the Consultant or representatives.
- .2 Provide samples of materials as may be required at no additional cost to the Owner.
- .3 Provide access to pits, batch plants, etc., as may be required by the Consultant or his designated representatives.
- .4 The cost of testing in accordance with section 01400.

PART 3- EXECUTION

3.1 Examination

- .1 Examine and obtain all necessary measurements of previously executed and existing work which may affect the work of this section prior to commencing operations.
- .2 Report any discovered discrepancies to the Consultant so that instructions can be given for the

necessary remedial action.

3.2 Erection of Forms

- .1 Construct all forms to have sufficient strength, stability and rigidity to prevent bulging or deflection under the liquid weight of concrete and to support in addition, all construction loads to which they may be subjected including equipment, runways and wind forces in accordance with A.C.I. Standard 347.
- .2 Erect forms to the lines, dimensions and elevations shown on the drawings such that the completed work is within the tolerance limits for reinforced concrete buildings in accordance with Sub-Section 1.8 of this Section.
- .3 Use new exterior grade plywood panels for all concrete exposed to view in the completed structure. Maximum 2 re-uses in exposed areas.
- .4 Provide for all openings, offsets, risers, brackets, haunches, depressions and curbs as shown or required in the formwork.
- .5 For typical wall surfaces, arrange form ties such that after removal of the forms, no metal is within 25mm of the finished surface.
- .6 Clean forms of all debris prior to concreting. Provide temporary openings at the base of walls, column forms and at other locations where necessary to facilitate cleaning and inspection. Place openings so that "wash water" will have a clean run to the outside of the forms.
- .7 Provide 20x20 chamfers on all exposed corners of concrete, exposed to view in the finished structure unless otherwise noted on drawings.
- .8 Coat forms with a non-staining mineral oil prior to the placing of reinforcing steel in accordance with C.S.A. Standard CAN3-A23.1. Where concrete surfaces are to receive a final coat of paint, plaster, etc., omit the form oil and wet down the forms just prior to concreting.
- .9 Accurately and securely place anchors required for the support of mechanical or electrical equipment, hardware and miscellaneous iron which is to be cast into the concrete as supplied by other Divisions.
- .10 Immediately prior to concreting, inspect all forms to ensure that they are properly placed, sufficiently rigid and tight, thoroughly clean, properly treated and free of snow, ice or other foreign materials. Do not use chemicals for snow/ice control.
- .11 Formwork approved for concreting shall be properly protected until concrete is placed.
- .12 Do not form openings in concrete beams, slabs, columns or walls without prior approval of the Consultant unless they are shown on the structural drawings.
- .13 Set screeds with true and straight top edges to proper elevation.
- .14 Install dovetail anchor slots supplied by Division 4.
- .15 Refer to architectural drawings for all tie and reveal locations in exposed concrete items.
- .16 Take special care when lowering plastic lined circular forms over reinforcing steel to avoid scratching or otherwise damaging the plastic liner.

- .17 Field butt splice of waterstop shall be heat fused welded using a Teflon coated thermostatically controlled waterstop splicing iron at approximately 380 degrees F. Follow approved manufacturer recommendations. Lapping of waterstop, use of adhesives, or solvents shall not be allowed.
- .18 Center waterstop in joint and secure waterstop in correct position using hog rings or grommets spaced at 300 (12") on center along the length of the waterstop and wire tie to adjacent reinforcing steel.
- .19 Provide reglets as required to anchor waterproofing in accordance with architectural drawings and Crystalline Capillary Waterproofing.

3.3 Form Removal

- .1 The proper time for the removal of forms is to be approved by the Consultant. Do not remove shoring until the supported member has reached sufficient strength to support safely both its own weight and the loads on it, and in no case less than 75% of the specified strength.
- .2 The sequence and timing for stripping and reshoring of walls is to be based on actual field concrete strengths. Job-cured cylinders or other testing procedures such as Lok-Tests or maturity metering are to be performed by the testing company appointed by the Consultant, and the cost of such testing is to be paid by the Sub-Contractor.
- .3 Job-cured cylinders, when used as an indication of in place strength, are to be cured under conditions similar to the concrete construction which the specimen represents.
- .4 Remove forms in accordance with C.S.A. Standard CAN3-A23.1-M.
- .5 Refer to A.C.I. Standard 347 for the MINIMUM periods for which forms must be left in place.
- .6 The Sub-Contractor shall be responsible for the safety of the structure before, during, and after form removal.
- .7 Forms for architectural concrete shall not be stripped until at least 7 days after concrete is poured. Take particular care when stripping to ensure that damage does not occur at corners, reglets etc. Use wood wedges to as required to avoid damage to exposed concrete finishes.
- .8 To help avoid colour variation in exposed concrete items, the length of time between pouring and stripping shall be approximately the same for each portion of the Work.

3.4 Reinforcing Steel

- .1 Placing, spacing, splicing and protection of reinforcement in accordance with CSA Standard CAN3-A23.3.
- .2 Maintain the cover required for reinforcement as shown on the drawings. Where not specifically shown, refer to CSA Standard CAN3-A23.1.
- .3 Supply and install 100x100x75 brick chairs for the support of reinforcing in slabs-on-grade of a type and in a manner which will not puncture the vapour barrier. Space chairs 1200 o/c each way. Lap welded wire fabric at least one mesh plus 50 at all splices.

3.5 Concrete Placing

- .1 Do not start concrete placing until the Consultant has reviewed and approved all preparations including forms, joints, and reinforcing steel.
- .2 All conveying, depositing, compaction and vibration is to be done in accordance with the current C.S.A. Standard CAN3-A23.1-M.
- .3 Maximum elapse of time between charging and placing is not to exceed 1-1/2 hours. Reject concrete which exceeds this limit. In hot weather, this time period may have to be reduced as directed by the Consultant.
- .4 Place concrete carefully around all accessories, such as pipes, sleeves, and conduits.
- .5 When concrete is to be placed in restricted locations, take special precautions to ensure close contact between the concrete and steel. Take care to exclude air pockets and honeycombed areas. Use of a superplasticizer may be required for proper placement.
- .6 Where normal-size aggregate concrete cannot be successfully placed in a congested area, use concrete with a smaller top aggregate size.
- .7 Use "elephant trunks" for high lift concrete to prevent segregation.
- .8 When buggies are used for placing concrete in slabs on soil, they are to be supported on runways and not directly on the reinforcing steel.
- .9 Just prior to placing concrete place polyethylene vapour barrier as indicated in Section 07261. Wrap vapour barrier up sides of walls or slab edge. Do not install vapour unless building is closed in from accumulation of rain on top of membrane. Take special care not to damage vapour barrier. Repair all tears rips and punctures as per manufactures' instructions.
- .10 Place reinforcing steel for slab-on-grade on 100x100x75 (4"x4"x3") concrete bricks spaced 1200 (4'-0") o.c. each way.
- .11 Apply liquid surface evaporation reducers by sprayer to protect the concrete from pre-mature surface drying when required. Mix in accordance with the manufacturers instructions and apply in a thin film following the bullfloating operation. Do not work liquid materials into the surface of the concrete.
- .12 Maintain a sufficient number of internal mechanical vibrators on site to properly compact the concrete within 15 minutes of placing, but not less than two vibrators for any pour.
- .13 Mechanical vibrators which are applied to the outside of the forms are not permitted without prior approval of the Consultant.
- .14 Thoroughly compact all concrete during placing to ensure that the finished concrete is free of voids or other defects.
- .15 Ensure that reinforcement, hardware, and inserts are not disturbed during concrete placement.
- .16 Strike off-floor surfaces at the level shown on the drawings by means of previously set, continuous pipe screeding, set on adequate supports.
- .17 Notify the Consultant at least 24 hours in advance of any scheduled pour.
- .18 Grout all steel column bases with non shrink grout by ramming in damp mixed grout tightly below

bearing plate to completely fill space below plate without any voids.

- .19 Place concrete stair non-slip nosing strips into concrete stairs. Take special care to ensure strips are aligned equally from tread to tread and are installed straight vertically and horizontally.
- .20 Do not use fly ash in concrete that will be exposed to view, pool slabs and walls nor in concrete that will be exposed to freeze-thaw cycles or de-icing chemicals.
- .21 Take precautions to ensure bleeding from subsequent concrete lifts do not bleed out and stain already finished work that is exposed in the finished structure. Provide control joints only at reveal locations and seal, tape, or caulk panel joints.

3.6 Curing and Protection

- .1 Protection and curing of concrete for a minimum of 7 days in accordance with Section 21 of C.S.A. Standard CAN3-A23.1-M.
- .2 Maintain all equipment and materials for the protection and curing of concrete on site, ready to use before concrete placing is started.
- .3 Cover walls, piers, columns, beams and slab edges with wet burlap or tightly wrap with properly lapped 4 mil polyethylene sheeting, immediately after stripping to continue the curing periods. (Surfaces which will not be exposed to view or which will not have other surface treatment may be sprayed with curing compound after stripping).
- .4 Completely cover floor and roof slabs with 4 mil polyethylene sheeting, properly lapped at side and edge laps and weighted down immediately after finishing.
- .5 A sprayed-on membrane curing compound may be used in lieu of polyethylene sheeting for concrete, except as follows:
 - .1 Floor areas which are to have topping or other surface treatments are not to have spray-applied compounds employed, but must be polyethylene cured.
- .6 Freshly finished floors are not to be used for seven (7) days after completion and only light use is permitted for an additional 7 days.

3.7 Cold Weather Requirements

- .1 All concreting operations during cold weather in accordance with Section 21 of CAN3-A23.1-M. Carefully protect all corners and edges.
- .2 Exercise particular care to ensure that previously placed concrete and reinforcing steel are adequately heated to prevent freezing of new concrete placed directly against it.
- .3 Exercise care to avoid rapid temperature changes (thermal shock) when removing an area from temporary heating conditions.
- .4 Remove and replace all concrete damaged by frost or freezing at the direction of the Consultant at no cost to the Owner.
- .5 Accelerating chemical admixtures shall not be used without the written approval of the Consultant.
- .6 When pouring new concrete directly against existing protect heat loss by extending the protection for

fresh concrete at least 600 over the existing.

- .7 Locate heating units to avoid heating concrete locally or drying it excessively. Avoid high temperature and drying heat in enclosures.

3.8 Hot Weather Concreting

- .1 All concreting operations during hot weather in accordance with Section 21 of C.S.A. Standard CAN3-A23.1-M.
- .2 Take special care to prevent surface crazing of floor slabs due to combined high temperatures and drying winds.
- .3 The use of a water reducing-retarding chemical admixture in the concrete mix may be required at the Consultant's discretion.

3.9 Finishing of Horizontal Surfaces

.1 Floors:

- .1 Floor Flatness shall conform to the following requirements.

- .1 The gymnasium slab-on-grade shall conform to the following ACI F-number requirements:
Specified Overall Value: F_F-30 / F_L-25
Minimum Local Value: F_F-25 / F_L-20

The floor finish for the gymnasium requires that the concrete surface be level to 3mm in any 3000mm radius regardless if the flatness measurements are achieved to meet the above noted F-numbers. If the gymnasium slab fails to meet any of the requirements listed here the entire slab will require replacement at no additional cost to the Owner.

- .2 Slab-on-grade in general areas, shall conform to the following ACI F-number requirements:
Specified Overall Value: F_F-25 / F_L-20
Minimum Local Value: F_F-17 / F_L-15

- .3 In general slab-on grade areas also Refer to A.C.I. Standard 117-90, Specification for Structural Concrete and maintain surface tolerances for all general slabs in accordance with Section 4.5.7 of that Standard for Flat Floor tolerance (3/16" in 10' straightedge).

- .2 Provide slopes to drains as directed by the Architect.
- .3 The Specified Overall Value (SOV) describes the flatness or levelness value that must be achieved when all measured values of that type on the total slab are combined.
- .4 The Minimum Local Value (MLV) describes the flatness or levelness value below which replacement by the Contractor is required.
- .5 Floor flatness and levelness tests on the slabs shall be conducted in accordance with the provisions set forth in ASTM E1155-87. Floor tolerance measurements shall be made by the Owner within 5 working days after completion of the final finishing operations. Measurements will be made by using a Dipstick Floor Profiler as manufactured by the Edward W. Face Company Inc, of Norfolk Va.
- .6 Slabs measuring at or above both of the specified Minimum Local F-numbers shall be accepted for tolerance compliance as constructed. No remedies for sub-Minimum Local F-numbers, other than replacement of the slab, will be permitted.

- .7 If the F-Number Combined Values for Slab-on-Grade fail to meet or exceed either of the Specified

Overall Values for all, the Contractor shall rebate to the Owner an amount equal to the larger of the following, where:

\$ = Total rebate amount
0.60 = Rebate amount per sq. metre
TA= Total Area of Slab sq.m
S = Specified Overall Value (F-number)
A = Actual Overall Value (F-number)

For F_F: \$= 0.60xTAx(S/A)x(S-A)
For F_L: \$= 0.60xTAx(S/A)x(S-A)

- .8 Provide sufficient lighting as necessary for finishing requirements.
- .9 Concrete floors shall be steel floated with a disc type power floating machine, having a 610mm disc, and weighing at least 140kg. Continue the floating operation until sufficient moisture is brought to the surface to fill all voids. After floating when the floor has hardened sufficiently so that excess fines will not be brought to the surface, trowel with a steel trowel to a surface free of all pinholes and trowel marks. See A.C.I. Standard 301, Section 11.7.
- .12 The elevation of the top of the structural concrete is to be kept down below the finished floor elevation such that when the floor topping is applied, the finished floor elevation will match the architectural drawings.
- .13 Also refer to Specification section 03345 for additional finishing requirements not listed here.

.2 Exterior Flatwork:

- .1 Provide slip resistant spun concrete or broom finish as indicated on Architects and/or Site Servicing drawings for all exterior concrete flat work.

3.10 Finishing of Vertical Surfaces

- .1 In areas where concrete walls will be exposed, take extra care to avoid 'bugholes' and honeycombing. When placing concrete, re-vibrate critical areas to ensure complete consolidation of concrete near form surfaces.
- .2 For reveal locations, see architectural drawings.

3.11 Treatment and Repairs for Formed Surfaces

- .1 After removal of forms, the surfaces of concrete, exclusive of architectural concrete, are to be given one or more of the finishes specified hereafter. Methods used are to be in accordance with Section 24 of C.S.A. Standard CAN3-A23.1-M. Refer to Section 1.06 of this specification and Section 27 of C.S.A. Standard CAN3-A23.1-M for requirements of architectural concrete.
- .2 When, in the opinion of the Consultant, satisfactory repairs cannot be made, then the defective work is to be cut out and replaced as directed by the Consultant.
- .3 Treatment of honeycombed areas is to be carried out as directed by the Consultant. Do not treat such areas prior to receiving instructions from the Consultant.

- .4 Patch tie holes and other defects (unless otherwise directed by the Consultant as noted in paragraphs B and C above). Remove fins exceeding 5mm in height.
- .5 All necessary patching shall have been done immediately after the forms have been removed. All surfaces are to be given a light surface grind with a power rotary grinder to remove all fins, ridges, and other imperfections. Follow the preparation, application, materials, and curing procedures of 24.3.4.4 of CAN3.A23.1.

3.12 Construction Joints

- .1 Construction joints in walls and floors shall be placed in locations approved by the Consultant or shown on the drawings.
- .2 Construction joints shall be keyed and dowelled to the adjoining pour as detailed on the drawings.
- .3 Before placing adjoining concrete at construction joints, clean the existing surface of dirt, laitance and loose aggregate.
- .4 Where additional resistance to horizontal shear is required, mortises or keys shall be formed in the concrete. The pouring sequence and the location of construction joints shall be as shown on the plans, noted herein, or as approved by the Consultant.

3.13 Control Joints

- .1 Provide control joints as follows:
 - .1 Where shown and noted on the drawings in foundation and retaining walls and in floor slabs. Control joints in floor slabs shall be saw cut to the depth shown as soon after placing the concrete as the surface will allow without chipping but not later than 24 hours after placing.

3.14 Grouting of Column Base and Beam Bearing Plates

- .1 Rough finish the top of walls, piers, or slabs which receive steel columns or steel beams.
- .2 After the erection and alignment of columns and beams, fill the space beneath the plates with a non-shrink grout. Take particular care to ensure that air pockets or voids are eliminated.
- .3 Mix and place grout in strict accordance with the manufacturer's directions.

3.15 Field Quality Control

- .1 All materials and workmanship shall be subject to test and inspection by a testing and inspection company appointed by the General Contractor.
- .2 Cost of testing in accordance with section 01400.
- .3 Provide unhindered access to the project for purposes of inspection and testing. Provide storage space and the necessary protection for test specimens against damage or loss while on site.
- .4 Provide representative samples of the materials as requested by the testing and inspection company at no cost to the Owner, or the cash allowance.
- .5 All field tests for concrete quality and all criteria relating to failure to meet test requirements in accordance with C.S.A. Standard CAN3-A23.1-M, Section 17, except as follows:

- .1 Each test shall consist of three standard cylinders, accompanied by a slump test and measurement of air content (where applicable). Unless otherwise directed by the Consultant, one cylinder shall be tested at 7 days and the remaining two at 28 days.
- .2 The inspection company shall take concrete tests for:
 - .1 not less than one test for each class of concrete placed each day, and
 - .2 not less than one test for each 100 cubic metres or portion thereof placed in any day.
- .6 The cost of any additional testing and/or the cost of replacement of any part of the structure resulting from failure of the concrete to meet the test requirements shall be borne by the Sub-Contractor.
- .7 Notify the testing company of the pouring schedule sufficiently in advance so that tests may be made.
- .8 PVC waterstop to be inspected after the waterstop has been completely installed by the inspection company. Testing of the waterstop to be carried out by a certified company using approved testing methods.

3.16 CLEAN-UP

- .1 At the completion of the work of this Section, remove from the site any excess materials, debris and equipment.

END OF SECTION

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- 05 50 00 Metal Fabrications
 - 05 50 00.11 Related Work
 - Cast-in-place Concrete Section 03 30 00
 - Masonry Procedures Section 04 00 00
 - Painting Section 09 90 00
 - 05 50 00.12 Work Supplied for Installation Under Other Sections
 - .1 Supply following materials specified to be installed under other Sections of these project specifications:
 - .1 Anchor bolts, stud anchors, bearing plates, truss shoes, angles, channels, sleeves, and other inserts to be built into concrete and masonry elements and required for anchorage and support of fabricated steel components.
 - .2 Fabricated steel components to be built into concrete and masonry.
 - .2 Supply instructions and templates as required for accurate setting in inserts and components.
 - .3 Custom metal fabricators shall include, but not be restricted to the following:
 - .1 pipe handrails and balustrades
 - .2 pipe railings and supports
 - .3 steel connections for wood beams and framing
 - .4 sump pit cover plates and sills
 - .5 bollards
 - .6 vanity supports
 - .7 lintel angles for masonry construction
 - .8 miscellaneous steel angles and channels
 - .9 miscellaneous ladders
 - .10 Steel Stairs And Landings
 - 05 50 00.13 Reference Standards
 - .1 Do welding work in accordance with the current issue of CSA W59-1984 unless specified otherwise.
 - 05 50 00.14 Shop Drawings
 - .1 Submit shop drawings in accordance with Section 01 23 33
 - 05 50 00.21 Materials
 - .1 Steel sections and plates: to CAN3-G40.21-M81, Grade [300W], [350W].
 - .2 Steel pipe: to ASTM A53-84a standard weight, galvanized finish.
 - .3 Welding materials: to CSA W59-1984.
 - .4 Bolts and anchor bolts: to ASTM A307-84a.
 - .5 Galvanizing: hot dipped galvanizing with zinc coating [600] g/sm to CSA GI64-M1981.
 - .6 Shop coat primer: to CGSB 1-GP-40M.
 - .7 Zinc primer: zinc rich, ready mix to CGSB 1-GP-181M+Amdt-Mar-78.
 - .8 Grout: non-shrink, non metallic, flowable, 24h, MPa 15, pull out strength 7.9 MPa.

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- 05 50 00.22 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 round headed screws or as indicated. Use screws for interior metal work. Use welded connections for exterior metal work unless otherwise approved by Architect.
 - .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. Seal exterior steel fabrications to provide corrosion protection in accordance with CAN3-S16.1-M84.
- 05 50 00.23 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 Surfaces to be field welded; do not paint.
- 05 50 00.24 Angle Lintels
- .1 Steel angles: galvanized, sizes indicated for openings. Provide 150mm minimum bearing at ends.
 - .2 Weld or bolt back to back angles to profiles as indicated.
- 05 50 00.25 Pipe Railings and Guards
- .1 Steel pipe: 38 mm (1 1/2") nominal outside diameter, formed to shapes and sizes as indicated.
 - .2 Pickets: 19mm diameter solid steel.
 - .3 Galvanize external pipe railings after fabrication.
 - .4 Set railing standards in concrete. Grout to fill insert. Trowel surface smooth and flush with adjacent surfaces.
- 05 50 00.26 Access Ladders
- .1 Stringers: 75 x 38 x 06 mm thick steel angle.
 - .2 Rungs: 50 x 38 x 06 mm thick angle welded to stringers at 300 mm on centre.
 - .3 Brackets: sizes and shapes as indicated, weld to stringers at 600 mm on centre, complete with fixing anchors.
 - .4 Galvanize finish for exterior, prime paint for interior.
 - .5 Galvanize exterior ladders after fabrication.
- 05 50 00.27 Bollards
- .1 200 mm diameter concrete filled, rounded cap.
 - .2 Paint finish exposed portion with zinc rich paint.
 - .3 Locations as indicated on drawings.
- 05 00 00.28 Steel Stairs And Landings

- .1 Refer to sections and details shown on structural and architectural drawings.
- .2 Steel stairs shall be constructed of plate, angle and channel stringers and sheet steel treads and risers formed as shown, one piece for tread and riser supported on shelf angles. Landings shall be of 3 mm (1/8") plate on channel and tee supports at not over 550 mm (22") centers.
- .3 All stringers shall be as per details and shall include all returns and finishing pieces.
- .4 Stair treads and risers shall be perfectly flat and uniform and worked to suit conditions throughout with allowance for concrete toppings by General Contractors. Finished riser height must be maintained at landings and finished floor levels.
- .5 The entire structure shall be assembled in the most substantial manner and shall be welded rigid.
- .6 Steel stairs and landings shall be connected to and supported from the structure of the building.
- .7 The stairs and landings shall be designed to support a live load of 4800 N/m²
- .8 Submit shop drawings, sealed and signed by a professional engineer registered in Ontario, to the consultant for review, detailing stairs, landings, guards, ladders and handrails, connections and attachment to the building structure. The review drawings shall be followed for installation of the work. The engineer who signed and sealed the shop drawings shall inspect the installation and shall assume full responsibility for the entire installation

05 50 00.31 Erection

- .1 Erect metal work square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .2 Provide suitable means of anchorage acceptable to Architect such as dowels, anchor clips, bar anchors, expansion bolts and shields and toggles.
- .3 Make field connections with high tensile bolts to CAN3-S16.1-M84, or weld.
- .4 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.
- .5 Touch up rivets, field welds, bolts and burnt or scratched surfaces after completion of erection with primer.
- .6 Touch up galvanized surfaces with zinc rich primer where burned by field welding.

END OF SECTION

PART 1.1 - GENERAL

1.1 SECTION INCLUDES

- .1 Built-up membrane roofing, hot applied rubberized method

1.2 RELATED SECTIONS

- .1 Section 05310 - Steel Decking: Structural metal roof deck.
- .2 Section 06100 - Rough Carpentry: cants, blocking and curbs.
- .3 Section 07196 - Air Barriers: Connection of wall air barrier system to roofing system.
- .4 Section 07620 - Sheet Metal Flashing and Trim.
- .5 Section 010999 - Roof Accessories: Manufactured hatches
- .6 Division 15 - Roof drains.

1.3 REFERENCES

- .1 ASTM C931/931M-01: Standard Specification for Exterior Gypsum Soffit Board.
- .2 ASTM D4601-98: Standard Specification for Asphalt-Coated Glass Fibre Base Sheet Used In Roofing.
- .3 CSA A123.4-M1979: Bitumen for Use in Construction of Built-Up Roof Coverings and Dampproofing and Waterproofing Systems.
- .4 CGSB 37-GP-9Ma: Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
- .5 CGSB 37-GP-52M: Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric.
- .6 CAN/CGSB-51.33-M89: Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction.
- .7 CAN/ULC-S704-2001: Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.
- .8 CAN/ULC-S706-02: Standard for Wood Fibre Thermal Insulation for Buildings.

1.4 PERFORMANCE REQUIREMENTS

Hot Applied Roof Membrane:

- .1 Roofing System: three ply hot-applied built-up roofing system with thermal underlay board, self adhered vapour retarder, rigid board insulation, composite ply plus fiberglass roofing membrane roofing felts and aggregate surfacing.
- .2 Provide Products that are compatible with one another under field conditions, as demonstrated by roofing manufacturer.
- .3 Provide watertight roofing system capable of resisting specified uplift pressures, thermally induced movement and exposure to weather without failing during the specified warranty period.
- .4 Ensure positive drainage to roof drains. If roof deck is structurally tapered, provide drawings for tapered insulation, crickets and roof drain sumps as required.

1.5 CERTIFICATES

- .1 Manufacturer Certificates: Signed by roofing manufacturer verifying that installer is approved, authorized or licensed by manufacturer to install specified Products.
- .2 Installer Certificates: Signed by installer verifying that they have the specified qualifications described below.
- .3 Copy of Manufacturer's 20 Year Warranty

1.6 TEST REPORTS

- .1 Submit test reports as specified in Section 01300
- .2 Product Test Reports: based on the evaluation of comprehensive tests conducted by an independent testing agency of the specified roofing Products.
- .3 Manufacturer Field Inspection Reports: manufacturer's written acceptance of roofing installation based on daily inspections.

1.7 QUALITY ASSURANCE

- .1 Manufacturer: qualified manufacturer having roofing systems listed by UL and approved for use by Factory Mutual.
- .2 Installer: a company and persons specializing in the application of built up hot applied roofing, with minimum 5 years documented experience and approved to apply roofing system by manufacturer.
- .3 Conform to CRCA Roofing Specifications and roofing membrane manufacturer's instructions.
- .4 Is a registered vendor of the WCDSB Kinetic In Contractor Network.

1.8 PRE-INSTALLATION MEETINGS

- .1 Conduct pre-installation meeting.
- .2 Meeting: prior to commencement of installation, review and document methods and procedures related to roof deck and roofing system construction, including the following:
 - .1 Participants: authorized representatives of the General Contractor, Architect, Owner, Roofing Contractor, Roofing Manufacturer, and installers of roof accessories and roof-mounted equipment.
 - .2 Review methods and procedures related to roofing installation, including manufacturer's written installation instructions.
 - .3 Review construction schedule and confirm availability of Products, contractor personnel, equipment and facilities.
 - .4 Review deck installation criteria and finishes for conformance with roofing system criteria, including issues of flatness and fastening.
 - .5 Review structural loading conditions and limitations of roof deck both during and after roofing application.
 - .6 Review flashing details, special roofing details, roof drainage, roof penetrations, equipment curbs, and other conditions affecting roofing installation.
 - .7 Review governing regulatory requirements, and requirements for insurance and certificates as applicable.

.8 Review safety requirements, including temporary fall-arrest measures.

.9 Review field quality control procedures.

1.8 DELIVERY, STORAGE AND HANDLING

.1 Store products in designated areas elevated off the ground and protected from ultra-violet radiation, inclement weather and construction activities.

.2 Store solvent-based liquids away from excessive heat and open flame.

.3 Store adhesives and sealants at temperature above 5 degrees Celsius.

.4 Store membrane rolls on end, dry, and protected from moisture and damage. Cover rolls, insulation and other moisture-sensitive Products with tarpaulins.

.5 Store products on roof deck in a manner to prevent overloading the structure and properly secured to prevent movement due to wind or other forces

.6 Deliver and store Products undamaged in original containers with manufacturer's labels and seals intact.

1.9 SITE CONDITIONS

.1 Protect adjacent properties from damage as a result of contract operations.

.2 Protect the Work and the Owner's property from damage as a result of contract operations.

.3 Confine equipment, material storage, and operations of workers to limits indicated by laws, ordinances, permits, and prior arrangements with the Owner.

.4 Do not interrupt or hamper occupant operations without prior written approval.

.5 Remove progressively all debris created by the execution of the work and dispose of same at appropriate disposal sites.

.6 Alert the Owner to the expected presence of odours, fumes, or dust and co-ordinate the shielding of ventilation equipment or scheduling of process to achieve acceptable abatement.

.7 Upon completion of the work, leave premises in original order and condition.

1.10 ENVIRONMENTAL REQUIREMENTS

.1 Do not install roofing during weather that might adversely affect the performance of the system.

.2 Do not install roofing over surfaces that are wet, icy, dirty or otherwise unacceptable to the system being installed.

.3 Secure the work in a safe and watertight fashion before the onset of inclement weather and at the end of each day's work.

1.11 WARRANTY

.1 Submit extended warranties in accordance with the General Conditions of the Contract.

.2 Installer's Extended Warranty: standard 2 year warranty, commencing from the date of Substantial Performance of the Work.

1.12 Manufacturer's Extended Warranty: The Manufacturer shall issue a non-prorated warranty for a period of Twenty Years. All components including the vapor retarder, insulation, cover board, membrane, flood coat, perimeter flashings including metal shall be covered under this warranty. Wind uplift warranty shall cover wind velocity up to a maximum wind speed of not greater than 117km/h (73 mph).

1.13 MAINTENANCE

- .1 Warranty shall include inspections in years 2 and 5, 10 & 15 of the warranty. The following duties shall be carried out at no extra cost to the Owner as required, by the Manufacturer.
 - sealing of flashing seams
 - filling of pitch pockets
 - repairs to blisters and ridges
 - caulking at metal details as required
 - written inspection report
 - removal of light debris from the roof and premises
 - cleaning of drain screens.
- .2 Documentation shall be provided that the manufacturer has personnel to carry out above noted warranty requirements and has a history of providing these for a minimum of 5 years.
- .3 Upon satisfactory completion, the warranty and all construction information regarding the roof installation shall be placed on an Online Roof Management Program at no additional cost to the Owner.

Part 2 – Products

MANUFACTURERS

- .1 Manufacturers of Multi Ply built-up asphalt roofing systems having Products considered acceptable for use:
 - .1 Tremco Canada as per Kinetic GPO Contract RFSO 24-06

2.1 MATERIALS

- .1 Verify all materials are compatible before proceeding with the work.
- .2 Thermal Underlay Board: 0.5" (13mm) DensDeck Prime
- .2 Base sheet: Composite Ply HT Trilaminare Felts
- .3 Saturated glass fibre roofing felts; to ASTM D2178-88a, Type 4.
- .4 Asphalt primer: to CGSB 37-GP-9Ma-83.
- .5 Hot Asphalt: rubberized hot melt to CAN/CGSB 37.50-M89. Thermastic 80 by Tremco
- .6 Plastic cement: asphalt, to CGSB 37-GP-5Ma-89.
- .7 Sealing compound: to CGSB 37-GP-29Ma-89, rubber asphalt type.
- .8 Insulation Adhesive: Base Layer - Low Rise Foam by Tremco
Tapered and Overlay Board – Thermastic 80 by Tremco
- .9 Insulation: Base layer – 3.0" (75mm) Trisotech G Polyisocyanurate Insulation
Tapered Insulation – 1% Slope Polyisocyanurate Insulation by Posi Slope
Top layer – 0.5" (25mm) Asphalt Coated (6 sides) Fiberboard Insulation

- .10 Flexible elastomeric flashing: use reinforced EPDM/SBR rubber sheet as supplied by Tremco.
- .11 Self-Adhering Sheet Vapour Retarder: AVC Max Peel and Stick Membrane by Tremco
- .12 Cant strips: Asphalt Coated Fiberboard.
- .13 Gravel: 3/8 inch clean and dry pea gravel to ASTM D1863-66. Minimum 10mm
- .14 Roof vents: Alumi-Flash by Portals Plus or approved alternate.
- .15 Pipe pass through. Portals Plus or approved alternate.
- .16 Accessories:
 - .1 Adhesive listed by ULC under Roof Deck Construction Materials, Guide No. 360 R13 and as recommended by manufacturer of material being adhered and for use under climatic conditions to be encountered.
 - .2 Nails: to CSA B111-1974.
 - .3 Flat caps or discs: flat metal 32 mm diameter not less than 0.25 mm thick.
 - .4 Mechanical fasteners; as approved by ULC or Factory Mutual, length to suit application, c/w plastic or metal disks.
 - .5 Insulation joint tape: asphalt treated kraft paper, fibre reinforced, 100 to 150 mm wide, self- adhering.
 - .6 Sealing compound: to CAN/CGSB-19.24-M80.
 - .7 Polyethylene back-up rope: extruded close cell foam, Shore A hardness 20, tensile strength 140 to 200 kPa, compatible with primers and sealants, oversized 30 to 50%.
 - .8 Slip Sheet: 0.15 mm thick polyethylene sheet, to CAN/CGSB-51.34-M.
 - .9 Altra Metal Specialties – Model ABD-CR-X-SS: Aluminum Body Roof Drain complete with clamping ring.

Part 3 - Execution

3.1 EXAMINATION

- .1 Inspect existing conditions to ensure they are suitable for roofing work to begin. Do not proceed until unacceptable conditions are corrected.
- .2 Ensure substrate is solid, clean, dry and free of any contaminants prior to commencing any roofing work.
- .3 Ensure Products are dry prior to installation. Replace damaged Products.

3.2 PREPARATION

- .1 Protect existing roofing from damage with minimum 13 mm thick plywood runways.
- .2 Prime metal and concrete surfaces designated to be covered with asphaltic Products.
- .3 Apply primer at an average rate of 4.3 m²/litre. Allow to cure.
- .4 Ensure primer does not enter building through cracks and other openings.

3.3 THERMAL UNDERLAY BOARD

- .1 Fully adhere underlay board to existing substrate. 12" o.c at perimeter and field. 6" o.c. in corners
- .2 Install underlay boards with long axis perpendicular to ribs, with end joints fully supported.
- .3 Firmly butt each board to surrounding boards. Do not jam or deform boards.
- .4 Cut and fit boards where roof deck intersects vertical surfaces.

3.4 VAPOUR RETARDER

- .1 Prime substrate with specified primer at manufacturers recommended rate.
- .2 Overlap vapour retarder minimum 100 mm for side laps and 150 mm for end laps.
- .3 Extend vapour retarder under cant strips and blocking. Extend to perimeter and deck protrusions.
- .4 Seal roof vapour retarder to wall air/vapour barrier system with flexible flashing membranes to ensure continuity of building air/vapour barrier envelope.

3.5 INSULATION AND OVERLAY BOARD

- .1 Install insulation boards to maintain continuity of thermal envelope, as specified in Section 07196.
- .2 Adhere the base layer of insulation to the vapour retarder using Low Rise Foam Adhesive.
- .3 Adhere tapered insulation, crickets and drain sumps in accordance with approved shop drawings using hot rubberized adhesive.
- .4 Adhere top layer/overlay board of roof insulation to succeeding layer of roof insulation using hot rubberized adhesive.
- .5 Fit insulation tight to roof penetrations.
- .6 Firmly butt insulation boards. Do not jam or deform boards.
- .7 Minimize lipping between adjacent boards.
- .8 Stagger joints minimum 300 mm.
- .9 Stagger overlay board seams with insulation board seams.

3.6 CANT STRIPS

- .1 Install cant strips at intersections of roofing and vertical surfaces.
- .2 Embed in a continuous bed of approved adhesive applied to overlay boards.
- .3 Lay true to line, level and with flush, butt joints and accurately mitred corners.

3.7 ROOF MEMBRANE – BUR GRAVELED

- .1 Install 1 ply of base ply in shingle fashion, starting at roof low point. Apply membrane perpendicular to overlay board joints. Conform to manufacturer's recommended method.
- .2 Install two plies of Type IV felts in shingle fashion, starting at roof low point. Apply membrane perpendicular to overlay board joints. Conform to manufacturer's recommended method.
- .3 Overlap starter strips 510 mm with first ply, then overlap each succeeding ply 485 mm.
- .4 Place ply sheets to ensure water will flow over or parallel to, but not against, exposed edges.
- .5 Shingle in direction to shed water. Extend ply membranes over and terminate beyond cants and cut evenly.
- .6 Embed plies in bitumen, at a minimum rate of 1.2 L/m², and solidly coating each ply for full width.
- .7 Ensure complete and continuous seal and contact between bitumen and ply membranes, including ends, edges and laps without wrinkles, fish mouths or blisters.
- .8 Do not step or walk on felts during or immediately after application until bitumen has set.
- .9 Install each ply so that it shall be firmly and uniformly set, without voids, into bitumen. Thoroughly

and effectively broom or roll each membrane application to ensure full adhesion.

- .10 Lap ply membrane ends 150 mm. Stagger end laps 1.0 metres minimum.
- .11 Overlap previous day's work 600 mm, as required.
- .12 Terminate all ply layers to outer edge of roof perimeter.

3.8 ELASTOMERIC FLASHINGS

- .1 Provide membrane flashings as specified and in accordance with manufacturer's written installation guidelines.
- .2 Install flashings to ensure the roof is watertight at the end of each Working Day.
- .3 Extend flashing membrane minimum 150 mm over roof membrane.
- .4 Extend flashing membranes minimum 200 mm up vertical surfaces.
- .5 Secure flashings at 200 mm OC. Secure vertical flashings through termination bar.
- .6 Overcoat lap edges with end lap stripping adhesive and membrane.
- .7 Tie-in leading edge of elastomeric sheet flashing with stripping ply membrane embedded between alternate courses of stripping ply adhesive.
- .8 Canted Eave:
 - .1 Extend reinforced elastomeric sheeting over outside face of cant and extend minimum 25 mm below blocking. Mechanically fasten with 38 mm common roofing nails, 200 mm OC.
 - .2 Extend reinforced elastomeric sheeting down over cant strip and embed in flashing adhesive from top of cant to at least 150 mm beyond toe of cant onto roof.
 - .3 Ensure complete bond and continuity without wrinkles or voids. Lap sheeting ends 100 mm and adhere with flashing adhesive.
- .9 Canted Eave with Fascia
 - .1 Extend reinforced elastomeric sheeting over outside face of cant and fascia and secure to underside of fascia. Mechanically fasten with 38 mm common roofing nails, 200 mm OC.
 - .2 Extend reinforced elastomeric sheeting down over cant strip and embed in flashing adhesive onto roof surface a minimum of 150 mm.
 - .3 Ensure complete bond and continuity without wrinkles or voids. Lap sheeting ends 100 mm and adhere with flashing adhesive.
- .10 Low Parapet Wall Flashing
 - .1 Seal exposed joint between the wall and roof deck for airtight seal.
 - .2 Adhere elastomeric sheeting completely to flashing surface, cant, and roofing with flashing adhesive.
 - .3 Ensure complete bond and continuity without wrinkles or voids. Lap sheeting ends 100 mm and adhere with flashing adhesive.
 - .4 Extend elastomeric sheeting up and over parapet at least 38 mm and face nail with 38 mm common roofing nails, 200 mm OC.
 - .1 ends 100 mm and adhere with flashing adhesive. Elastomeric sheeting to cover gravel stop completely and overlapping onto adjacent roof minimum 150 mm.
 - .2 Seal edge of flashing membrane at metal upturn.
- .11 Wall Flashing
 - .1 Seal exposed joint between the wall and roof deck for airtight seal.
 - .2 Adhere elastomeric sheeting completely to flashing surface, cant and roofing with flashing adhesive.
 - .3 Ensure complete bond and continuity without wrinkles or voids. Lap sheeting ends 100 mm and adhere with flashing adhesive.

- .4 Elastomeric sheeting width: sufficient to extend at least 150 mm beyond toe of cant onto roof surface and 200 mm above the roof surface.
 - .5 Secure top of elastomeric sheeting to vertical plane with termination bar. Mechanically fasten 300 mm OC. Overcoat bar with end lap stripping adhesive and membrane.
- .12 Building Expansion Joints
- .1 Fill joint with loose insulation.
 - .2 Provide 13 mm thick plywood to top of wood blocking, secured one side only.
 - .3 Apply foam rubber or 25 mm thick mineral fibre insulation to top of plywood.
 - .4 Install elastomeric sheeting centred over expansion joint.
 - .5 Fully adhere sheeting to horizontal and vertical blocking surfaces with flashing adhesive. Press sheeting into adhesive. Ensure complete bond and continuity without wrinkles or voids.
 - .6 Elastomeric Sheeting Width: Sufficient to extend onto adjacent roofing minimum 150 mm.
 - .7 Lap sheeting ends 100 mm and adhere with flashing adhesive.
- .13 Expansion Joint at Wall
- .1 Extend vapour retarder from deck level up wall sufficiently and secure to wall.
 - .2 Fill joint with loose insulation.
 - .3 Install blocking, sheathing and compressible insulation as detailed on drawings.
 - .4 Adhere elastomeric sheeting completely to flashing surface, cant and roofing with flashing adhesive.
 - .5 Ensure complete bond and continuity without wrinkles or voids. Lap sheeting ends 100 mm and adhere with flashing adhesive.
 - .6 Elastomeric Sheeting Width: sufficient to extend at least 150 mm beyond toe of cant onto roof surface and 200 mm above the roof surface.
 - .7 Secure top of elastomeric sheeting to vertical plane with a termination bar. Mechanically fasten 300 mm OC. Overcoat bar with end lap stripping adhesive and membrane.
- .14 Control Joint
- .1 Install elastomeric sheeting centered over joint.
 - .2 Fully adhere sheeting to horizontal and vertical blocking surfaces with flashing adhesive. Press sheeting into adhesive. Ensure complete bond and continuity without wrinkles or voids.
 - .3 Flashing Width: Sufficient to extend onto adjacent roofing minimum 150 mm.
 - .4 Lap sheeting ends 100 mm and adhere with flashing adhesive.
- .15 Curb Flashing
- .1 Fully adhere sheeting to horizontal and vertical blocking surfaces with flashing adhesive. Press sheeting into adhesive. Ensure complete bond and continuity without wrinkles or voids.
 - .2 Elastomeric Sheeting Width: Sufficient to extend from top of curb down onto adjacent roofing minimum 150 mm. Mechanically fasten sheeting on top face of curb.
 - .3 Lap sheeting ends 100 mm and adhere with flashing adhesive.
 - .4 If membrane does not completely cover sleeper, secure top edge with a termination bar.
 - .2 Mechanically fasten 300 mm OC. Overcoat bar with end lap stripping adhesive and membrane.
- .16 Projection Flashing
- .1 Apply flashing adhesive to prepared area and Provide aluminium base over pipe and set into the flashing adhesive.
 - .2 Select proper step of rubber cap and cut off above index ring.
 - .3 Install cap onto base collar and press edge to ensure proper seal.
 - .4 Provide clamp around pipe and rubber cap. Prime flange.
 - .5 Install elastomeric sheeting with stripping ply adhesive and membrane.
 - .6 Cover flange completely. Extend flashing minimum 100 mm onto adjacent roofing. Remove wrinkles and voids. Lap flashing ply ends 100 mm.
- .17 Cartwheel and Collar: Provide cartwheel and collar flashing around projection using elastomeric sheeting and flashing adhesive.

- .20 Piping Through Roof Boxes Portals Plus
 - .1 Install pre-manufactured Portal Plus as per manufacturers written recommendations.
 - .2 Set flange in mastic, nail flange to wood blocking at 75 mm OC. Prime flange.
 - .3 Fill box interior with mineral fibre insulation.
 - .4 Fasten top and closure detail to bottom.
 - .5 Clean surfaces of box and piping with metal cleaner and then prime. Seal joint between box and piping.
 - .6 Install elastomeric sheeting with flashing adhesive and membrane.
- .21 Roof Drain
 - .1 Install drain assembly in accordance with manufacturer's written installation guidelines.
 - .2 Plug and seal drain to prevent water entry until service connection is completed.
 - .3 Provide 600 x 600 mm size elastomeric sheeting reinforcement, centered over drain; and fully adhered with flashing adhesive. Remove wrinkles and entrapped air.
 - .4 Apply mastic to exposed edge of membrane inside the drain opening.
 - .5 Reclamp flashing collar to drain in bed of flashing adhesive.
 - .6 Trim excess sheeting within drain.

3.8 SURFACING

- .1 Install concrete pavers on extruded polystyrene where indicated on Drawings.
- .2 Flood coat roof surface with Hot Rubberized Asphalt adhesive, applied at a rate of 2.4 L/m².
- .3 Immediately broadcast aggregate ballast into Hot Rubberized Asphalt at a rate of 20 kg/m², covering flood coat completely.
- .4 Rake out aggregate to a neat, even surface.

3.9 FIELD QUALITY CONTROL

- .1 Contractor Inspection: Prior to application aggregate surfacing, inspect completed membrane and flashing for punctures, tears, and discontinuously sealed seams.
- .2 Apply additional layer of membrane over punctures and tears, extending minimum 50 mm beyond damaged area in all directions, and seal seams.
- .3 Manufacturer's Field Service: arrange for manufacturer's technical representative to regularly inspect the roofing application daily and confirm that the roofing system installation is in strict accordance with manufacturer's recommendations.

3.10 CLEANING

- .1 Clean drains, gutters and downspouts of debris, ensuring free drainage.
- .2 Clean adjacent roof surfaces, levels and ground level areas of debris and excess Products.

3.11 PROTECTION

- .3 Adequately protect Products and work from damage by weather, traffic and other causes.
- .4 At the end of each Working Day, seal exposed edges of roofing membrane to be watertight.
- .5 Protect adjacent Work from damage. Repair damage.

END OF SECTION

PART 1 - GENERAL

.1 **Description**

.1 **General Requirements**

Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

.2 **Work Performed by Other Sections Related to this Section is Specified in**

Section 04200: Unit Masonry.
Section 07411: Preformed Metal Siding
Section 07920: Sealants and Caulking, Other Than Sheet Metal Joints
Section 09900: Painting and Finishing
Division 15 : Flashings Specified for Mechanical Installations
Division 16 : Flashings Specified for Electrical Installations

.3 **Supply of Work Which Shall be Installed by This Section is Specified in**

Section 07415: To furnish precoated sheet metal

.4 **Installation of Work Which Shall be Supplied by This Section is Specified in**

Section 03300: To install flashing reglets.

.5 **This Section Shall Include Performance of Work Which is Specified in**

Section 07520: To specify field quality control and submission of inspection reports.
Section 07900: To specify caulking at sheet metal joints.

.6 **Work Included in This Section**

Generally the work of this section will include, but will not be limited to the following:
: all galvanized metal flashings for counter flashings at all parapets, curbs, roof
openings not normally exposed to view,
: all flashings not specifically covered or detailed by other related sections.

.2 **Quality Assurance**

.1 **Subcontractor Qualifications**

Provide sheet metal specified in this Section only by a Subcontractor who has adequate plant, equipment and skilled tradesmen, and is known to have been responsible for satisfactory installations similar to that specified during a period of at least the immediate past five years.

.3 **References**

.1 **Reference Standards**

Reference standards quoted in Contract Documents refer to:
ASTM A525-81, Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, General Requirements.
CGSB Specification 1-GP-108M, Paint, Acid and Alkali Resistant, Black.

.4 **Submittals**

.1 **Samples**

Submit samples of precoated finish and sheet metal joints if requested.

.5 **Delivery, Storage, and Handling**

- .1 Protect sheet metal during handling and storage to prevent rusting, staining, abrasion of finish coatings, bending and denting.
- .2 Protect surfaces of precoated metal to prevent scratching.

.6 **Warranty**

.1 **Extended Warranty**

- .1 Warranty contained in GC24 is, with respect to Section 07600, extended from 2 year to 5 years. Without restricting generality of warranty, defects shall include leaking, failure to stay in place under expansion, lifting, deformation, deterioration, etc.
- .2 Contractor hereby warrants that system is suitable for use in this type of installation.
- .3 Contractor shall arrange with Consultant and/or Owner, about 1 month before warranty expires, to visit site, examine installation specified in this section, and make necessary repairs. Should Contractor fail to make such arrangement through no fault or neglect of Owner or Consultant, then period of warranty shall extend to one month after such arrangement is made.

PART 2 - PRODUCTS

.1 **Materials**

.1 **Galvanized Steel Sheet**

ASTM Specification A525, zinc coating designation Z275; flashings, 0.5 mm thick; cleats and edge strips, 1.6 mm thick; other work in thickness indicated on drawings or specified.

.2 **Precoated Finish**

- .1 Use sheet metal with precoated finish where metal is exposed to view.
- .2 Baked enamel or other coatings as may be specified in other sections, applied to galvanized sheet steel in shop by continuous coating line, by Stelco or Dofasco.
- .3 Colour to match new metal siding

.3 **Solder**

New, one half pig lead, one half block tin.

.4 **Flux**

For galvanized steel, resin type.

.5 **Fasteners**

Use only nails, bolts, screws and other fasteners of the same metal and with the same finish as the metal being fastened. Use fasteners of a size suitable for the particular fastening condition and service. Use only approved nails, bolts, screws and other fasteners

.6 **Metal Flashing Reglets**

0.6 mm thick galvanized steel, open type at least 50 mm sloped depth, with receiving slot sloping up 45°, wedges, soft lead.

.7 **Caulking**

One or two part polysulphide specified in Section 07920.

-
- .8 **Felt**
No. 15 asphalt saturated roof felt, to meet specified requirements of CSA Standard A123.3.
- .9 **Building Paper**
Smooth, unsaturated quality, rosin-sized paper weighing not less than 0.25 kg/sq.m.
- .10 **Bituminous Paint**
To meet specified requirements of CGSB Specification 1-GP-108.
- .2 **Fabrication**
- .1 Fabricate all possible sheet metal in shop by brake forming, and bench cutting, drilling and shaping.
- .2 Form bends with straight sharp lines, angles and arises; and sheets into true planes free from twists, buckles, dents and other visual distortions.
- .3 Supply accessories required for installation of sheet metal specified in this Section. Fabricate accessories of same material as sheet metal with which they will be incorporated.

PART 3 - EXECUTION

- .1 **Installation**
- .1 **General**
- .1 Install sheet metal exposed to view in straight lines, with junctions aligned and on same plane.
- .2 Install sheet metal wherever possible on runs of equal 2400 mm lengths except where conditions for securing dictates that shorter and equal 1200 mm lengths are preferable.
- .3 Install precoated sheet metal wherever possible in minimum lengths of 3600 mm on typical runs, except where conditions for securing dictates that shorter and equal 1200 mm lengths are preferable.
- .4 Supply flashing reglets required by this Section, to other Sections responsible for their installation. Assist others in their location.
- .5 Install sheet metal to prevent entry of water under service and weather conditions.
- .6 Back paint, with two coats of bituminous paint at rate of 1 L/sq.m., sheet metal that is not given precoated finish and that comes into contact with another kind of metal, or masonry or concrete.
- .7 Install sheet metal with concealed fastenings. Exposed fastenings will be permitted only as approved when concealed fastenings are impossible. Fasten sheet metal, clips and other components in an approved manner, with fasteners weathertight and evenly and neatly located. Do not use pop rivets.
- .8 Join sheet metal by slip lock seams to permit thermal movement. Space joints evenly where exposed. Lock seam and solder internal corners. Form mitres with standing seams in precoated metal.
- .9 At exposed sheet metal, install expansion joints with 200 mm wide hooked covers, bedded in caulking compound, fastened at one side only, and at intervals of approximately 6.0 m., or as otherwise shown on Drawings or approved.
- .10 Install 50 mm X 75 mm cleats where required to fasten sheet metal. Secure each cleat to backing with 2 nails, space cleats at 300 mm o.c. generally.
- .11 Install edge strips in lengths of approximately 2400 mm, continuously, and with 6 mm between each length. Fasten at 300 mm o.c.
- .12 Do not form open joints or pockets that fail to drain water.
- .13 Caulk all reglets and open sheet metal joints that do not mechanically provide weathertight construction, in accordance with Section 07920.
- .14 Apply No. 15 roofing felt under sheet metal installed directly over masonry,

-
- concrete, or wood. Secure felt in place, and lap joints 100 mm as sheet metal is installed. Turn up edges 150 mm where used on horizontal surfaces. Lay rosin-sized building paper over felts.
- .15 Secure sheet metal by nailing at 150 mm o.c. where concealed, unless otherwise specified or indicated on Drawings.

.2 **Flashings**

- .1 At masonry: Wedge flashings into joints and reglets with lead at 300 mm o.c. Caulk remainder of joint and reglet.
- .2 Install metal flashings as indicated on Drawings or as otherwise required where building components penetrate exterior construction, and for which flashing is not specified by other Sections. Fasten by cleats in doubled back edges of drips. Colour to match siding.

.3 **Roof Edge Trim**

Install 0.5 mm thick galvanized steel trim secured by nailing and edge strip.

.4 **Roof Control Joints**

Install 0.5 mm thick galvanized sheet cover secured by edge strips to joint movement.

.5 **Copings**

Install 0.5 mm thick galvanized steel secured by edge strips.

.6 **Fascias**

Install 0.5 mm thick galvanized steel as indicated on drawings with bottom secured by edge strips.

.7 **Suppers and Downspouts**

Fabricate of 0.5 mm thick galvanized steel to profiles and sizes as shown on Drawings. Install these items using galvanized fasteners.

.2 **Cleaning**

- .1 Remove flux residue completely from surfaces and crevices, remove other deposits, stains or protection and wash metals left unpainted and exposed to view as recommended by the manufacturer of the metal.

End of Section

PART 1 - GENERAL

1.01 SUMMARY

- .1 Section includes:
 - .1 Roof hatches.

1.02 SUBMITTALS

- .1 Submit required submittals
- .2 Product data sheets:
 - .1 Submit manufacturer's Product data sheets for Products proposed for use in the work of this section.
- .3 Shop drawings:
 - .1 Show profiles, accessories, locations, and dimensions.
 - .2 Include details of interface with work of other sections.

1.03 DELIVERY, STORAGE, AND HANDLING

- .1 Package and brace products to prevent damage in shipment and handling. Protect finish surfaces by sturdy wrappings, or covering.

PART 2- PRODUCTS

2,1 ROOF HATCHES; LADDER ACCESS & SAFETY RAILING SYSTEMS

- .1 Description: Cover and frame are 14 gauge (2 mm) type 304 stainless steel
- .2 Cover: Brakeformed, hollow-metal design with 1" (25 mm) concealed fiberglass insulation, 3" (76 mm) beaded, overlapping flange, fully welded at corners, and internally reinforced for 40 psf (195 kg/m²) live load.
- .3 Gasket: Extruded EPDM rubber gasket permanently adhered to cover.
- .4 Hinges: Heavy-duty pintle hinges with 9.5 mm (3/8") type 316 stainless steel hinge pins.
- .5 Latch: Enclosed two-point slam latch with interior and exterior turn handles and padlock hasps.
- .6 Lift Assistance: Compression spring operators enclosed in telescopic tubes. Automatic hold-open arm with grip handle release.
- .7 Hardware:
 - Stainless Steel: Type 316 stainless steel.
- .8 Hatch Size:
 - 762 mm x 1372 mm size.
- .9 Include safety railing system for access. Refer to Architectural drawings.
- .10 Include steel ladder. Refer to Architectural drawings.
- .11 Hatch Finish:
 - Stainless Steel: Type 304 stainless steel with mill finish and electrochemical passivation of welds
- .12 Acceptable *Products*:
 - Hatch:
 - .1 Bilco model 'Type NB'
 - .2 Lexcor Model 'R-130' complete with 'Safety Bar'.

.3 Or other approved by Architect and Client

Guard railing:

.1 Tremsafe guard

.2 Bil-Guard 'RL'

.4 Or other approved by Architect and Client

1.02 FABRICATION

- .1 Fit joints and junctions between components tightly, to prevent entry of water into component voids and interior of building. Cap open ends of sections exposed to view.
- .2 Fabricate work with materials and component sizes, complete with metal gauges, reinforcing, anchors, and fastenings of adequate strength to ensure that it will remain free of warping, buckling, opening of joints and seams, and distortion within limits of intended and specified use. Conceal and weld connections wherever possible.

PART 3 – EXECUTION

3,1 INSTALLATION

- .1 Install in accordance with manufacturer's written installation instructions.
- .2 Incorporate devices to which roofing and flashing may be secured, and, install work to ensure that roofing and flashings will be properly installed to maintain weather-tight building.
- .3 Verify under work of this section that installed products function properly.
- .4 Adjust hardware to function smoothly and without binding and to ensure that components fit in a weather-tight fashion.

END OF SECTION

PART 1 - GENERAL

.1 **Description**

.1 **General Requirements**

Division 1 and General Requirements, is a part of this Section and shall apply as if repeated here.

.2 **Work Performed by Other Sections Related to This Section is Specified in**

.3 **Work Included Elsewhere but Performed in Compliance with This Section**

Section 06200 – Rough Carpentry
Washroom Accessories
Plumbing Fixtures

.2 **Quality Assurance**

.1 **Subcontractor Qualifications**

Seal joints specified in this Section by Subcontractor approved by manufacturers of sealants; who has equipment adequate for Project, skilled tradesmen to perform it expeditiously; and known to be responsible for satisfactory installations similar to that specified during at least the immediate past five years.

.3 **References**

.1 **Reference Standards**

Reference Standards quoted in Contract Documents refer to:
CGSB Specification 19-GP-5M, Sealing Compound, One Component, Acrylic Base, Solvent Curing.
CGSB Specification 19-GP-9Ma, Sealing Compound,
One Component, Silicone Base, Chemical Curing
CAN/CGSB-19.13-M82, Sealing Compound, One Component, Elastomeric, Chemical Curing.
CAN/CGSB-19.24-M80, Sealing Compound, Multi-Component, Chemical Curing.

.4 **Submittals**

.1 **Samples**

Submit samples of sealant and backing if requested.

.2 **Product List**

Submit manufacturer's and product name for each sealant which will be used for Project, before commencing joint sealing.

.5 **Site Conditions**

.1 **Environmental Conditions**

Apply sealants only to completely dry surfaces, and at air and material temperatures above minimum established by manufacturer's specifications.

.6 **Warranty**

.1 **Extended Warranty**

- .1 Submit a warranty of the joint sealant installation specified in this Section covering the period for four years beyond the expiration of the warranty period specified in the General Conditions to the Contract, including materials and application. Replacement of joint sealants shall include removal of defective materials, preparation for and application of new material, and the repair and making good of damaged adjacent materials.
- .2 Defective joint sealant installation shall include, but not be restricted to, joint leakage, hardening, cracking, crumbling, melting, bubbling, shrinkage, running, sagging, change of colour, loss of adhesion, loss of cohesion, and staining of adjoining or adjacent materials or surfaces.

PART 2 - PRODUCTS

.1 **Materials**

- .1 All materials utilized in a sealant system shall be compatible.
- .2 Specified proprietary products are minimum acceptable quality. Products of other manufacturers of equal or superior quality will be accepted where specifically approved by Architect.

.3 **Sealants**

- .1 Provide sealant formulation recommended by manufacturer for type of joint, substrate and service conditions applicable.
- .2 Refer to Caulking Schedule for utilization of the following sealants.
- .3 Colours of sealants will be selected from manufacturer's standard range.
- .4 Acrylic Solvent Release, One Part, Sealant:
To meet specified requirements of CGSB Specification 19-GP-5.
PTI 738 by P.T.I. Sealants Ltd.
- .5 Two Part Urethane Sealant:
To meet specified requirements of CAN/CGSB-19.24-M80, and as recommended by manufacturer for conditions.
Dymeric 240 by Tremco Canada.
- .6 One Part Urethane Sealant:
To meet specified requirements of CAN/CGSB-19.13-M82, and as recommended by manufacturer for conditions.
Vulkem 45 SSL by Tremco Canada
Tremco Canada Dymonic FC
- .7 Silicone Sealant: One Part Sealant:
To meet specified requirements of CAN/CGSB-19.13-M82. Spectrem 1 for window sealant by Tremco (Canada) Ltd., or as otherwise approved.
- .8 Two Part Polyepoxide Urethane Sealant:
To meet specified requirements of CAN/CGSB-19.24-M80. Dymeric by Tremco (Canada) Ltd.
- .9 One Part Polysulphide Sealant:
To meet specified requirements of CAN/CGSB-19.13-M82.
- .10 Two Part Polysulphide Sealant:
For use in joints except where subjected to traffic:
To meet specified requirements of CAN/CGSB-19.24-M80, non-sag, with

-
- .11 a Shore "A" hardness range of 20 to 35.
Two Part Polysulphide Sealant:
For use at surfaces subjected to traffic:
To meet specified requirements of CAN/CGSB-19.24-M80, self-levelling,
with a Shore "A" hardness range of 35 to 40.
- .4 **Primer**

Specifically designed for use with sealant compounds on surfaces encountered,
and as specified by the compound manufacturer to assure adhesion of compound
to prevent staining of substrate materials.
- .5 **Sealant Backing (Bedding Material)**

Extruded, foamed, closed cell, round, polyethylene, urethane, neoprene or vinyl
rod, 30% greater diameter than joint width, with Shore "A" hardness of 20, and
830 - 900 kPa tensile strength, and manufactured especially for the purpose.
- .6 **Void Filler**

Mineral fibre as specified in Section 07200.
- .7 **Bond Breaker**

For installation where minimum specified depth of joints is unobtainable.
Pressure sensitive plastic tape, 3M 3266 or #481.

PART 3 - EXECUTION

- .1 **Examination**
- .1 Before commencing joint sealing, verify at site that joint configuration and
surfaces have been provided as specified in other Sections to meet intent of
sealant specification; that joint conditions will not adversely affect execution,
performance or quality of completed sealed joints; and that they can be put into
acceptable condition by means of preparation specified in this Section. If in
doubt, verify site conditions together with manufacturer's representative of sealant
to be applied.
- .2 Ascertain that sealers and coatings applied to sealant substrate are compatible
with the sealant used and that full bond between sealant and substrate is attained.
Request samples of the sealed or coated substrate from their fabricators for
testing of comparability and bond if necessary.
- .3 Verify specified environmental conditions are ensured before commencing joint
sealing.
- .4 Defective sealed joints resulting from application to unsatisfactory joint conditions
will be considered the responsibility of this Section.
- .2 **Preparation**
- .1 Remove loose mortar, dust, oil, grease, oxidation, mill scale, coatings, all other
materials affecting bond of compounds to surfaces that sealant compounds must
adhere, except for painted surfaces, by brushing, scrubbing, scraping or grinding.
- .2 Clean down caulked metal surfaces with clean cellulose sponges or rags soaked
in solvent recommended by sealant manufacturer, and wipe dry with clean cloths.
Ensure that solvent is not injurious to painted surfaces.

- .3 Use method of preparation suitable for substrate as recommended by sealant manufacturer, and that does not damage adjacent surfaces.
- .4 Ensure that releasing agents, coatings or other treatments have either not been applied to joint surfaces, or that they are entirely removed.

.3 Application

- .1 Except where specified in other Sections, seal open joints in surfaces exposed to view, and to make the building weathertight and airtight as applicable; as indicated typically on Drawings, and as otherwise specified. Refer to Article 3.05, Caulking Schedule. Include, but do not restrict it to, sealing the following joints:
 - .1 Perimeter joints of exterior and interior pressed steel opening frames where installed in masonry and a weathertight joint is otherwise required.
 - .2 Perimeter joints of exterior and interior aluminum opening frames.
 - .3 Perimeter joints of exterior louvre and vent frames.
 - .4 Joints between underside of window sills and walls.
 - .5 Exposed control joints in masonry walls.
 - .6 Exposed expansion joints in masonry walls.
 - .7 Exposed control joints in concrete except for floors.
 - .8 Exposed expansion joints in concrete.
 - .9 Raked joints at masonry wall junctions and masonry to concrete junctions.
 - .10 Interior and exterior exposed joints, between dissimilar materials, and not concealed from view.
 - .11 Exposed control joints in gypsum/fiber reinforced gypsum panels.
 - .12 Joints at wall floor junctions, and at floors unless indicated on Drawings.
 - .13 Full length of exterior door saddles.
 - .14 Close-fitted space between mechanical and electrical ducts, conduits and pipes, and walls and also at floors where fire separations must be maintained.
 - .15 Joints between base angle and structure at preformed metal siding.
- .2 Prime surfaces to receive sealants as required by substrate and manufacturer's specifications to ensure positive and permanent adhesion, and to prevent staining.
- .3 Pack joints tightly with sealant backing set at depth specified for sealant. Fill other voids with filler.
- .4 Install bond breaker tape in bottom of joints in lieu of sealant backing where proper depth cannot be obtained when backing is installed.
- .5 Maintain depth of sealant as follows for joint widths of
 - : 6 mm (minimum joint width): joint depth 6 mm.
 - : 6 to 13 mm: depth equal to joint width.
 - : 13 to 25 mm: depth equal to 1/2 joint width.
 - : 25 to 50mm: maximum depth of 13 mm.
- .6 Install sealant in joints over 50 mm wide only after consultation with and approval of sealant manufacturer.
- .7 Fill joints with sealant compound to specified or indicated depths as indicated. Perform joint sealing in accordance with compound manufacturer's specifications, under his supervision, and using pressure guns and other equipment as approved by him. Finish joints with a full bead so that they are smooth; and free from ridges, wrinkles, air pockets and embedded foreign materials.
- .8 Tool surface of joints to a slight concave profile.
- .9 Make compounds workable only as manufacturer specifies.
- .10 Caulk joints in site painted materials after adjacent surfaces have been painted.

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- .11 Match compound to paint colour.
Do not allow sealants to cover or spot surfaces outside of joints. Use masking tape protection to prevent coating of adjacent surfaces if necessary.

.4 **Cleaning**

- .1 Remove sealant smears and drippings, and masking tape immediately on completion of joint sealing.
- .2 Do not use chemicals, scrapers, or other tools which would damage surfaces from which excess compounds or drippings are removed. Make good materials damaged by cleaning by the installer of the damaged material and at the expense of this Section.
- .3 Instruct Contractor on proper final cleaning methods.

.5 **Caulking Schedule**

.1 **Type 1 Sealant**

One Part Silicone Sealant, or
Spectrem 1 for window sealant
Use at all locations except where another is specified.

.2 **Type 2 Sealant**

Use at exterior joints between window frames and masonry.

.3 **Type 3 Sealant**

One part Clear Silicone Sealant, mildew resistant.
Use at joints between:

1. Washroom fixtures and wall,
2. Washroom fixtures, water closets and floor,
3. Countertops and wall,
4. Cabinets and walls and adjacent finishes.

End of Section

PART 1 - GENERAL

.1 Description

.1 General Requirements

Division 1, General Requirements, is part of this Section and apply as if repeated here.

.2 Work Performed by Other Sections Related to This Section is Specified in

Section 06200: Hanging of Wood Doors
Section 07920: Caulking Frames
Section 08710: Supply of Finish Hardware
Section 09900: Painting and Finishing

.3 Installation of Products Supplied by This Section is Specified in

Section 04200: To build anchors/frames in masonry.
Section 06200: To set up frames in masonry openings.
Section 06200: To install hollow metal doors.
Section 09250: To install and anchor frames in drywall partitions.

.2 Quality Assurance

.1 Subcontractor Qualifications

Provide fabrications specified in this Section only by a Subcontractor who has adequate plant, equipment and skilled tradesmen to perform it expeditiously, and is known to have been responsible for satisfactory installations similar to that specified.

.2 Requirements of Regulatory Agencies

- .1 Construct fire rated doors and frames of ratings indicated in accordance with validating label requirements, otherwise required by jurisdictional authorities.
- .2 Ensure hardware and installation meet CAN4-S104 requirements, Standard Method for Fire Tests of Door Assemblies adopted by Insurance Advisory Organization, when applicable.
- .3 Doors and frames indicated as labelled, to meet conditions of NFPA No. 80, for installation, and shall have attached ULC labels.

.3 References

.1 Reference Standards

Reference standards quoted in Contract Documents refer to:
ASTM A366-72, Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.
ASTM A525-81, Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, General Requirements.
ASTM A526-80, Specification for Steel Sheet, Zinc-Coated (Galvanized) by the

Hot-Dip Process, Commercial Quality.
ASTM A780-80, Standard Practice for Repair of Damaged Hot-Dip Coatings.
CGSB Specification 1-GP-132M, Primer, Zinc Chromate, Low Moisture Sensitivity.
CGSB Specification 1-GP-140M, Primer, Red Lead, Iron Oxide, Oil Alkyd Type.
CGSB Specification 31-GP-105M, Coating, Conversion, Zinc Phosphate, for Paint Base.
CGSB Specification 1-GP-181M, Coating, Zinc Rich, Organic, Ready Mix.
CSA Standard G164-M1981, Hot-Dip Galvanizing of Irregularly shaped Articles.

.4 **Submittals**

.1 **Shop Drawings**

Submit shop drawings.

.5 **Delivery, Storage, and Handling**

- .1 Brace frame units to prevent distortion in shipment. Protect finished surfaces by sturdy protective wrappings.
- .2 Ensure that doors are stored in a secure dry location to ensure they are not damaged until hung. Remove wrappings when finally stored in location secure from damage. Store doors vertically, resting on planks, with blocking between to allow air to circulate.
- .3 Repair damage to finishes immediately as it occurs with matching specified finish materials.

PART 2 - PRODUCTS

.1 **Materials**

.1 **Steel Sheet**

Cold-rolled, stretcher levelled to meet specified requirements of ASTM Specification A366 or SAE Specification 1010: galvanized sheet, commercial quality, to meet specified requirements of ASTM Specification A526.

.2 **Prime Paint**

- .1 General: Ensure that primers are compatible with specified finish paint.
- .2 Primer: To meet requirements of CGSB Specification 1-GP-132, 1-GP-81, or 1-GP-140.

.3 **Galvanizing**

- .1 Full galvanized sheet steel; coating to meet specified requirements of ASTM Specification A525, zinc coating designation Z275.
- .2 Wiped coated sheet steel; zinc wiped coating to meet specified requirements of ASTM Specification A525, zinc coating ZF75.
- .3 Galvanized accessories; zinc coating to meet specified requirements of CSA Standard G164, including Appendix A.

.4 **Zinc Rich Paint**

To meet specified requirements of CGSB Specification 1-GP-181.

.5 **Panel Insulation**

At exterior: Polyurethane: closed cell rigid board, density; 32 kg/cubic metre.

.6 **Grilles**

E.H. Price, Series STG1, steel, prime painted, sizes as shown on Door Schedule.

.7 **Door Bumpers**

Single stud rubber at interior openings.

.8 **Door Core Materials**

- .1 Honeycomb: Structural small cell 25mm (1") maximum Kraft paper 'honeycomb'. Weight: 36.3 (80lb) per ream (minimum). Density: 16.5kg/m³ (1.03pcf) minimum, sanded to required thickness.
- .2 Temperature Rise Rated (TRR): Solid slab core of non-combustible, inorganic composite to limit temperature rise on the "unexposed" side of door to 250°C at 60 Minutes to ULC CAN4-S104—M80, ASTM E2074-00e1 or NFPA 252-2008.
- .3 Polystyrene: EPS polystyrene, Type 1, density: 16 to 32 kg/m³ (1 to 2 pcf), thermal values: RSI 1.06 (R 6.0) minimum, conforming to ASTM C578-09e1.

.9 **Adhesives**

- .1 Heat resistant, single component, polyurethane reactive (water) hot melt, thermoset adhesive.
- .2 Rigid insulation cores: Heat resistant, epoxy resin based, low viscosity, contact cement.
- .3 Lock seam doors: fire resistant, resin reinforced polychloroprene, high viscosity sealant-adhesive.

.10 **Acceptable Manufacturers**

- .1 All Steel Doors 2000 Ltd.
- .2 Artek Door (1985) Ltd.
- .3 Daybar Industries Ltd.
- .4 Fleming-Baron Door Products, an ASSA ABLOY group company.
- .5 Trillium Steel Doors Limited.
- .6 Vision Hollow Metal Limited.

.2 **Door and Frame Systems**

.1 **Exterior Framing**

- .1 2.0 mm thick steel frames, fully welded; minimum 170 mm jamb depth.
- .2 Frame sizing shall be of the metric size shown in Door and Frame

Schedules.

.2 **Interior Frames**

- .1 For Masonry Partitions: 1.6 mm thick welded construction; knocked-down construction where Door and Frame Schedule makes reference to "suit existing construction"; minimum 170mm jamb depth factory welded.
- .2 For Drywall Partitions: 1.6 mm thick welded construction; throat size to suit partition.
- .3 Frame sizing shall be of the metric size shown in Door and Frame Schedules.

.3 **Doors**

- .1 Interior: Wood by 08210.
- .2 Door sizing shall be of the metric size shown in Door and Frame Schedule or to suit existing openings.

.3 **Fabrication**

.1 **General**

- .1 Fit & assemble fabrication in shop where possible. Make trial assembly in shop when not possible.
- .2 Fabricate, reinforce and anchor component parts and assemblies, to support loads usage will impose without deflection detrimental to function, appearance or safety.
- .3 Reinforce components to resist stresses imposed by hardware in use.
- .4 Prepare frames and doors for specified hardware with mortises, and reinforcement. Drill and tap to template information. Incorporate steel reinforcement of
 - : 1.6 mm thick flush bolts, locks & strikes.
 - : 6.4 mm for hinges.
 - : 4.8 mm for push/pulls and panic devices.
 - : 2.7 mm thick for surface mounted hardware, and door closer brackets and arms.
- .5 Install metal mortar guards of minimum 0.76 mm thick steel at cutouts for hardware in frames installed in masonry walls.
- .6 Reinforce all frames for closers.
- .7 Provide for anticipated expansion and contraction of frames and supports.
- .8 Fit elements at intersections & joints accurately together in true planes, plumb & level.
- .9 Weld frame and door assemblies together. Weld continuously at joints exposed to view or at joints through which air or water could penetrate from the exterior of building to the interior.
- .10 Where welding is impossible, connections may be bolted. Ream drilled holes and leave exposed edges clean and smooth.
- .11 Isolate from each other dissimilar metals, and metal from concrete or masonry or prevent electrolysis.
- .12 Ensure that exterior doors and frames are tightly fitted, and drips are installed on frames of out-swinging doors, to prevent entry of water

where exposed to weather.

.2 Pressed Steel Door Frames and Screen Frames

- .1 Supply frames to suit construction conditions and dimensions indicated on drawings and in Door and Frame Schedule.
- .2 Schedule of fabrication and delivery must be such that it will not delay the project.
- .3 Fabricate interior frames of wipe coat galvanized steel and exterior frames of full galvanized sheet steel.
- .4 Fabricate steel frames in minimum thickness of 1.6 mm thick sheet steel unless otherwise specified or indicated.
- .5 Use 2.0 mm thick sheet steel for exterior frames.
- .6 Minimum frame material thickness applies only to doors not otherwise requiring heavier gauges to meet specified fire rated construction as required by validating underwriter's test.
- .7 Fabricate removable stops of minimum 0.91 mm thick steel. Do not weld stop corners.
- .8 Install recessed weatherstripping in stops of exterior doors.
- .9 Finish frame with one coat of galvanized primer on zinc coated surfaces exposed to view.
- .10 Where members join at corners, cut mitres and weld continuously along inside of sections.
- .11 Where tubular frame sections meet frame members, join by butt welding.
- .12 Attach two 1.2 mm thick steel channel spreaders at bottom of door frames to maintain square alignment, secured to facilitate removal after frames that extend only to finish floor are built in.
- .13 Incorporate structural stiffeners for frame members as shown on Drawings. Securely anchor them at bottom and top. Where they extend above ceiling, anchor to concrete or structural framing to suit site conditions.
- .14 Install 3 bumpers in interior frames at single opening latch jambs, and 2 at double door frame heads.
- .15 Fasten removable stops by countersunk Phillips head screws at approximately 225 mm o.c. symmetrically spaced on stop length.
- .16 Anchor frames at floor by 1.5 mm thick angle clips, welded to frame and provided with two holes for floor anchorage.
- .17 For frames in masonry walls attach adjustable Tee-anchors fabricated from galvanized steel same gauge as frame. Install anchors on each jamb. Install 3 anchors for openings 2285 mm high.
- .18 For frames in stud walls, weld L clip at bottom of frame for anchor to floor slabs.

.3 Steel Doors and Panels

- .1 Fabricate steel doors and panels to a thickness of 45mm (1-3/4"). Unless indicated otherwise.
- .2 Insulated doors and panels:
 - .1 Face sheets fabricated from 1.5 mm (0.06") 16 gauge steel.
 - .2 Insulation core: Polystyrene.

-
- .3 Longitudinal edges mechanically interlocked.
 - .1 Adhesive assisted with edge seams visible.

 - .3 Interior doors and panels:
 - .1 Face sheets fabricated from 1.5 mm (0.06") 16 gauge steel.
 - .2 Honeycomb core.
 - .3 Longitudinal edges mechanically interlocked
 - .1 Adhesive assisted with edge seams visible.

 - .4 Temperature rise rated doors and panels:
 - .1 Face sheets fabricated from 1.3mm (0.05") 18 gauge steel.
 - .2 TRR asbestos free core.
 - .3 Longitudinal edges mechanically interlocked.

 - .5 Fabricate of composite metal face construction with each face formed from flush sheet steel without visible seams, free of scale, pitting, coil brakes, buckles and waves.

 - .6 Formed edges shall be true and straight with minimum radius for the thickness of steel used.

 - .7 Lock and hinge edges shall be bevelled 3 mm in 50 mm (1/8" in 2") unless hardware or door swing dictates otherwise.

 - .8 Top and bottom of doors shall be provided with inverted, recessed, 1.5mm (0.06") 16 gauge steele end channels, welded to each face sheet at 50 mm (2") on centre maximum.

 - .9 Prior to shipment, mark each door with an identification number as shown on the approved submittal drawings.

 - .10 Exterior doors shall be provided with factory installed flush PVC top caps. Fire labelled exterior doors shall be provided with factory installed flush steel top caps.

 - .11 Blank, reinforce, drill and tap doors for mortised, templated hardware. Locate to manufacturer's standard unless indicated otherwise.

 - .12 Holes 12.7mm (1/2") and larger shall be factory prepared.

 - .13 Glazing:
 - .1 For glazing materials up to and including 8 mm (5/16") thick, doors shall be provided with 1 mm (0.04") 20 gauge steel glazing trim and snap-in glazing stops.
 - .2 For glazing materials greater than 8 mm (5/16") thick, doors shall receive 1 mm (0.04") 20 gauge steel trim and screw fixed glazing stops. Screws shall be #6 x 32mm (1 1/4") oval head Tek™ (self-drilling) type at 305 mm (12") on centre maximum.
 - .3 Glazing trim and stops shall be accurately fitted (within 0.39 mm (0.015") tolerance), butted at corners, with removable glazing stops located on the 'push' side of the door.

 - .14 Fabricate closing stiles of paired doors as indicated or scheduled.

- .15 Where indicated in schedule, prepare doors and panels for installation of fire-rated door grilles. If required to meet door grille manufacturer's rated design, provide reinforcement around door grill opening.

.4 **Finishing**

- .1 File and grind exposed welds smooth so that assemblies have appearance of one piece construction. Fill depressions with metal filler and finished
- .2 For primed surfaces, clean, scrape and remove rust, mill scale, grease and other surface deposits from steel following fabrication. Apply full smooth coat of primer in shop. Force paint into corners and open spaces.
- .3 For surfaces with zinc coating, clean and smooth ground surfaces at welds, fill if necessary, and coat all areas from which galvanizing has been removed with zinc rich paint coating of 0.1 mm minimum.

PART 3 - EXECUTION

.1 **Examination**

- .1 Take field dimensions of construction into which fabrications of this Section are incorporated before they are fabricated. Field adaption of work fabricated in error or without field check will not be allowed without approval.

.2 **Installation**

.1 **Pressed Steel Frames**

- .1 Setting up of pressed steel frames in masonry walls is included in Section 06200.
- .2 Building in of pressed steel frames is included in Section 04200 of Specification.
- .3 Setting up and building in of pressed steel frames in metal stud drywall partitions is included in Section 05500 and Section 09250.
- .4 Secure frames to floor construction with two fasteners each jamb, set and brace securely to maintain true alignment until built in.

.2 **Doors**

- .1 Wood Doors by Section 08210, installation by Section 06200 finish hardware supplied and installed by Section 08710.

.3 **Adjustment and Cleaning**

- .1 Refinish damaged and defective fabrications before completion. Refinish exposed surfaces to ensure that no variation in appearance is discernible.
- .2 Clean surfaces in preparation for specified finishing at completion of installation.
- .3 Final cleaning is specified in Section 01710.

End of Section

PART 1 - GENERAL

.1 Description

.1 General Requirements

Division 1 and General Requirements is a part of this Section and shall apply as if repeated here.

.2 Work Performed by Other Sections Related to This Section is Specified in

Section 06200: Installation of hardware supplied by Section 08710.
Section 06410: Casework – to supply teacher and tall cabinet doors.
Section 08110: Metal Doors and Frames
Section 08710: Supply of Hardware
Section 09900: Painting and Finishing

.3 Installation of Work Supplied by This Section is Specified in

Section 06200: To install doors.

.2 Quality Assurance

.1 Manufacturer Qualifications

Manufacturers approved for fabrication of doors specified in this Section are

- Super Structure Door Co. of Canada Limited
- Cambridge Doors
- Premium Forest
- Premdor Inc.
- Or Approved alternative

.2 Requirements of Regulatory Agencies

- .1 Construct fire rated doors of indicated ratings in accordance with validating label requirements and as otherwise required by jurisdictional authorities.
- .2 Ensure that fire rated doors, together with specified frames, hardware and installation, meet requirements of NFPA No. 80, Standard for, Fire Doors and Windows, as adopted by Insurance Advisory Organization, and attach ULC labels for specified rating.

.3 References

.1 Reference Standards

Reference standards quoted in Contract Documents refer to:

- a. Architectural Woodwork Standards 1st Edition 2009 Published jointly by the Architectural Woodwork Institute (AWI), the Architectural Woodwork Manufacturer Association of Canada (AWMAC), and the Woodwork Institute (WI).
- b. ANSI/WDMA I.S. 1A-04 Industry Standard for Architectural Wood Doors.

- c. CAN/ULC S-104 Standard Method for Fire Tests of Door Assemblies.
- d. ASTM E2074-00 Standard Test Method for Fire Tests of Door Assemblies.
- e. NFPA 80 Standard for Fire Doors and Other Opening Protectives.
- f. NFPA 252 Standard Method of Fire Tests of Door Assemblies.
- g. ITS/Warnock Hersey Mark for Fire Door Test Certification.
- h. NFPA 80-1999; Fire Doors and Windows.
- i. Underwriter's Laboratories of Canada – "List of equipment & materials" Volume II Building Construction.

.4 Delivery, Storage, and Handling

- .1 Package doors: identify with labels.
- .2 Store doors flat at site in piles with bottom face on bottom of piles protected from moisture by water resistant material under skids supporting piles, top of piles covered, and air circulation provided at sides of piles.
- .3 Protect fire rated doors from moisture continuously from time of manufacture to completion of building.

.5 Site Conditions

.1 Environmental Requirements

- .1 Install doors only in areas that have dried out and where no further installation of damp materials is contemplated.
- .2 Moisture readings of building surfaces at storage and installation locations shall not exceed 15%.

.6 Warranty

.1 Extended Warranty

- .1 Submit warranty for wood doors specified this Section covering period for 2 years beyond the expiration of the warranty period specified in the General Conditions to the Contract.
- .2 Defects in doors shall include, but not be restricted to, surface blemishes, showing of core ghost lines, splitting, delamination, sagging, deterioration of core, and warping and twisting in excess of deformation allowed by CSA Standard 0132.2.
- .3 Replacement under the warranty shall include fitting, installation, reinstallation of hardware, grilles and glass, and finishing to match replaced door.

PART 2 - PRODUCTS

.1 General

- .1 Wood doors to meet or exceed AWI 7th Edition Version 1.2 1999.
- .2 Doors shall be pre-fitted, bevelled and machines for mortise hardware items as per templates and approved hardware schedules provided.
- .3 Doors shall be factory finished.
- .4 Flush Interior Doors: 45mm thick, solid core construction, AWI type construction.

.2 Materials

a) MATERIALS

i) Flush Wood Doors:

- 1) Doors shall meet the requirements of ANSI.WDMA I.S. 1A-04 Extra Heavy Duty performance level.
- 2) Faces of wood veneered doors shall be AA Grade, select Maple, rotary cut, uniform white. **Doors to be factory finished, clear coat, seal top and bottom of doors.**
- 3) Core for non-rated doors shall be Particleboard with a minimum of 28-32 PCF (513 kg/m³) LD-2.
- 4) Cores for 45 minute fire-rated doors shall be agrifibre core.
- 5) Stiles for non-rated doors shall be structural composite lumber (100mm) laminated to 0.5" (13mm) thick minimum hardwood edging.
- 6) Top and bottom rails for non-rated doors shall be structural composite lumber (100mm) laminated to 0.5" (13mm) thick minimum hardwood edging.
- 7) Stiles and rails for fire-rated wood doors shall be the standard of the door manufacturer and shall conform to the requirements of the manufacturer's labeling agency.
- 8) Crossband shall be composite crossband. Wood crossband is not permitted.
- 9) Adhesives shall be Type 1 adhesives.
- 10) Approved doors by manufacturers: Boccam 8400, Baillargeon 8500-ME, Lambton Doors 5-8300-ME.

b) Glazing Stops:

- 1) Non-rated glazing stops: white maple, 11mm square profile (Lambton Doors LB7 or equivalent).
- 2) Fire-rated glazing stops: VSL - Slimline Low Profile Beveled Vision Lite, 20 gauge CRS frame, 6mm trim with radius corners, mitered and welded. Continuous glass retainer, countersunk mounting holes in the bevel on non-corridor side. #8 x 1" flathead phillips SMS to match finish. Powder Coat Finish: (S) Sand.

2.2. FABRICATION

- a. Flush wood doors shall be Premium Grade in accordance with the Grade requirements specified in the Architectural Woodwork Standards 1st Edition 2009, or as herein otherwise specified.
- b. Doors shall be 5 ply construction.
- c. Stiles and rails shall be fully bonded to core and assembled unit shall be abrasive planed prior to lamination of faces.
- d. Doors shall be assembled using Type 1 adhesive.
- e. Doors details shall be indicated on the door schedule.
- f. Edges for veneered doors shall be Type A of the same species as the face veneer. Type B, wood veneered edges are not permitted.
- g. Fire-rated doors shall be of the construction standard of the manufacturer and conform to the requirements of all applicable labeling agencies.

- h. Provide blocking as required for surface mounted hardware to prevent the need for through-bolting.
- i. Doors shall be factory undersized and factory machined for all door hardware.
- j. Doors shall have factory drilled pilot holes to accept wood screws at all hinge location.
- k. Where electrical hardware is specified in hardware groups or approved finish hardware schedule, wood door product shall have 1/2" wire raceway factory machined drilled from current transfer to electrical hardware location. See section 08710 for openings that require electric hardware.
- l. Pairs of doors shall be book matched.

PART 3 - EXECUTION

.1 Installation

- a. Install non-rated and fire-rated doors in accordance with NFPA 80, manufacturer's instructions and to ITS/Warnock Hersey requirements.
- b. Allow a fitting clearance of 1/8" (3mm).
- c. Trim non-rated door widths as required by cutting equally on both edges. Reseal and refinish all cut or planed surfaces immediately to match factory finish.
- d. Trim door height by cutting bottom edges to a maximum 3/4" (19mm).
- e. Trim fire door heights at bottom edge only in accordance with fire rating requirements.
- f. Do not trim fire-rated door widths.
- g. Coordinate installation of doors with installation of frames and hardware.
- h. Install door louvres and light kits plumb and level.
- i. Adjust doors for smooth and balanced door movement and operation.

End of Section

PART 1 - GENERAL

- .1 Description
 - .1 General Requirements

Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.
 - .2 Work performed by other Sections Related to this Section is specified in

Section 06200: Cabinet hardware as specified. Section 06410: Cabinet hardware as specified
 - .3 Hardware Specified This Section, Supplied and Installed

Section 06200: Finish Carpentry: To install hardware other than as specified.
Section 06400: Custom Millwork: To install hardware other than as specified.
 - .4 Selected hardware suppliers will become a Subcontractor of the Contractor.
 - .5 See Finish Hardware Schedule and Electrical Elevations at the end of this Section
- .2 Quality Assurance
 - .1 Requirements of Regulatory Agencies:
Install only ULC or ULI listed hardware for fire rated doors and frames.
- .3 Submittals
 - .1 Samples

Submit samples of each hardware item.
 - .2 Templates

Submit templates to Contractor for use by installers and fabricators as required for proper location and installation of hardware.
 - .3 Maintenance and Operating Instructions

Submit maintenance, operating and installation instructions for installation purposes and for incorporation in Project Data Book.
- .4 Delivery, Storage, and Handling
 - .1 Package hardware and label with description of contents and installation location. Refer to hardware list designation, and with door number when applicable.
 - .2 Deliver hardware to location at building site designated by Contractor.
- .5 Warranty
 - .1 Extended Warranty

- .1 Warranty contained in GC24 is, with respect to Section 08710, extended from 1 year to 5 years.
- .2 Contractor hereby warrants that system is suitable for use in this type of installation.
- .3 Contractor shall arrange with Architect and/or Owner, about 1 month before warranty expires, to visit site, examine the hardware, and make necessary repairs. Should Contractor fail to make such arrangement through no fault or neglect of Owner or Architect, then period of warranty shall extend to one month after such arrangement is made.

PART 2 - PRODUCTS

- .1 Products
 - .1 Finish hardware fabricated of same materials shall have consistent colour and finish throughout Project.
 - .2 Supply with specified hardware screws, bolts, expansion shields, inserts, and other items and parts required for complete installation and functioning.
 - .3 Refer to Hardware schedule provided by owner.

PART 3 - EXECUTION

- .1 Examination
 - .1 Before supplying materials, ensure by a check of Drawings, shop drawings and details prepared for the Project, that listed hardware is suitable by dimension and function for intended purpose. Inform Architect of discrepancies.
- .2 Installation
 - .1 Provide instructions required for preparation of doors and frames to the appropriate fabricators.
 - .2 Provide instructions required for installation of hardware to Section 06200, and other Sections as applicable.
 - .3 Provide assistance and supervision of installation when requested.
- .3 Adjustment
 - .1 Verify that installed hardware functions properly, and instruct installers accordingly of requirements and procedures for adjustments to ensure satisfactory operation.

End of Section

1. GENERAL

1.1. GENERAL REQUIREMENTS

- a. Division One, General Requirements, shall apply as if repeated here.

1.2. PROTECTION

- a. Mark the presence of each light with a large temporary cross.

1.3. SAMPLES AND SUBMITTALS

- a. Submit duplicate 300 x 300mm (12 x 12") size samples illustrating insulated glass and spandrel glass units, decorative glass, colouration and fabrication. Submit associated data sheets for glass units. (SB-10)
- b. Submit samples as specified in Section 01340.

1.4. RELATED WORK

- a. Door and Frame Schedule – General Notes
- b. Steel doors and frames

1.5. WARRANTY

- a. Provide a written warranty signed and issued in the name of the Client and Project stating that the Contractor warrants insulating glass units against failure of seal of enclosed air space and deposits on inner faces of glass detrimental to vision in accordance with GC 12.3 as amended by the Supplementary General Conditions, but for a period of five years.

2. PRODUCTS

2.1. GLASS MATERIALS

- a. Polished plate or float glass: to CAN/CGSB-12.3-M latest revised edition and amendments, glazing quality, 6mm (0.25") thick, unless specifically indicated otherwise.
- b. Heat Treated Tempered Safety Glass: to CAN/CGSB-12.1-M; clear float glass fully tempered horizontally to achieve net strength of not less than 4 to 5 times greater than regular annealed glass; Class C; 6mm (0.25") thick, unless indicated otherwise.
- c. Heat Strengthened Glass: to CAN/CGSB-12.1-M; clear float glass heat strengthened horizontally to achieve a net strength of not less than 2 times greater than regular annealed glass; 6mm (0.25") thick, unless indicated otherwise.
- d. Low Emissivity (E) Glass: 6mm (0.25") thick; tempered or heat-strengthened as indicated;
 - 1) insulated glass: vacuum-sputtered coating on second surface. Centre of glass winter u-factor to be .24. Maximum SHGC to be .31. (SolarBan 60)
 - 2) non-insulated glass: pyrolytic coating.

- e. Insulated Glass: as per a./b. above, double sealed edge binding, 13mm (1/2") argon filled space, exterior lite colour LIGHT GREY, low-e coating on 2nd surface (SolarBan 60), warm edge spacer, provide sample for approval. Centre of glass winter u-factor to be .24. Maximum SHGC to be .31 min. VT/SHGC to be 1.10.
- f. Sealed Opaque Glass units- to CAN/CGSB-12.9-M; 6mm (0.25") thick tempered tinted glass with opaque coating applied to #2 and #3 surface; eg. Opaci-Coat 300 by ICD High Performance Coatings; warm edge spacer, 13mm (1/2") argon filled space, 6mm thick tempered glass, colour as selected by Consultant.
- g. Sealed Obscure Glass units: as per a./b. above, double sealed edge binding, 13mm (1/2") argon filled space, exterior lite colour LIGHT GREY, warm edge spacer, low E coating (solar ban 60) on second surface, Acid Etch surface #3. Provide sample for approval. Centre of glass winter u-factor to be .24. Maximum SHGC to be .31.
- h. Laminated safety glass: to CAN2-12.1-M latest revised edition and amendments, glazing quality, 6mm (0.25") thick, two layers of 3mm glass on vinyl sheet.
- i. Mirror Glass: to CAN/CGSB-12-5-M latest revised edition and amendments, Type 18 float glass, 6mm (0.25") thick minimum; polished edges; sizes as scheduled or noted on Drawings.
- j. Spandrel Glass: to CAN/CGSB-12.9-M; 6mm (0.25") thick single pane of tinted glass as specified above, with opaque coating applied to #2 surface; eg. Opaci-Coat 300 by ICD High Performance Coatings; coating colour as selected by Consultant.
- m. Fire-Rated Laminated Safety Glass : to CAN4-S104-M80 and CAN4-S106-M80, premium polished glass-ceramic fire-rated glazing;
 - 1) FireLite Plus, manufactured by Nippon Electric Glass Company Ltd., 8mm (5/16") thick, single pane, installed in accordance with ULC R13377 or; Schott Pyran Platinum L 9mm (3/8"); or Karalite Select L 8mm (3/8").
- n. Decorative Window Film: LLumar Decorative Custom Imaging Film manufactured by an Eastman Chemical Company business: CPFilms Inc., 575 Maryville Centre Drive, St. Louis, Missouri 63141; Telephone: 800-255-8627; Email address: commercialalerts@eastman.com; Web Site: www.llumar.com.

2.2. GLAZING AND SEALING COMPOUND MATERIALS

- a. Glazing compound: Oil type, to CGSB 19-GP-6M Type 1, colour of frames.
- b. Sealant compound: To Section 07910.
- c. Glazing tape: Preformed butyl tape, 10-15 durometer hardness, paper release, 3.2mm (0.125") thick x 40mm (1.6") wide, colour to match frames.
- d. Setting blocks: Neoprene, Shore "A" 100mm (4") long x 9mm (0.35") thick x 6mm (0.25") high.

- e. Spacer shims: Neoprene, Shore "A" 75mm (3") long x 2.4mm (0.09") thick x 6mm (0.35") high.
- f. Glazing splines: Neoprene manufacturer's standard dry glazing splines to relate to colour of aluminum.
- g. Glazing points and wire spring clips: Corrosion resistant, manufacturer's standard.
- h. Primer-sealers and cleaners: to glass manufacturer's standard.

2.3. GLAZING SCHEDULE

a. **Tempered Glass (GL-1):**

- Shall be 10 mm (3/8") float glass tempered to meet National Building Code Safety Glass requirements in Sub-Section 3.3.1.13 (1) (2) and to conform to current national standards of Canada CAN2-12.1-M79. Refer to drawings for location of clear lites.

b. **Glass at Fire Rated Doors and Partitions (GL-2):**

- Premium Firelite 3/16 ins. (5 mm) thick FireLite supplied by Techniglas.
 - Fire-rating: 45 minutes
 - Surface Finish: Standard Grade is polished
 - Positive Pressure Test: UL 10C
 - Glazing Tape: Closed cell polyvinyl chloride (PVC) foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume of 2 percent

3. EXECUTION

3.1. WORKERSHIP

- a. Remove protective coatings and clean contact surfaces with solvent and wipe dry.
- b. Apply primer-sealer to contact surfaces.
- c. Place setting blocks as per manufacturer's instructions.
- d. Install glass, rest on setting blocks, ensure full contact and adhesion at perimeter.
- e. Install removable stops, without displacing tape or sealant.
- f. Provide edge clearance of 3mm (0.12") minimum.
- g. Inset spacer shims to centre glass in space. Place shims at 600mm (24") o.c. keep 6mm (0.25") below sight line.
- h. Apply cap bead of sealant at exterior void.
- i. Apply sealant to uniform and level line, flush with sight line and tooled or wiped with solvent to smooth appearance.
- j. Do not cut or abrade tempered, heat treated, or coated glass.

- k. Door and screen glazing to be tempered, unless noted otherwise on Drawings.
- l. Exterior glazing to be tinted, tempered glass including windows, doors and screens, unless noted otherwise on the Door Schedule.
- m. Fixed exterior glass to be insulated units.
- n. Sloped glazing to be insulated with tinted, tempered exterior light, laminated safety glass interior light.
- o. Refer to DOOR SCHEDULE for locations of wired glass and fire-rated laminated

safety glass.

- 3.2. EXTERIOR GLAZING: Combination method - tape / sealant:
- a. Cut glazing tape to proper length and set against permanent stops, 5mm (0.2") below sight line. Install horizontal strips first, extend over entire width of opening before applying vertical strips. Weld corners together by butting tape and dabbing glass and applied stop with silicone sealant.
 - b. Fill gap between glass and applied stop with sealant to depth equal to bite of frame on glass but not more than 10mm (0.4") below sight line.
- 3.3. INTERIOR GLAZING: Dry method - tape / tape:
- a. Cut glazing tape to length and install against permanent stop, project 1.5mm (0.06") above sight line.
 - b. Place glazing tape on free perimeter of glass as described above.
- 3.4. FIRE-RATED LAMINATED SAFETY GLASS:
- a. Fire-rated laminated safety glass shall only be installed into fire-rated frame assemblies of the same rating.
 - b. Install in vision panels in fire-rated doors to requirements of NFPA 80.
 - c. All glazing components, tapes, compounds, sealants and stop heights must be chosen and installed according manufacturer's recommendation and appropriate ULC classification.
 - d. Install so that the ULC or manufacturer's rating label remain permanently visible for each pane.
- 3.5. FINISHING
- a. Immediately remove sealant and compound droppings from finished surfaces. Remove labels after work is completed. Clean both sides of glass.

END OF SECTION

PART 1 - GENERAL

1.1 Description

.1 General Requirements

.1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

.2 Work Performed by Other Sections Related to This Section is Specified in:

.1 Section 09650: Resilient Flooring.

.2 Section 09685: Carpet tile.

.3 Intent

.1 It is the intent that the work of this section is the entire scope of work to prepare all existing floor finishes to receive final finish flooring.

.2 The intent of this section is that a single subcontractor is engaged by the general contractor to carry out all floor repair and preparation prior to the commencement of the main body work.

.3 The scope of work is to include, but not be limited to:

.1 Concrete or Grout infill of existing floor trenches.

.2 Concrete or Grout infill of all floor penetrations.

.3 Infill of all cracks and slab damages.

.4 Levelling of low areas as may be required for the installation of finish flooring.

.5 All work to prepare the floor shall be completed as one scope of work and the finish of the floor shall be resilient to withstand general interior construction activities.

.6 All work required to install through floor services as part of the scope of work for Division 15 and Division 16 shall occur after the scope of work of this section.

1.2 Quality Assurance

.1 Subcontractor Qualifications

.1 Provision of the scope of work specified in this Section only by a Subcontractor who has adequate equipment and skilled tradesmen to perform it expeditiously, and is known to have been responsible for satisfactory installations similar to that specified during a period of at least the immediate past five years.

1.3 Delivery, Storage, and Handling

.1 Package flooring materials and identify contents of each package.

.2 Store materials for a minimum 24 hours immediately before installation at not less than 18° C.

1.4 **Site Conditions**

.1 **Environmental Requirements**

- .1 Install all materials only when surfaces and air temperatures have been maintained between 18 degrees C and 24 degrees C for 24 hours preceding installation, and will be so maintained during installation and for 48 hours thereafter. Maintain a minimum temperature of 13degrees C after above period.
- .2 Ensure that adequate ventilation is provided as required by manufacturers recommendations.

PART 2 -- PRODUCTS

2.1 **Materials**

- .1 Provide each flooring material from the same manufacturer for entire project.
- .2 **Filler/Subfloor Preparation.**
 - .1 The intent of this section is to provide for a full fill and level of existing floors to receive all floor finishes. Contractor is to cover all costs associated with the intent to provide an acceptable substrate for all finishes.
 - .1 Assume an overall average levelling compound thickness of 4mm over entire floor area
 - .2 Provide for shotblasting of all existing surfaces in preparation for filler and levelling compound.
 - .3 Provide Bonding agent as recommended by manufacturer.
 - .4 Cementitious bulk concrete filler: TEC fast set deep patch for trench infill.
 - .5 Primer: TEC Multipurpose Primer.

PART 3 - EXECUTION

3.1 **Examination**

- .1 Test substrate to ensure that moisture level and acid-alkali balance does not exceed limits recommended by adhesive manufacturer.
- .2 Ensure that environmental conditions have been provided as requested and specified.
- .3 Ensure subfloors have been provided as specified without holes, protrusions, cracks greater than 2 mm wide, unfilled control joints, depressions greater than 3 mm deep, or other major defects.

3.2 **Preparation**

- .1 Remove dirt, soil, oil, grease, and other deposits which would lessen the adhesive bond

of flooring, and which would telegraph through flooring.

- .2 Remove chalking and dusting from concrete surfaces with wire brushes.
- .3 Remove prime paint and wire brush steel surfaces.
- .4 Fill all defects such as cracks, depressions and scars from damage with filler. Level to smooth surface.
- .5 Prime subfloors if recommended by adhesive manufacturer, and as he specifies.
- .6 Protection: Prevent traffic and work on newly laid floors by barricading until adhesive cures.

3.3 **Installation**

.1 **General**

- .1 Supply and install all products in accordance with the Manufacturers recommendations.

3.4 **Protection**

- .1 After materials have set, and until project completion, coordinate with other Sections to ensure that floors are not damaged by traffic, as specified in Section 01010. Ensure that flooring is not subjected to any static loading during the week following installation.

End of Section

PART 1 - GENERAL

.1 Description

.1 General Requirements

Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

.2 Work Performed by Other Sections Related to This Section is Specified in:

Section 03330: Concrete Floor Finishing

.2 Quality Assurance

.1 Subcontractor Qualifications

Install resilient flooring specified in this Section only by a Subcontractor who has adequate equipment and skilled tradesmen to perform it expeditiously, and is known to have been responsible for satisfactory installations similar to that specified during a period of at least the immediate past five years.

.3 References

.1 Reference Standards

Reference standard quoted in Contract Documents refer to:
CSA Standard A126.1-M1984, Vinyl Asbestos and Vinyl Composition Floor Tile.
CSA Standard A126.3-M1984, Sheet Vinyl Flooring Products.

.4 Submittals

.1 Samples

- .1 Submit samples of each specified flooring, base, stair, and accessories that are specified.
- .2 Submit full size tiles.
- .3 Submit 216 mm X 280 mm pieces of sheet goods.
- .4 Submit base and accessories in lengths of 300 mm.

.2 Affidavits

Submit for approval, a list of installation materials intended for use with each flooring material and for each subfloor condition, before installation commences. Accompany the list with an affidavit stating that the manufacturer of each material recommends and approves of its use in each case.

.3 Maintenance Instructions

Submit maintenance instructions for incorporation in Project Data Book.

.5 Delivery, Storage, and Handling

- .1 Package flooring materials and identify contents of each package.
- .2 Store materials for a minimum 24 hours immediately before installation at not less than 18 degrees C.

.6 **Site Conditions**

.1 **Environmental Requirements**

- .1 Install resilient flooring only when surfaces and air temperatures have been maintained between 18 degrees C and 24 degrees C for 24 hours preceding installation, and will be so maintained during installation and for 48 hours thereafter. Maintain a minimum temperature of 13degrees C after above period.
- .2 Ensure that adequate ventilation is provided during installation of flooring and curing of adhesive.
- .3 Ensure that spark-proof electrical equipment is provided, and smoking is prohibited, in areas where flammable adhesives are used. Store materials to prevent spontaneous combustion.

PART 2 - PRODUCTS

.1 **Materials**

- .1 Provide each flooring material from same production run for one area, and from same manufacturer for entire project.

.2 **Flooring**

- .1 VCT, Armstrong Excelon, Imperial Texture. Size: 12" X 12" X 1/8" Tile
- .2 Resilient Athletic Flooring - Omni Sport 3.5 - Tarkett Sports.
- .3 Colour to be selected by Owner's rep prior order

.3 **Resilient Base - Rubber:**

- .1 Model: Roppe Pinnacle Plus
- .2 Base Height: 100 mm as specified in Room Finish Schedule for each base type.
- .3 Colours: To be selected by Owner's rep prior order

.4 **Flooring Accessories**

- .1 Ensure that accessories are compatible with, and match appearance and thickness of abutting flooring materials.
- .2 Transition Strips:
 - .1 VCT to VCT finish: Schluter Systems SCHIENE or approved alternate
 - .2 VCT tile to existing Terrazo finish: Schluter Systems RENO-Schiene or approved alternate

.5 **Filler/Subfloor Preparation.**

The intent of this section is to provide for a full fill and level of existing floors to receive all floor finishes. Contractor is to cover all costs associated with the intent to provide an acceptable substrate for all finishes.

- .1 Assume an overall average levelling compound thickness of 3mm.
- .2 Provide for shotblasting of all existing surfaces in preparation for filler and levelling compound.

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- .3 Provide Bonding agent as recommended by manufacturer.
 - .4 Levelling Compound: Ardex K15

.6 **Primers and Adhesives**

As recommended by manufacturer of each material for each subfloor condition. Use clear adhesive for vinyl polymer flooring.

.7 **Cleaner**

Neutral chemical compound that will not damage tile or affect its colour.

.8 **Floor Protection**

Heavy kraft paper laminated with non-staining adhesive to both sides of glass fibre reinforcing ply, minimum weight of 0.18 kg/sq.m.

PART 3 - EXECUTION

.1 **Examination**

- .1 Test substrate to ensure that moisture level and acid-alkali balance does not exceed limits recommended by adhesive manufacturer.
- .2 Ensure that environmental conditions have been provided as requested and specified.
- .3 Ensure subfloors have been provided as specified without holes, protrusions, cracks greater than 2 mm wide, unfilled control joints, depressions greater than 3 mm deep, or other major defects.
- .4 Defective resilient flooring resulting from application to unsatisfactory surfaces will be considered the responsibility of this Section.

.2 **Preparation**

- .1 Remove dirt, soil, oil, grease, and other deposits which would lessen the adhesive bond of flooring, and which would telegraph through flooring.
- .2 Remove chalking and dusting from concrete surfaces with wire brushes.
- .3 Remove prime paint and wire brush steel surfaces.
- .4 Fill all defects such as cracks, depressions and scars from damage with filler. Level to smooth surface.
- .5 Prime subfloors if recommended by adhesive manufacturer, and as he specifies.
- .6 Protection: Prevent traffic and work on newly laid floors by barricading until adhesive cures.

.3 **Installation**

.1 **General**

- .1 Lay each material in accordance with manufacturer's specification.
- .2 Lay flooring with joints closely butted. Scribe, cut and fit around floor outlets and openings, door frames, and heavy equipment supports.
- .3 Cut flooring and bases to fit within 0.4 mm of abutting surfaces were exposed to view.
- .4 Avoid abrupt variations in shades between adjacent flooring material. Do

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- .5 not install units that are off-colour or contain untypical pattern variations.
 - .5 Carry floor patterns through openings.
 - .6 Roll flooring with three-section, 45 kg roller, in two directions from centre of area. Maintain rollers clean and polished.

.2 **Adhesives**

- .1 Apply adhesive uniformly over surfaces with a notched trowel, at rate recommended by manufacturer.
- .2 Cover only an area into which flooring can be set during working time of adhesive: do not lay flooring over hardened adhesive.
- .3 Use only waterproof type adhesive in all areas where plumbing fixtures or floor drains are installed.
- .4 Protect adjacent surfaces from soil by adhesive.
- .5 Clean trowels and maintain profile of notches as installation of flooring progresses to ensure a constant rate of application.

.3 **Resilient Sheet Flooring**

- .1 Install flooring with joints parallel to long axis of rooms, in full width sheets, with border sheets not less than 600 mm wide, and with cross joints no closer than 1800 mm from each other and not concentrated in isolated areas.
- .2 Cut sheets to sizes required, lay them out flat and allow them to reach room temperature before installation.
- .3 Double cut seams.
- .4 Remove wrinkles and air pockets.
- .5 At seams, using a welding rod, butt sheet tightly together and weld in accordance with manufacturer's written instructions.
- .6 Trim ends of sheets, mitre cut corners, turn flooring up walls to form coved self-bases. Install fillet at intersection of wall and floor to support cove. Apply heavy coat of adhesive to wall, firmly bed base in place. Completely seal mitred and other joints in bases. Mask wall above top of base to prevent soiling with adhesive.

.4 **Rubber Bases**

- .1 Install bases in lengths as long as possible: do not make up runs of short lengths.
- .2 In areas where bases are indicated, install them on built-in fittings, columns, walls.
- .3 Cut and mitre internal corners.
- .4 Double cut seams between adjoining lengths.
- .5 Apply adhesive to wall, masked to prevent spreading above base, and firmly bed base in place.
- .6 Press top set base down to force cove against flooring.
- .7 Install straight base before flooring, with bottom edge against subfloor and top edge level.
- .8 Install top set base in all areas except as noted on Drawings.

.5 **Reducer/Transition Strips**

- .1 Install strips at terminations of flooring where edges are exposed to view.

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- .2 Install strips in straight lines and relate their terminations to significant building features and within tolerance of 3 mm in 3 m.
 - .3 Install strips under doors at openings.
 - .4 Cut and fit strip terminations to profile of abutting construction.
 - .5 Secure strips to subfloor with contact bond adhesive to ensure complete bond.

.4 Adjustment, Cleaning, Sealing, and Waxing

- .1 Replace defective resilient flooring installations so that there is no discernible variation in appearance between installed and replaced materials.
- .2 Clean off excess adhesive as installation of flooring progresses and before it sets.
- .3 Clean resilient flooring, but no sooner than 48 hours following installation. Use neutral floor cleaner where required, and proceed as recommended by manufacturer.
- .4 Clean floors on a regular basis at least once per week if no other protection is provided.
- .5 Clean floors before acceptance by Owner.

.5 Protection

- .1 After materials have set, and until project completion, coordinate with other Sections to ensure that floors are not damaged by traffic, as specified in Section 01010. Ensure that flooring is not subjected to any static loading during the week following installation.
- .2 At completion of flooring installation, install floor protection in areas where finishing operations, repairs and installation of equipment, and foot traffic will occur. Lap joints of material by 150 mm and seal with non-asphaltic tape.

End of Section

1. GENERAL

.1

.1 Section Includes

Provision of all labour, materials, equipment and incidental services necessary to provide painting and cover the exposed surfaces of the building, components and accessories not otherwise protected or covered, to the full intent of the drawings and specifications as illustrated in accompanying drawings or called for elsewhere in the Contract Documents.

.2 Surface preparation of substrates to receive painting and finishing is not included in this section of work, except for specific pre-treatments specified herein or in the Canadian Painting Contractors' Architectural (CPCA) Painting Specification Manual.

.3 This section of work shall include, but is not limited to, the painting and finishing of all exposed surfaces of the following substrates.

.4 .1 Exterior

- .1 Steel (Prime painted)
- .2 Steel (Galvanized)

.5 .2 Interior

- .1 Steel (Prime painted)
- .2 Steel (Galvanized)

.2 Related Sections

.1 Divisions 15, 16 – Colour code marking bands or stencils for identification of piping, ductwork and electrical conduits

.3 Reference Standards

- .1 CAN2-85.100-M81, National Standards of Canada, Painting.
- .2 Canadian Painting Contractors' Architectural (CPCA) Painting Specification Manual.

.4 Materials and Equipment Not to Be Painted

.1 Surfaces not to be painted shall be left completely free of droppings and accidentally applied materials resulting from the work of this Section.

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- .2 Items not to be painted include concealed structural elements and equipment furnished with complete factory applied paints and finish systems, including but not limited to the following:
 - .1 Glazed, rubber, vinyl or acoustical tile.
 - .2 Non-ferrous metals such as copper, aluminum, stainless steel, bronze, brass or nickel.
 - .3 Finish hardware, excepting hardware that is factory primed.
 - .5 Cooperation with Other Trades
 - .1 Schedule and coordinate this work with other trades and do not proceed until other work and/or job conditions are as required to achieve satisfactory results.
 - .2 Examine the Specifications for the various other trades and become thoroughly familiar with all their provisions regarding painting.
 - .6 Quality Assurance
 - .1 Material Manufacturers
 - .1 All paint and finish products shall be those listed in the CPCA manual, latest edition unless otherwise specified or listed herein.
 - .2 Applicators
 - .1 This contractor shall have a minimum of (5) years documented experience in commercial painting and finishing, and shall maintain a qualified crew of size necessary to fully satisfy the requirements of this section.
 - .7 Completion Schedule
 - .1 Furnish the Consultant with a schedule showing expected completion of the respective coats of paint for the various areas and surfaces. Keep this schedule current as the job progresses.
 - .8 Colour Schedule
 - .1 The final selection of colours and surface textures of all finishes throughout shall be provided by the Consultant.
 - .9 Submittals
 - .1 Samples
 - .1 Submit samples in accordance with Section 01300.
 - .2 Submit duplicate 300 x 300mm sample panels of each type of paint and finish application for approval by the Consultant. here manufacturer of paint differs from that listed in the colour schedule, employ spectrograph technology to

ensure accurate colour match, or submit samples of each colour and include mixing code for match comparison.

.3 Finished work to match approved samples.

.2 Mock-up

.1 If requested by the Consultant, finish one complete surface or item of each colour scheme required showing selected materials, colours and textures. If approved, the mock-up shall serve as a standard for similar work throughout the building.

.10 Delivery, Storage and Handling

.1 Paint and finish materials shall be delivered to the site in sealed original labeled containers bearing manufacturer's name, type of paint, brand name, colour designation and instructions for mixing and/or reducing.

.2 Store materials in a heated, dry, well ventilated, indoor place having a minimum ambient temperature of 7°C.

.3 Keep waste rags in metal drums and remove all rags, waste and trash from the building at the end of each working shift.

.4 Provide CO2 fire extinguisher of minimum 20 lb. (9 kg) capacity in storage area.

.5 Ensure that health and fire regulations are complied with in storage area.

.11 General Colour Requirements

.1 Refer to the finish schedule for type and extent of finishes, and to the colour schedule for individual colour and texture selections. Where manufacturer of paint differs from that listed in the colour schedule, employ spectrograph technology to ensure accurate colour match.

.2 The following major items will be painted:

.1 Exterior

.1 Doors and Frames

.1 Interior

.1 Doors

.2 Door Frames

.3 Walls

.12 Environmental Conditions

- .1 Temperatures: No painting shall be performed when substrate or ambient air temperatures are below 5°C. Minimum allowable temperatures for application of Latex paints are 7°C (interior work) and 10°C (exterior work).
- .2 Relative humidity: shall not exceed 85%.
- .3 Moisture content of substrates: Masonry and concrete materials shall be allowed to cure for a minimum of 28 days before application of paints. Substrates shall be measured by electronic moisture meter, to the following maximums:
 - .1 Plaster and Gypsum board: 12%
 - .2 Masonry, concrete/concrete block: 12% for solvent based paints.
 - .3 Wood: 15%
- .4 Lighting: Painting shall not proceed unless a minimum of 15 candlepower/ft.2 lighting is provided on the surfaces to be painted.
- .5 Ventilation: All areas where painting is proceeding require adequate continuous ventilation and sufficient heating facilities to maintain temperatures above 7°C for 24 hours before during and after paint application.

.13 Maintenance Materials

- .1 Supply Owner with one clearly identified, sealed gallon of each colour and type of paint, stain and varnish used for this work, in accordance with Section 01780.

.14 Guarantee

- .1 Provide upon completion of the work, a 100% Maintenance Bond stating that the work was performed in accordance with these specifications and the CPCA manual (latest edition), and is guaranteed for a period of two(2) years from Date of Substantial Performance.

2. PRODUCTS

.1 Materials

- .1 Paint, varnish, stain, enamel, lacquer and fillers shall be of a type and brand herein specified and/or listed under Chapter 5 of the CPCA manual.
- .2 Paint materials such as linseed oil, shellac, turpentine, and any materials not specified herein but required for first class work with the finish specified shall be the highest quality product of an approved manufacturer. All material shall be compatible with finish paint or coating materials.
- .3 Two coats of the specified paints are required throughout.

.2 Mixing

- .1 Paints shall be ready-mixed unless otherwise specified, except that any coating in paste or powder form or to field-catalyzed shall be field-mixed in accordance with the directions of its manufacturer.
- .2 Pigments shall be fully ground and shall maintain a soft paste consistency in the vehicle during storage that can and shall be dispersed readily and uniformly by paddle to a complete homogeneous mixture.
- .3 .3 The paint shall have good flow and brush properties and shall dry or cure free of sags or runs to yield the desired finish specified.

.3 Concrete Block (Primer):

- .1 Benjamin Moore and Co. Ltd. # M-88 Latex block filler. First coat to be applied at a spread rate of 75 sq.ft. per 3.79 litre container. Each coat wet thickness to be 21.0 mils. Each coat dry thickness to be 8.0 mils.

Benjamin Moore and Co. Ltd. #577 – 1A Moorestyle. Apply two coats at a spread rate of 500 sq.ft. per 3.79 litre container. Each coat wet thickness to be 3.0 mils. Each coat dry thickness to be 1.3 mils.

or

- .2 Glidden #36250 concrete block filler.
Apply one coat at a spread rate of 380 sq.ft. per 3.78 litre container. Each coat wet thickness to be 19.0 mils. Each coat dry thickness to be 8.0 mils.

Glidden #4038 Devguard or Glidden #94400 Semi Gloss. Apply two coats at a spread rate of 500 sq.ft. per 3.79 litre container. Each coat wet thickness to be 3.0 mils. Each coat dry thickness to be 1.3 mils.

.4 Hollow Metal Doors/Frames:

- .1 Benjamin Moore and Co. Ltd. #023 Fresh Start Primer. Apply one coat: spread rate of 425 sq.ft. per 3.79 litre container. Each coat wet thickness to be 3.7 mils. Each coat dry thickness to be 1.1 mils.

Benjamin Moore and Co. Ltd. C-133-1A Impervo or C-235 Satin Impervo. Apply two coats at a spread rate of 500 sq.ft. per 3.79 litre container. Each coat wet thickness to be 3.0 mils. Each coat dry thickness to be 1.3 mils.

or

- .2 Glidden #250 Gripper Primer. Apply one coat at a spread rate of 389 sq.ft. per 3.78 litre container. Each coat wet thickness to be 4.0 mils. Each coat dry thickness to be 2.0 mils.
- .3 Devoe #4038 Devguard.
Apply two coats at a spread rate of 320 sq.ft. per 3.78 litre container. Each coat wet thickness to be 5.0 mils. Each coat thickness to be 2.25 mils.

3. EXECUTION

.1 Inspection of Surfaces

- .1 Examine surfaces to receive paint finishes for defects which cannot be corrected by procedures specified herein, and which may result in unsatisfactory paint finishes. Report items to Consultant and Contractor in writing, prior to commencement of work of this section, or after initial prime coat shows defects in substrate.
- .2 The application of subsequent prime and finish coats shall be construed as acceptance of the surfaces, and thereafter this subcontractor shall be fully responsible for satisfactory work as required herein.

.2 Preparation of Surfaces

- .1 Refer to the CPCA manual Chapter 3 for surface preparations not specified in the section

.3 Protection

- .1 Protect all adjacent surfaces from paint and damage resulting from the work of this section, and make good any damage caused by failure to provide such protection.
- .2 Furnish sufficient drop cloths, shields and protective equipment to prevent spray or dropping from fouling surfaces not being painted or where painting has been completed.
- .3 Cotton waste, cloths and material which may constitute a fire hazard shall be placed in closed metal containers and removed daily from the site.
- .4 Remove and protect, prior to painting operations, all hardware, accessories, device plates, lighting fixtures, factory finished work, and similar items, or provide ample in-protection. Remove all electrical plates, surface hardware, fittings and fastenings. These items shall be labelled, stored, cleaned if necessary and reinstalled following successful completion of the work in each area. Solvents detrimental to lacquer finishes are not to be used for cleaning these items.

.4 Application

- .1 Paint application shall be currently accepted trade method.
- .2 Painting coats specified are intended to cover surfaces satisfactorily when applied in strict accordance with manufacturer's recommendations.
- .3 Apply each coat at the proper consistency. Sand lightly between coats.
- .4 Tint primers to same colour range as finish coats.
- .5 Do not apply finishes on surfaces that are not sufficiently dry. Each coat of finish should be dry and hard before a following coat is applied unless specified otherwise by the manufacturer.
- .6 Tint filler to match wood for clear finishes. Work filler well into wood grain and remove excess prior to setting.
- .7 Exterior woodwork to receive paint finish shall be back-primed upon arrival on site with exterior primer paint, stain or varnish, as required by specified finish.
- .8 Spraying of paint will not be allowed, unless approved by the manufacturer of the materials to be applied, and the Consultant.
- .9 Provide complete coverage and hide. When colour, stain, dirt or undercoats show through final coat of paint, provide additional coats until the paint film is of uniform finish, colour, appearance and coverage, at no additional cost to the Owner.
- .10 Allow all coats to dry to manufacturer's recommendations before applying succeeding coats.
- .11 Touch up all suction spots or "hot spots" in concrete after the application of the first coat, before applying the second coat.
- .12 Where spray painting is specified, finish 100 ft² (10m²) by spraying a sample of the finish upon the request of the Consultant, using materials specified. Do not spray paint sound block surfaces on Gymnasium area.
- .13 Surfaces to be stained shall appear uniform in shading with colour variations caused only by the natural wood grain.

- .14 Barricade areas where finishing is in progress to prevent traffic or other activities, and otherwise protect work until dry. Post "Wet Paint" signs and remove when no longer required.
 - .15 Replace at the expense of this Section, porous materials soiled or damaged by finishing materials which cannot be removed.
- .5 Clean-up
- .1 Upon completion of the work, remove all paint and varnish spots from floors, glass and other surfaces. Remove from the premises all rubbish and accumulated materials of whatever nature not caused by others and leave this work in clean, orderly and acceptable conditions.

END OF DOCUMENT

Part 1 General

1.1 CONFORM TO CONTRACT REQUIREMENTS AND DIVISION 1 - GENERAL REQUIREMENTS AS PART OF THIS SECTION.

1.2 RELATED WORK:

- .1 Section 03 00 00: Cast-in-Place Concrete.

1.3 REFERENCES:

- .1 CAN/CSA-A23.1-14, Concrete Materials and Methods of Concrete Construction
- .2 CAN/CGSB-138.1-96, Fabric for Chain Link Fence.
- .3 CAN/CGSB-138.2-96, Steel Framework for Chain Link Fence.
- .4 CAN/CGSB-138.3-96, Installation of Chain Link Fence.
- .5 CAN/CGSB-138.4-96, Gates for Chain Link Fence
- .6 CAN/CGSB-G164-M92 (R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
- .7 ASTM A53 88a, Specifications for Pipe, Steel, Black & Hot-Dipped Zinc-Coated Welded and Seamless.
- .8 CAN/CGSB-1181-99, Ready-Mixed Organic Zinc-Rich Coating.

Part 2 Products

2.1 MATERIALS:

- .1 Concrete Mixes and Materials: to Section 03 00 00, Cast-in-Place Concrete.
 - .1 Nominal coarse aggregate size: 20-5.
 - .2 Compressive Strength: 20 MPa (2,900 psi) minimum at 28 days.
- .2 Chain Link Fence Fabric: to CAN/CGSB-138.1-96.
 - .1 Fabric shall be 6 gauge (finished thickness) galvanized mesh and posts coated 9 gauge galvanized wire, chain link, woven in a 50mm (2") mesh, equal to that manufactured by Frost Fence. Fabric shall have knuckled selvage at top and bottom.

Note: Wire mesh to be installed against the school side of post face to help support the fence from bowing and breaking tie wires.

- .2 Height of Fabric: As noted on drawings (Varies).
- .3 Post and Rails: to CAN/CGSB-138.2-96, galvanized steel pipe, Article 6.4.
 - .1 Terminal Posts: 89mm (3 1/2") outside diameter, standard butt-welded schedule 40 galvanized pipe.
 - .2 Minimum weight per foot 3.42 kg (7.55 lbs). Terminal posts shall be used for end, corner, gate and straining posts.
 - .3 Line Posts: 60mm (2 3/8") outside diameter, standard butt-welded schedule 40 galvanized pipe.
 - .4 Top & Bottom Rails: 43mm (1 11/16") outside diameter, standard butt-welded schedule 40 galvanized pipe. Galvanized couplings of the outside sleeve type at least 178mm (7") long will be used to join top rails. The top rail is to pass through the line posts and form a continuous brace for each stretch of fence. The top rail is to be secured to each terminal post with receptacle type fittings.
- .4 Bottom tension Wire: single strand, galvanized steel wire, 4.8mm (6 ga.) Use tension wire for fence without bottom rail brace.
- .5 Tie Wire Fasteners: single strand, galvanized steel wire, 4.8mm (6 ga.).
- .6 Tension Bar: 5 x 20mm (3/16" x 3/4") minimum galvanized steel.
- .7 Tension Bar Bands: 3mm x 20mm (1/8" x 3/4") minimum galvanized steel or 5mm x 20mm (3/16" x 3/4") minimum aluminium.
- .8 Gate Frames: to ASTM A53, galvanized steel pipe, standard weight 43mm (1 11/16") outside diameter pipe for outside frame, 43mm (1 11/16") outside diameter pipe for interior bracing.
 - .1 Fabricate gates as indicated with electrically welded joints, hot-dip galvanized after welding.
 - .2 Fasten fence fabric to gate.
 - .3 Furnish gates with galvanized malleable iron hinges, latch and latch catch with provision for padlock which can be attached and operated from either side of installed gate.

- .4 Hinges shall permit gate to swing back against fence 180° if required.
- .5 Furnish any double gates with chain hook to hold gates open and centre rest with drop bolt for closed position.
- .9 Fittings and Hardware: Cast aluminium alloy, galvanized steel or malleable or ductile cast iron of sufficient strength to ensure the integrity of the installation. Post caps to provide waterproof fit, to fasten securely over posts and to carry top rail.
- .10 Organic zinc rich coating: to CAN/CGSB-1181-99.

2.2 FINISHES:

- .1 Galvanizing:
 - .1 For chain link fabric: to CAN/CGSB-138.1-96, Grade 1.
 - .2 For Pipe: 550 g/sq. m. minimum to ASTM A90.
 - .3 For other fittings: to CAN/CSA-G164-M92 (R1998).
- .2 Vinyl Coating:
 - .1 0.380mm dry film thickness minimum.

Part 3 Execution

3.1 GRADING:

- .1 Remove debris and correct ground undulations along fence line to obtain smooth uniform gradient between posts. Provide clearance between bottom of fence and ground surface, neither less than 30mm (1 1/8") nor more than 50mm (2").

3.2 ERECTION:

- .1 Erect fence along lines as indicated as directed by Architect and in accordance with CAN/CGSB-138.3-96, with fabric on school side.
- .2 Excavate post holes to dimension indicated, 1220mm (4'-0") depth x 300mm (12") diameter for gate and terminal posts, 1066mm (3'-6") depth x 200mm (8") diameter for line posts, by methods approved by Architect.
- .3 Space line posts not more than 3m (10'-0") apart, measured parallel to ground surface.

- .4 Adjust spacing if required to achieve uniform spacing.
- .5 Space straining posts at equal intervals not exceeding 150m (500'-0") if distance between end or corner posts on straight continuous lengths of fence over reasonably smooth grade is greater than 150m (500'-0").
- .6 Install additional straining posts at sharp changes in grade and where directed by Architect.
- .7 Install corner post where change in alignment exceeds 10 degrees.
- .8 Install end posts at end of fence and at buildings. Install gate posts on both sides of gate opening.
- .9 Place concrete in post holes then embed posts into concrete to depths indicated. Brace to hold posts in plumb position and true to alignment and elevation until concrete is set.
- .10 Do not install fence until concrete has cured a minimum of 5 days.
- .11 Install brace between end and gate posts and nearest line post, placed in centre of panel and parallel to ground surface. Install braces on both sides of corner and straining posts in similar manner.
- .12 Install bottom rails and mid rails where required.
- .13 Install caps.
- .14 Install top rail between posts and fasten securely to end, corner, gate and straining posts with turnbuckles and tension bar bands.
- .15 Lay out fence fabric. Stretch tightly to tension recommended by manufacturer and fasten to end, corner, gate and straining posts with tension bar secured to post with tension bar bands spaced at 300mm (12") intervals.
- .16 Secure fabric to top rails, mid rails, bottom rails, and bottom tension wire with tie wires at 450mm (18") intervals. Secure to line posts at 300mm (12") intervals. Give tie wires minimum of two twists.

3.3 INSTALLATION OF GATES:

- .1 Install gates in locations as indicated.
Level contours between gate posts and set gate bottom approximately 40mm (1 1/2") above ground surface.

- .1 Install gate stops where indicated complete with Pin Lock and Insert

3.4 TOUCH-UP:

- .1 Clean damaged surfaces with wire brush removing loose and cracked coatings. Apply two (2) coats of organic zinc-rich paint to damaged areas in accordance with Section 09900 - Painting.
- .2 Pre-treat damaged surfaces according to manufacturer's instructions for zinc-rich paint.

3.5 CLEANING:

- .1 Clean and trim areas disturbed by operations. Dispose of surplus materials and replace damaged turf with sod as directed by Architect.
- .2 This Contractor will be responsible to clean the site completely of their excess material and debris to the approval of the Architect.

END OF SECTION