



SPECIFICATIONS for

Project Title

Building ###

University of Guelph Project Number XXXXXX

Month Day, Year

Physical Resources

Design, Engineering and Construction

1.0 Project Title

Refer to Bid Form

2.0 Owner

The University of Guelph
50 Stone Road East
Guelph, Ontario
N1G 2W1

Attention: Design, Engineering and Construction, Physical Resources,
J.C. Hersey Building

Telephone: (519) 824-4120
Facsimile: (519) 837-0581

3.0 Consultants

3.1 Architectural

The University of Guelph
50 Stone Road East
Guelph, Ontario
N1G 2W1

Attention: Design, Engineering and Construction, Physical Resources,
J.C. Hersey Building

3.2 Structural

Not applicable

3.3 Mechanical

The University of Guelph
50 Stone Road East
Guelph, Ontario
N1G 2W1

Attention: Design, Engineering and Construction, Physical Resources,
J.C. Hersey Building

3.3 Electrical

The University of Guelph
50 Stone Road East
Guelph, Ontario
N1G 2W1

Attention: Design, Engineering and Construction, Physical Resources,
J.C. Hersey Building

3.4 Commissioning Authority

WSP Canada Inc.
582 Lancaster Street West
Kitchener, Ontario
N2K 1M3

Attention: Ryan Lebold
Email: ryan.lebold@wsp.com
Cell: (519) 496-1118

*****END*****

[Edit Note – delete prior to issue of this Section]

The specification sections listed below are the University of Guelph Standard Specification Sections.

These Standard Specification Sections, showing the date August 2022 in each specification footer, as applicable, govern the work of all construction contracts between the Contractor and the University of Guelph (Owner) as represented by Physical Resources, until the earlier of:

- .1 replacement, additional and/or modified specification section(s) are issued for a particular project or contract, or;
- .2 the University issues revised Standard Specification Sections, or;
- .3 the University revokes these Standard Specification Sections.

LIST OF SPECIFICATION SECTIONS	
Document 00	
Section 00 00 01 Title Page	1 Page
Section 00 00 03 Project and Consultant Identification	1 Page
Section 00 00 10 List of Specification Sections & List of Drawings	2 Pages
Section 00 21 07 Instructions to Bidders	12 Pages
Section 00 31 01 Information Available to Bidders	1 Page
Section 00 41 01 Bid Form	3 Pages
Section 00 43 01 Supplementary List of Subs	1 Page
Section 00 43 03 Supplementary List of Unit Prices	1 Page
Section 00 43 01 Supplementary List of Prices	2 Pages
Section 00 61 00 Bonds	1 Page
Section 00 72 01 Form of Contract	4 Pages
Section 00 73 01 Supplementary Conditions	27 Pages
Appendix	1 Page
Division 01	
Section 01 11 01 General Requirements	12 Pages
Section 01 14 01 Special Project Requirements	3 Pages
Section 01 14 03 Special Project Scheduling Requirements	1 Page
Section 01 14 05 Fire Safety Requirements	3 Pages
Section 01 18 01 Utility and Building System Service Interruptions	4 Pages
Section 01 21 01 Allowances	1 Pages
Section 01 24 03 Prices	2 Pages
Section 01 24 05 Alternatives	1 Page
Section 01 29 01 Changes, Payments and Certificates	7 Pages
Section 01 29 03 Sample Invoice Format	1 Page
Section 01 33 01 Submittals	3 Pages
Section 01 45 01 Quality Control	4 Pages
Section 01 51 01 Temporary Utilities	4 Pages

The table below indicates the drawings that are part of this Contract.

*****END*****

The table below indicates the specification sections that are part of this Contract. The University of Guelph *Standard Specification Sections*, showing the date *August 2022* in each specification section footer, have been issued to all prequalified Contractors and Subcontractors. All others may review these documents at the office of the Owner or the Contractor. These documents may also be found at

<https://www.pr.uoguelph.ca/projects-planning/consultant-and-contractor-lists-and-information>

The table indicates if the appropriate *Standard Specification Sections* apply or if modified or additional specification section(s) apply to this project. Modified or additional specification sections are attached as part of the Documents.

LIST OF SPECIFICATION SECTIONS		Standard Specification Section Applies	Modified or Additional Specification Section Attached	Not Applicable to this Project
Division 00				
Section 00 00 01 Title Page	1 Page		✓	
Section 00 00 03 Project and Consultant Identification	1 Page		✓	
Section 00 00 11 List of Specification Sections, & List of Drawings	2 Pages		✓	
<i>Note: this Section replaces and supersedes Section 00 00 10</i>				
Section 00 21 07 Instructions to Bidders	12 Pages		✓	
Section 00 31 01 Information Available to Bidders	1 Page		✓	
Section 00 41 01 Bid Form	3 Pages	✓		
Section 00 43 01 Supplementary List of Subs	1 Page		✓	
Section 00 43 03 Supplementary List of Unit Prices	1 Page		✓	
Section 00 43 01 Supplementary List of Prices	2 Pages		✓	
Section 00 61 00 Bonds	1 Page	✓		
Section 00 72 01 Form of Contract	4 Pages	✓		
Section 00 73 01 Supplementary Conditions	27 Pages		✓	
Appendix	1 Page	✓		
Division 01				
Section 01 11 01 General Requirements	12 Pages		✓	
Section 01 14 01 Special Project Requirements	3 Pages		✓	
Section 01 14 03 Special Project Scheduling Requirements	1 Page		✓	
Section 01 14 05 Fire Safety Requirements	3 Pages	✓		
Section 01 18 01 Utility and Building System Service Interruptions	4 Pages	✓		
Section 01 21 01 Allowances	1 Pages		✓	
Section 01 24 03 Prices	2 Pages		✓	
Section 01 24 05 Alternatives	1 Page		✓	
Section 01 29 01 Changes, Payments and Certificates	7 Pages	✓		
Section 01 29 03 Sample Invoice Format	1 Page	✓		

Section 01 33 01 Submittals	3 Pages	✓		
Section 01 45 01 Quality Control	4 Pages	✓		
Section 01 51 01 Temporary Utilities	4 Pages	✓		
Section 01 52 01 Temporary Facilities	4 Pages	✓		
Section 01 54 01 Cutting and Patching	4 Pages	✓		
Section 01 54 03 Field Engineering	2 Pages		✓	
Section 01 57 01 Temporary Controls	5 Pages	✓		
Section 01 57 03 Environmental Protection	2 Pages	✓		
Section 01 61 00 Common Product Requirements	4 Pages	✓		
Section 01 61 01 Material and Equipment	6 Pages	✓		
Section 01 74 01 Cleaning	3 Pages	✓		
Section 01 74 03 Waste Management and Disposal	3 Pages	✓		
Section 01 77 01 Contract Close-out	4 Pages	✓		
Section 01 91 01 Commissioning	11 Pages		✓	
Division 02				
Section 02 42 01 Selective Demolition	3 Pages	✓		
Section 02 56 20 Radon Mitigation	3 Pages		✓	
Division 07				
Section 07 84 03 Fire Stopping and Smoke Seals	3 Pages	✓		

The table below indicates the drawings that are part of this Contract.

LIST OF DRAWINGS

DRAWING NUMBER DRAWING TITLE

*****END*****

1. INVITATION

- 1.1 Offers signed, executed, dated, and in compliance with the Instructions to Bidders, shall be received by the Owner through the MERX Electronic Bid Submission (EBS) system / University's KAHUA construction project management software platform from pre-qualified general contractors only.

2. COMPLIANCE

- 2.1 The bidder acknowledges that by submitting a compliant bid, it has accepted an offer by the Owner to enter into a "bid contract" for the evaluation of bids and the award of the Contract, if an award is made. The bidder acknowledges that the terms of the "bid contract" are represented by the Bid Documents.
- 2.2 Failure to submit a Bid which complies with the requirements of these Instructions to Bidders may cause a bid to be declared non-compliant and therefore not considered by the Owner.
- 2.3 The Owner reserves the right to waive any non-compliance and accept such a Bid, if, in the Owner's opinion, any such non-compliance does not give such bidder an unfair advantage over the other bidders.

3. BID DOCUMENTS

- 3.1 The following definitions apply to the Bid Documents:

- .1 **"Bid", "Offer", or "Bidding"** means the bid submitted by a bidder, or the act of submitting a bid by a bidder, as the context requires, under seal in response to the Bid Documents.
- .2 **"Bid Documents"** are the documents listed in Section 3.2 of these Instructions to Bidders.
- .3 **"Bid Price"** means the monetary sum identified in the Bid Form.
- .4 **"Contract"** has the definition given to it in the Definitions of the CCDC 2-2020, as amended by the Supplementary Conditions.
- .5 **"Contract Documents"** has the definition given to it in the Definitions of the CCDC 2-2020, as amended by the Supplementary Conditions.
- .6 **"Supplementary Conditions"** as used herein refers collectively to Form of Contract (Section 00 72 01) and Supplementary Conditions (Section 00 73 01) which amend, supplement, and modify the CCDC 2-2020
- .7 **"University"** or **"Owner"** means the University of Guelph.

Capitalized terms used in the Bid Documents that are not defined herein but which are defined in the CCDC 2-2020 shall have the meaning given to them in the CCDC 2-2020, unless the context requires otherwise.

- 3.2 The following Bid Documents form the basis of this bid process: *[NOTE: Edit list accordingly]*

- .1 these Instructions to Bidders
- .2 the Bid Form, which comprises the Bid Form (Section 00 41 01) and the following:
 - .1 the Bid Bond
 - .2 the Agreement to Bond
 - .3 Section 00 43 01 – List of Subcontractors and Cost Breakdown
 - .4 Section 00 43 03 – Supplementary Bid Form – Unit Prices
 - .5 Section 00 43 05 – Supplementary Bid Form – Itemized, Separate and Alternative Prices
- .3 CCDC 2-2020 including the Agreement Between Owner and Contractor, Definitions and General Conditions
- .4 Supplementary Conditions
- .5 Specifications (per Section 00 00 11 [or 00 00 10] of the Specifications)

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- .6 Drawings (per Section 00 00 11 [or 00 00 10] of the Specifications)
 - .7 Addenda issued during bidding period
- 3.3 Check Bid Documents for completeness upon receipt. Inform Consultant immediately:
- .1 should any documents be missing or incomplete; or
 - .2 upon finding any discrepancies or omissions.
- 3.4 Complete sets of Bid Documents are available only through **MERX**. / **KAHUA**. Copies will not be made available from Physical Resources, Hersey Building, University of Guelph (office of the Owner). Bid Documents will **not** be issued by e-mail, mail or courier.
- 3.5 Pre-qualified general contractors or pre-qualified subcontractors may obtain Bid Documents through **MERX**. / **KAHUA**. All others shall refer to the General Contractor for information.
- 3.6 Bid Documents may be viewed at the office of the Consultant and the Owner. Bid documents may also be viewed at the offices of the:
- .1 Grand Valley Construction Association;
 - .2 Hamilton Construction Association;
 - .3 London Construction Association;
 - .4 Mississauga Construction Association.
- 3.7 The Bid Documents are made available only for the purpose of submitting Bids for the Project. Availability and/or use of the Bid Documents do not confer a license or grant for any other purpose.
- 3.8 Except as otherwise defined in these Instructions to Bidders, capitalized terms used in these Bid Documents that are defined in the Contract have the meaning given to them therein.
- 4. CONDITIONS OF THE PLACE OF THE WORK**
- 4.1 The Place of the Work is located at *[Note: Insert location building name, number and address]*
- 4.2 The following reports prepared or obtained with respect to the Place of the Work are available through the Consultant: *[NOTE: Consultant to provide list with specifics.]*
- 4.3 Before submitting a Bid, investigate the Place of the Work to fully ascertain existing conditions, circumstances and limitations affecting the Work. No allowances shall be made for additional costs and no claims shall be entertained in connection with conditions which could reasonably have been ascertained by such investigation or other due diligence prior to submitting a Bid. In submitting a Bid, bidders warrant and certify that the bidder has visited the site and ascertained site conditions.
- 4.4 Conditions Above Acoustic Tile Ceilings: conditions visible above existing suspended acoustic tile ceilings shall be considered exposed conditions for the purposes of making findings under the provisions of the Bid Documents, and GC 6.4 – CONCEALED OR UNKNOWN CONDITIONS of the Contract, and the bidder is solely responsible for ascertaining these conditions prior to bid submission.
- 4.5 Additional Information: Partial drawings of the existing building are available for review at the office of the Owner. Neither the Owner nor the Consultant represent nor warranty that these drawings are complete or accurate, and these drawings are made available for bidders' information only.
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5. MANDATORY SITE MEETING

- 5.1 A mandatory site meeting for all pre-qualified general contractors and subcontractors has been scheduled on *[NOTE: insert date and time allowing reasonable notice to the bidders]* at *[NOTE: insert place of meeting – if it will be at the site, then insert "Place of the Work"]* All bidders must attend and will be required to sign the "Site Meeting Log" to confirm their attendance.
- 5.2 Failure to attend shall result in disqualification of bidders and/or pre-qualified subcontractors for work of this Contract. Bids received from bidders who failed to attend the mandatory site meeting, as determined from the "Site Meeting Log", shall be returned unopened.
- 5.3 Representatives of the Consultant and/or the Owner will be in attendance and will conduct the bidders' briefing and tour.
- 5.4 Bidders and their sub-trades are required to be familiar with all matters discussed at this briefing and tour, and the submission of a Bid shall be taken as warranty that the bidder and its trades are familiar with all site conditions and all matters discussed at the site briefing and tour.

6. PRE-QUALIFICATION

- 6.1 The following bidders have been pre-qualified:
- .1 Only pre-qualified general contracting firms named below may submit a Bid as a general contractor for this Contract:
[NOTE: List pre-qualified or VOR GC bidders.]
 - .2 Only pre-qualified firms named below may submit a Bid to pre-qualified general contracting firms (named above) for mechanical work of this Contract.
[NOTE: List pre-qualified or VOR mechanical bidders.]
 - .3 Only pre-qualified firms named below may submit a Bid to pre-qualified general contracting firms (named above) for sheet metal work of this Contract.
[NOTE: List pre-qualified or VOR sheet metal bidders.]
 - .4 Only pre-qualified firms named below may submit a Bid to pre-qualified general contracting firms (named above) for electrical work (generally Division 16 *confirm Division number*) of this Contract.
[NOTE: List pre-qualified or VOR electrical bidders.]
 - .5 Only pre-qualified firms named below may submit a Bid to pre-qualified general contracting firms (named above) for telecommunications cable (telephone or data) work (generally Division 17 *confirm Division number*) of this Contract.
[NOTE: List pre-qualified or VOR telecom bidders.]
- 6.2 Bidders must use only Subcontractors and Suppliers from the following invited list:

[Edit Note: These Subs or Suppliers should be pre-qualified in some manner before being added to a list. List any other invited Subcontractors and Suppliers.]
- 6.3 Bids received from bidders which have not been pre-qualified shall not be accepted and shall not be

considered.

- 6.4 Bids received from bidders who fail to comply with 6.1.1, 6.1.2, 6.1.3, 6.1.4, and 6.1.5 shall be declared non-compliant.

7. BID AND PERFORMANCE SECURITY

[Edit Note: bid and performance security are required for projects with a value of over \$500,000. If required, Article 17 of this Section requires edit. Strike-out this Article if the value of the project is under \$550,000.]

- 7.1 Each Bid shall be accompanied by bid security in the form of a bid bond in the amount of \$ *[appropriate amount of bid security is 10% of the estimated cost of construction]* naming the Owner as obligee and issued by a surety licensed to conduct surety and insurance business in Ontario. The bid security is for the benefit of the Owner and stands as security that the bidder, if awarded the Contract shall deliver the performance security and evidence of insurance and other documents required by these Instructions to Bidders or by the Contract. The bid security shall remain valid for a period of sixty (60) days from the date of bid submission. No other form of bid security is acceptable.
- 7.2 The bid security of the bidder whose Bid is accepted shall be retained by the Owner to compensate the Owner for the damages it shall suffer should the successful bidder fail to provide the specified performance security and/or evidence of insurance and other documents required by these Instructions to Bidders or by the Contract.
- 7.3 The bid security of the bidder whose Bid is accepted shall be returned after the delivery of the specified performance security and evidence of insurance and other documents required by these Instructions to Bidders or by the Contract. The bid security of all other bidders shall be returned after the expiry of this bid process without an award of Contract or after the rejection of all Bids.
- 7.4 Each Bid shall be accompanied by an agreement to bond issued by the same surety company that provides the bid bond, undertaking to provide a fifty percent (50%) performance bond and a fifty percent (50%) labour and material payment bond, both to be delivered to the Owner if the bidder is awarded the Contract. Required bonds shall be on Forms 31 and 32 as prescribed by the *Construction Act*, R.S.O. 1990, c. C.30.
- 7.5 Bids not accompanied by the required bid security and the required agreement to bond shall be declared non-compliant.
- 7.6 Include the cost of all bonds in the Bid Price.

8. AMENDMENTS TO BID DOCUMENTS

- 8.1 Direct questions arising during the bidding period to *[NOTE: Insert the name of the contact person at the Consultant, (the Bid Coordinator), along with contact information]* (the “**Bid Coordinator**”). The Bid Coordinator is the sole contact for bidding on this Project. A bid may be disqualified where contact is made with any person other than the Bid Coordinator.
- 8.2 Neither the Owner nor the Consultant will be responsible for instructions, clarifications or amendments communicated orally. Instructions, clarifications, or amendments which affect the Bid Documents may only be made by addendum.

- 8.3 If bidders find in the Bid Documents any discrepancies, omissions, errors, departures from building by-laws, codes or good practice, or terms or points considered to be ambiguous or conflicting, they shall bring them to the attention of the Bid Coordinator in writing, and not less than seven (7) Working Days before the bid closing date so that the Consultant may, if the Consultant deems it necessary, issue instructions, clarifications or amendments by addendum to all bidders to whom Bid Documents have been issued prior to the bid closing date. The Consultant shall issue such addenda at least seven (7) calendar days prior to bid closing. Any and all addenda will be available only through MERX. / KAHUA.

[Edit Note: This is the minimum time period required by BPS for projects with a construction value of more than \$100,000. For projects of a lesser construction value, a minimum of 3 working days should be afforded to Contractors.]

8.4 Product/System Options

- .1 Where the Bid Documents stipulate a particular product, alternatives shall be considered by the Consultant up to ten (10) Working Days before receipt of Bids.
- .2 When a request to substitute a product is made, the Consultant may approve the substitution and if approval is granted shall issue an Addendum to known bidders.
- .3 In submission of alternatives to products specified, bidders shall include in their Bid any changes required in the Work to accommodate such alternatives. A later claim by the Contractor for an addition to the Contract Price because of changes in work necessitated by use of alternatives shall not be considered.
- .4 Alternative products may be considered if submitted as an attachment to the Bid Form, in accordance with the following:
 - .1 The submission shall provide sufficient information to enable the Consultant to determine acceptability of such products.
 - .2 Provide complete information on required revisions to other work to accommodate each alternative, the advantages and disadvantages of the proposed alternative, effect on schedule, trades affected, and the dollar amount of additions to or reductions from the Bid Price, including revisions to other work. Proposals for alternatives shall be signed, dated and sealed in the same name as the person who has signed and sealed the Bid Form.
 - .3 Unless alternatives are submitted in this manner and subsequently accepted, provide products as specified.
- .5 The Owner will not necessarily accept alternatives proposed by the bidder.
- .6 Accept full responsibility that a proposed alternative will not exceed dimensional requirements as indicated on the Drawings, that it is compatible in all ways with other specified work, that coordination and cost of installation is included in its price for the proposed alternative and that the Contractor shall be responsible for additional engineering/design requirements.

- 8.5 Addenda issued during the bidding period shall become part of the Bid Documents and their receipt shall be acknowledged in the space provided on the Bid Form. Failure to acknowledge the addenda issued **will** result in the Bid being declared as non-compliant. Addenda will be issued through MERX. / KAHUA.

9. TAXES

- 9.1 Value Added Taxes shall ***not*** be included in the Bid Price. All other eligible taxes shall be included in the Bid Price. Any changes to taxes announced prior to the date of the issuance of these Bid Documents and scheduled to come into effect subsequent to it shall be taken into consideration in preparing the Bid Price.

- 9.2 All invoices or progress payments for work shall clearly show the amount of Value Added Tax applicable to the work completed.

10. BID COMPLETION

- 10.1 Fill in all blank spaces on the Bid Forms in ink, or typewritten, providing all information requested, and ensure that an authorized person or persons sign all forms where indicated. Failure to provide all requested information on the Bid Forms and failure to fill in all blank spaces may result in a Bid being declared non-compliant.

- 10.2 Use only the Bid Forms issued as part of the Bid Documents for the Project. If any or all pages of the Bid Forms are amended by addendum, only the amended pages shall be used to submit a Bid. Failure to comply with this paragraph may result in the Bid being declared non-compliant.

- 10.3 Information provided by bidders on the Bid Forms may be amended prior bid closing, in accordance with the rules provided by MERX. **KAHUA**. Other modifications, erasures, additions, conditions, qualifications or uninitialed pre-closing amendments may result in the Bid being declared non-compliant.

- 10.4 Bids including any supplementary bid forms that are not originals, are unsigned, improperly signed, uninitialed, incomplete, conditional or illegible, may be declared non-compliant.

10.5 Bid Price

- .1 The Bid Form provides that the Bid Price shall be provided in numbers only.
- .2 Where the Bid Forms require the bidder to provide a breakdown of the Bid Price, the Bid Price shall govern in the case of conflict or ambiguity between the Bid Price and the sum of the breakdown of the Bid Price. *[NOTE: delete if not applicable]*

10.6 Completion of the Work

- .1 Where required, state the date of completion of the Work on the Bid Form.
- .2 The work of this Contract shall be completed as quickly as possible and consideration may be given to time of completion when reviewing the submitted Bids.

10.7 Listing of Subcontractors and Contract Breakdown

- .1 Where required by the Bid Documents, a bidder shall submit a List of Subcontractors and Contract Breakdown that the bidder proposes to perform an item of the "Work" called for by the Contract by completing and submitting the List of Subcontractors and Contract Breakdown. Failure of the bidder to list Subcontractors and Contract Breakdown, where required, or the listing by a bidder of more than one Subcontractor and Contract Breakdown to perform or supply an item of work listed, may result in the Bid being declared non-compliant.
- .2 Should the bidder be awarded the Work, parties named, including bidder's own forces, shall be used to perform the work for which they are named and shall not be changed without the Owner's written consent.
- .3 Where a bidder lists "own forces" in lieu of a Subcontractor, the bidder shall carry out such item of the Work with its own forces. Where "own forces" have been listed by a bidder, the Owner reserves the right to obtain information from the bidder and from third parties respecting the qualifications and experience of the bidder's "own forces" for such item of the Work. If the Owner, acting reasonably, determines that the bidder's "own forces" are not sufficiently qualified or sufficiently experienced to undertake such item of the Work, it may declare the Bid as non-compliant.
- .4 Costs requested shall be for the specific trade or division of work. The cost should not include the

bidder's general cost or mark-up. The cost information is for confidential information and use by the Owner.

10.8 Itemized, Separate and Alternative Prices

- .1 Where required by the Bid Documents, a bidder shall submit itemized, separate and alternative prices.
- .2 Itemized Prices for work, if any, shall be included in the Bid Price. The itemized price shall be based on the materials, equipment and systems specified. The itemized price shall include all labour, materials, equipment, overhead and profit and all other charges except as otherwise stipulated. No additional mark-ups will be permitted. Except as instructed otherwise in writing, the Contractor shall verify and include all code and municipal/provincial requirements associated with proposed itemized prices.
- .3 Separate Prices requested in the Bid Documents shall not be included in the Bid Price. Consistent with their acceptance or rejection by the Owner, they will be included as part of the Contract, as a separate amount from the Contract Price, or as part of a separate agreement. The separate price shall be based on the materials, equipment and systems specified. The separate price shall include all labour, materials, equipment, overhead and profit and all other charges except as otherwise stipulated. No additional mark-ups will be permitted. Except as instructed otherwise in writing, the Contractor shall verify and include all code and municipal/provincial requirements associated with proposed separate prices. Separate prices shall be irrevocable for a period of sixty (60) days after Bid close. The Owner reserves the right to accept or reject any or all separate prices submitted.
- .4 Alternative Prices for work, if any, shall form part of the Bid Price and evaluation if the alternative(s) is accepted by the Owner. The alternative price shall be based on the materials, equipment and systems specified. The alternative price shall include all labour, materials, equipment, overhead and profit and all other charges except as otherwise stipulated. No additional mark-ups will be permitted. Except as instructed otherwise in writing, the Contractor shall verify and include all code and municipal/provincial requirements associated with proposed alternative prices. Alternative prices shall be irrevocable for a period of sixty (60) days after Bid close. The Owner reserves the right to accept or reject any or all alternative prices submitted.

[NOTE: If these prices are required as a part of the bid documents, ensure that Section 01 24 03 – Prices and Section 01 24 05 – Alternatives are included in the bid documents and bid forms are revised. Also, ensure that the definitions for these prices are clear and consistent in all parts of the Bid documents.]

10.9 Unit Prices.

- .1 Where required by the Bid Document, a bidder shall submit Supplementary Bid Form - Unit Prices. The unit price shall be based on the materials, equipment and systems specified.

[NOTE: If these prices are required as a part of the bid documents, ensure that Section 01 24 03 – Prices is included in the bid documents and bid forms are revised.]

10.10 Bid Signing

- .1 The bid form and any supplementary bid forms shall be signed by the bidder.
- .2 Sole Proprietorship: Printed name and signature of sole proprietor. The signature shall include the name and signature of a witness to the proprietor's signature.
- .3 Partnership: Printed name and signature of one partner authorized to bind the partnership. Insert the word partner under signature. The signature shall include the name and signature of a witness to the partner's signature.
- .4 Limited Company: Printed name and signature of a signing officer authorized to bind the company in

their normal signatures. Insert the officer's capacity in which the signing officer acts, under the signature.

10.11 Eligibility of Bids

- .1 Bids that are improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind may, at the sole discretion of the Owner, be declared non-compliant.
- .2 Bids that fail to include security deposit, bonding or insurance in accordance with the requirements of the Bid Documents requirements shall be declared non-compliant.
- .3 Bids received after the time of bid close in any form shall not be accepted and shall be not considered.
- .4 Bids received from bidders who failed to attend a mandatory pre-bid site visit may, at the sole discretion of the Owner, be declared non-compliant.
- .5 Unsigned bids shall be declared non-compliant.

11. **BID SUBMISSION**

- 11.1 Submit one (1) completed original of the Bid Form and any required supplementary bid forms, accompanied by the bid bond and the agreement to bond, electronically to the University of Guelph through MERX EBS, the electronic tendering system used by the University of Guelph. / through the University's KAHUA construction project management software platform. *[Edit as may be required]*
- 11.2 Bids must be received before and not later than **3:00:00** *[NOTE: insert time as 00:00:00 AM/PM]* local time on *[NOTE: insert date]*. The term "local time" shall mean the time as measured by MERX EBS system. / KAHUA.
- 11.3 Bids will be date and time stamped electronically by MERX EBS. / KAHUA.
- 11.4 **Late bids will not be accepted by MERX.** / KAHUA.
- 11.5 Bids which are submitted directly to the Owner shall **not** be considered.
- 11.6 Bidders are solely responsible for ensuring that their Bids are downloaded and submitted (2 steps) to MERX EBS / KAHUA prior to the date and time specified above.
- 11.7 Failure to submit any of the required supplementary bid forms will result in the Bid being declared non-compliant.
- 11.8 File size shall not exceed 100 MB. File names shall not exceed more than 100 characters.

[NOTE: If a 2 stage closing is required, add an article with the required information here.]

11.9 Bid Submission and Covid-19

- .1 The Contractor will be required to comply with any legislative amendments, controls, regulations, requirements or orders that were or get issued by the Governments of Canada or the Province of Ontario in response to the global pandemic of the virus leading to COVID-19 including any resurgence or mutation thereof.

.2 In submitting its Bid, each bidder shall be deemed to have considered any legislative amendments, controls, regulations, requirements or orders that were issued, prior to bid closing, by the Governments of Canada or the Province of Ontario in response to the global pandemic of the virus leading to COVID-19, including any impacts such legislative amendments, controls, regulations, requirements or orders could have on the bidder's pricing and the Contract Price is deemed to include any costs associated with the foregoing.

.3 In the event the Contractor's performance of the Work is delayed as a result of COVID-19, the Contractor's entitlement, if any, in such circumstances will be as stipulated in the Contract. Bidders are encouraged to review 00 73 01 Supplementary Conditions included in the University of Guelph's Standard Specification Sections in this respect, including those related to GC 6.5 – DELAYS.

12. BID EXPIRY PERIOD

12.1 Bids shall be irrevocable for a period of sixty (60) days from the date of submission of the base Bid Form, after which period the Bid expires.

13. BID OPENING

13.1 Bids shall be received electronically and reviewed in private.

14. REQUESTS FOR CLARIFICATION

14.1 The Consultant or Owner may contact any one or more bidders to request clarification or additional information with respect to a bidder's Bid submission or any of the information or materials contained therein, without any obligation to make the same request of any other bidder. Bidders shall respond to such requests within the time and in the manner stipulated in the request. If a bidder fails to timely respond to a request for clarification or additional information, its Bid will be considered and evaluated based solely on the original Bid submission.

14.2 The Owner reserves the right to request supplementary information from one or more bidders after close of bids as may be required to facilitate the Owner's decision to award the Contract (if any), without obligation to make the same request of any other bidder. Such a request for supplementary information does not affect the validity of the Bid submitted. Bidders shall respond to such requests within the time and in the manner stipulated in the request.

14.3 Requests for information or clarification shall not be construed or interpreted as acceptance of a Bid.

15. PRESENTATION AND INTERVIEW

[Note: If no presentation and interview is required, delete section and re-number proceeding sections accordingly.]

15.1 The Owner may require one or more bidders to prepare and make a presentation to the Owner's Selection/Evaluation Committee in order to assist the Owner in evaluating any compliant Bids. Selected bidders will also be interviewed by the Owner's Selection/Evaluation Committee.

15.2 The selection of bidders for a presentation and an interview will be based on the best (lowest) two or three compliant Bids received.

- 15.3 The following matrix illustrates the criteria for evaluation of the presentation and interview:

[Note: Enter the method of evaluating and scoring the interviews.]

Presentation and Interview Score Sheet <i>[Example]</i>				
Criteria	Weight	Score (0.0-10.0)	Points	Justification/Comments
Presentation	4			
Interview Criteria B	2			<i>[co-ordinate with list below]</i>
Interview Criteria C	2			<i>[co-ordinate with list below]</i>
Total				

- 15.4 The selected bidders shall be notified in advance of the proposed presentation and interview and shall have two (2) days to prepare for the presentation and interview. Participants in the presentation and interview must include the bidder's key personnel (being their project manager and site superintendent). The presentation must include a complete review of the project scope and complexity and should include any issue or risks to achieving the final completion date as specified. The information provided by a bidder at the presentation and the interview shall bind the bidder and the successful bidder shall be held to the responses given.

Selected bidders shall be responsible for all travel and related costs involved in attendance for the presentation and an interview.

- 15.5 The scores from the presentation and interview will be combined with **[a score for the Bid Price] OR [scores in the Contract Award matrix]** to determine the successful bidder.

16. AWARD OF CONTRACT, EXECUTION OF THE CONTRACT AND DOCUMENTS TO BE DELIVERED

- 16.1 Bidders shall not issue or make any statement or news release concerning their Bid, the bid process, the Owner's evaluation of the Bids, or the Owner's award or cancellation of the bid process without the express written consent of the Owner.
- 16.2 If the Owner decides to award the Contract to a bidder, it will communicate its written acceptance to the bidder of its bid and issue a "Letter of Intent" to award a contract.
- 16.3 All compliant Bid Price submissions will be evaluated mathematically with the low Bid receiving full marks. Other scores for other compliant Bids will be assigned points using the following formula:

low price/submission price * weight of 10 * maximum score of 10.

Unless otherwise stated herein, an award of a contract will be based on the lowest compliant bid.

[NOTE: If price is the only criterion being considered, then:

- 1. Remove highlight on sentence above.*
- 2. Delete sentences 16.4 and 16.5 and re-number sentences 16.6, 16.7 & 16.8 accordingly.]*

[Note: Use 16.4 only if project duration is being submitted under Declaration 1A on Bid Form, otherwise delete sentence and criteria in matrix below.]

- 16.4 All project durations submitted (Declaration 1 on 00 41 01 – Bid Form) will be evaluated mathematically with the shortest duration / least number of working days receiving full marks. Other scores for other compliant Bids will be assigned points using the following formula:

shortest duration/submitted duration * weight of # * maximum score of #.

- 16.5 The evaluation of the Bids submitted and decision to award the Contract may be made by the Owner based upon the criteria in the following matrix.

[NOTE: This matrix should be reviewed and revised based on the criteria that is important to the project. This list should be used to establish the criteria for the interview. The criteria should be listed in order of importance. Ensure that the requirements of the bid submission includes clear instructions on what is to be included – i.e. – experience, resumes, schedule.]

Contract Award Score Sheet <i>[Example]</i>				
Criteria	Weight	Score (0.0-10.0)	Points	Justification/Comments
Price	4			<i>[price criteria should be heaviest weighted]</i>
Project Schedule	2			<i>[use only if bidder is to submit project duration, ie. Declaration 1A on Bid Form, 00 41 01]</i>
Presentation and Interview	2			<i>[use only if presentation & interview are being conducted]</i>
Other Criteria	1			<i>[co-ordinate with list below]</i>
Other Criteria	1			<i>[co-ordinate with list below]</i>
Total				

Should there be a tie in the evaluation of the selected bidders after their presentation and interview, the following items, in order of priority, one item at a time, based on the points for that criteria, will be used to

break the tie:

- price;
- proposed construction schedule and completion date; and
- qualifications and experience of the proposed personnel (team).
- experience with other projects currently in progress;
- ability to handle current and anticipated future workload;
- quality assurance;

- 16.7 Prior to commencing the Work, the Contractor shall deliver to the Owner:
- .1 certified true copies of the insurance policies required by the Bid Documents; and
 - .2 a current Clearance Certificate issued by the Workplace Safety and Insurance Board.
 - .3 a signed AODA Supplier Compliance Form
- 16.8 The Owner takes no responsibility for the accuracy of the information supplied during the bid period unless provided in writing, and takes no responsibility for any bidder lacking information.
- 16.9 The award of a Contract will be posted on MERX. / KAHUA. No other notification of award to the unsuccessful bidders will be made.

17. LIMIT OF LIABILITY

- 17.1 The liability of the bidder to the Owner for loss and damage arising out of the bidder's breach of the "bid contract" shall be limited to the lesser of the actual loss suffered by the Owner and the sum of \$ *[NOTE: insert amount in words]* Dollars (\$ *[NOTE: insert amount in numbers]*).

[NOTE: Where a bid bond is required under Article 7, strike out 17.1 and renumber the remaining paragraph].

- 17.2 The liability of the Owner to any bidder for loss and damage arising in tort or for the breach by the Owner of the "bid contract" shall be limited to the lesser of the sum of *[NOTE: insert amount in words]* Dollars (\$ *[NOTE: insert amount in numbers]*) and the reasonable cost to the bidder of preparing its Bid.

[NOTE: Where an amount is to be included in both paragraphs 17.1 and 17.2, it should approximate the amount of the preparation of a bid.]

18. CONFLICT OF INTEREST

- 18.1 The bidder agrees to be bound by the following requirements:
- 1. That no person either natural or body corporate, other than the bidder, has or will have any interest or share in the Bid being submitted or in the proposed Contract;
 - 2. That there is no collusion or arrangement between the bidder and any other bidder(s) in connection with this Project;
 - 3. That the bidder has no knowledge of the contents of other Bids and has made no comparison of figures, agreements, arrangements, expressed or implied, with any other party in connection with the preparation and submission of the Bid;
 - 4. Neither the bidder nor its signatories or any officers, directors or employees of the bidder shall have any direct or indirect interest in any other entity that provides goods or services to the Project. The bidder shall immediately disclose any suspected or potential conflict of interest should it arise before, during or

after this Bid and/or any award of contract; and

5. Neither the bidder nor its signatories or any officers, directors or employees of the bidder shall offer or receive any reimbursement from or to any employee of the University of Guelph or vendor, consultant or contractor employed by the University of Guelph except as token gifts in accordance with the University of Guelph's policy governing this matter.

19. DISPUTES

- 19.1 In the event of a dispute arising in connection with this bid process including, without limitation, a dispute concerning the existence of the "bid contract" or a breach of the "bid contract", or a dispute as to whether the Bid of any bidder was submitted on time or whether a Bid is compliant, the Owner may refer the dispute to a confidential binding arbitration pursuant to the *Arbitration Act, 1991* (Ontario), as amended, before a single arbitrator with knowledge of procurement/bidding law. In the event that the Owner refers the dispute to arbitration, the bidder agrees that it is bound to arbitrate such dispute with the Owner. Unless the Owner refers the dispute to binding arbitration, there shall be no arbitration of the dispute.
- 19.2 In the event the Owner refers a dispute to binding arbitration, the Owner may give notice of the dispute to one or more of the other bidders who submitted Bids, whether or not their respective Bids were compliant, each of whom shall be a party to and shall be entitled to participate in the binding arbitration, and each of whom shall be bound by the arbitrator's award, whether or not they participated in the binding arbitration.
- 19.3 In the event the Owner refers a dispute to binding arbitration, the parties to the arbitration shall exchange brief statements of their respective positions on the dispute, together with the relevant documents, and submit to a binding arbitration hearing which shall last no longer than two days, subject to the discretion of the arbitrator to increase such time. The parties further agree that there shall be no appeal from the arbitrator's award.
- 19.4 Nothing in the Bid Documents, including this Article, is intended to form part of any "bid contract" that may come into being between a bidder and any prospective Subcontractor or Supplier of that bidder.

20. DEBRIEFING

- 20.1 Each bidder who submits a Bid in response to this request for bids is entitled to a debriefing process.
- 20.2 In the event a bidder wishes to obtain information on their Bid relative to this call for bids, the bidder must make such a request, in writing, to the Owner within sixty (60) days after award of the Contract is made.
- 20.3 The debriefing process will occur only after the award of the Contract.
- 20.4 The debriefing process will cover the following criteria, relative to the applicable bidder's Bid only:
 - price;
 - experience with other projects currently in progress;
 - ability to handle current and anticipated future workload;
 - quality assurance;
 - proposed construction schedule and completion date;
 - qualifications and experience of proposed personnel (team); and
 - ability to ensure continuity of qualified and experienced personnel.
- 20.5 The debriefing process with a bidder will not address any issues, questions or concerns regarding the Bid of

any other bidder, including the Bid of the successful bidder (if any).

21. OWNER'S DISCRETION

21.1 In addition to any other express rights contained in the Bid Documents or any other rights which may be implied in the circumstances, the University reserves the discretion to exercise any or all or a combination of the rights described in this Article. The University shall not be liable for any costs, expenses or damages incurred or claimed by a bidder resulting from the University's exercise of its discretion or any of the provisions of the Bid Documents.

21.2 The University may, in its sole discretion, and for any or no reason:

- (a) reject one or more or all Bids (including without limitation the lowest Bid), even if only one Bid is received before the bid closing;
- (b) reject the whole or any part of any Bid;
- (c) accept the whole or any part of any Bid;
- (d) award the Contract to the bidder whose Bid, in the University's sole and absolute discretion, is considered by the University to be in the University's best interests;
- (e) if only one Bid meets all mandatory requirements of the Instructions to Bidders, elect to reject such Bid;
- (f) reject or retain for its consideration Bids which do not contain the content or form required by the Bid Documents or fail to comply with the submission process set out in these Instructions to Bidders;
- (g) cancel this tender process at any time before the Contract is signed; and
- (h) cancel this tender process at any time before the Contract is signed and issue a new procurement process for the Project with the same or different participants or negotiate a contract for the whole or any part of the Work with any one or more persons, including one or more of the bidders.

21.3 The University may, in its sole discretion:

- (a) waive errors and matters of non-conformance contained in a Bid;
- (b) waive matters of non-compliance in a Bid and accepted such a Bid if, in the Owner's opinion, any such non-compliance does not give the bidder an unfair advantage over the other bidders;
- (c) verify with a third party any information contained in a Bid or provided by a bidder during a meeting or interview and adjust the evaluation of a Bid or reject a Bid on the basis of such information;
- (d) adjust a bidder's evaluation or reject a Bid on the basis of information received in response to a request for clarification or additional information, in response to reference checks, during any meetings and/or interviews or as a result of any other information obtained by the University during the tender process; and
- (e) disqualify any bidder whose Bid contains misrepresentations or any other inaccurate or misleading information relating to matters which the University, in its sole discretion, considers material.

22. ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA)

22.1 The University is committed to fostering, creating and maintaining an accessible environment for all individuals under the *Accessibility for Ontarians with Disabilities Act, 2005* as amended ("AODA").

22.2 Each bidder agrees to:

- (a) comply with the accessibility standards established under the AODA by the Government of the Province of Ontario and adhere to the University's policies and procedures in regards to accessibility as well as to ensure all of its Subcontractors similarly do the same;
- (b) ensure that training on the requirements of the accessibility standards are provided to those of its

employees who will be working with the public (including students, staff, faculty, visitors or other third parties) at, or on behalf of, the University and who participate in developing the bidder's policies, practices or procedures;

- (c) keep records of such training; and
- (d) provide such records to the University when requested.

- 22.3 For bidders who will be working with the public (including students, staff, faculty, visitors or other third parties) at, or on behalf of, the University, the University will require the successful bidder, upon issuance of a notice of award of the Contract, to provide to the University with a signed AODA Supplier Compliance Form prior to commencing any work for the University.

The AODA Supplier Compliance Form is available at:

<https://www.uoguelph.ca/finance/sites/default/files/public/FF020.0503%20AODA%20Supplier%20Compliance%20Form%20FINAL-es.pdf>

23. HUMAN RIGHTS AND SEXUAL AND GENDER HARASSMENT POLICIES

- 23.1 Bidders agree to be governed by the provisions of the Ontario Human Rights Code. In furtherance of the commitment, bidders agree to comply with the provisions of the University's Human Rights Policy and Procedures. Bidders also agree to comply with any successor policies and procedures to the document that the Owner's Board of Governors may approve. Bidders shall refer to www.uoguelph.ca/hre/hr.shtml for more information.

24. SMOKING RESTRICTIONS

- 24.1 Smoking, vaping or consumption of tobacco or cannabis products in any form is forbidden on any and all of the Owner's property. Failure to comply will require offenders to leave the property and may result in loss of future business. Repeat offenders shall be removed from the Owner's property.

25. OWNER'S POLICIES

- 25.1 Without limiting the applicability of Sections 23 and 24 above, bidders shall comply, and cause anyone for whom they are responsible to comply, with all policies and directives by the Owner and any applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction including, without limitation, all those relating to the preservation of the public health, occupational health and safety and to the virus leading to COVID-19 or any mutation thereof (or any other pandemic or epidemic).

END OF INSTRUCTIONS

PART ONE - GENERAL1.1 Reports

.1 The following material *bound herein (or in a separate volume of the Contract Documents) is included for information or is available from the Owner/Consultant (for complex data, provide copies with each bid package.*

.1 Known or suspected asbestos containing materials (ACM).

.2

.3

.4

.5

.2 The above material cannot, by its nature, reveal all conditions that may exist at the Place of the Work. Should conditions be found to vary substantially from the above, advise the Consultant accordingly and request direction.

*****END*****



Physical Resources
Design, Engineering & Construction
Tel (519) 824-4120
Fax (519) 837-0581

J.C. Hersey Building
University of Guelph
Guelph, Ont. N1G 2W1

BID FORM

Project No.: **xxxxxx**

Issue Date: **Month day, 20XX**

Project (Work): **xxxxxxxxxx**

Page 1 of 3

Bid Closing: Date: **Month, Day, 20XX** Time: before and not later than **X:00** PM (as determined by MERX **KAHUA**)

Bid Issue Authorized By _____ Manager / Director, Design, Engineering & Construction

Direct enquiries to: **XXXXXXX**, extension **XXXX** (provide name and contact # if appropriate)

A **[mandatory]** site briefing at which all General Contract **[and pre-qualified subcontract]** bidders who wish to submit bids are invited **[required]** to attend is scheduled for: **Month day, 20XX**, convening at **time** in **location**.

[Edit items in brackets – coordinate with Instructions]

Name of Bidder _____

Address _____

Telephone _____ Fax _____

E-mail: _____

BID PRICE

I / We, the undersigned, having examined the Bid Documents (including without limitation the Drawings and Specifications) identified in Specification Section 00 00 11 **[or 00 00 10]** List of Specifications & List of Drawings for the above project, and having received, carefully examined and incorporated Addenda up to and including number _____, and having visited and examined the Place of the Work, and having examined all conditions, circumstances and limitations affecting the Work, offer to enter into a Contract with the Owner to perform the Work required by these Bid Documents for the above Project for the stipulated sum Bid Price of:

\$ _____ **[Note: insert amount in numbers only]**

Bid Price is not to include Value Added Tax.

H.S.T./G.S.T. Registration # _____

BID SECURITY

Attached to this Bid is a bid bond issued by _____ in the amount of

\$ _____ **[Note: insert amount in numbers only]**

AGREEMENT TO BOND

Attached to this Bid is an agreement to bond issued by _____

undertaking to provide the bonds as required by the Bid Documents.

[Edit Note: strike-out or delete sentences related to bid bond or agreement to bond – which do not apply]

LIST OF SUB-CONTRACTORS AND COST BREAKDOWN

[Note: Request “List of Sub-contractors & Cost Breakdown” only when required otherwise delete this section. Add or delete subtrades as required. Requesting “List of Sub-contractors & Cost Breakdown” can be done here on the Bid Form or within Section 00 43 01 - List of Subcontractors and Cost Breakdown BUT NOT BOTH.]

Identify Subcontractors to be engaged for the Work and the cost of the Work:

TRADE	NAME	COST
MECHANICAL		\$
ELECTRICAL		\$
ROOFING		\$
TELECOMMUNICATIONS		\$

ALTERNATE & SEPARATE PRICES

[Note: Request “Alternate & Separate Prices” only when required otherwise delete this section. Edit accordingly, adding or deleting as required. Requesting “Alternate & Separate Prices” can be done here on the Bid Form or on the Supplementary Bid Forms, Sections 00 43 03 & 00 43 05 Breakdown BUT NOT BOTH. Requesting “Alternate & Separate Prices” requires the inclusion of Sections 01 24 03 - Prices and 01 24 05 – Alternatives in the project’s specifications package.]

	To be filled in by General Contractor		This column for University use only
Alternate Price No. 1	Add to Bid Price	Deduct from Bid Price	Accepted or On Hold (circle one)
Alternative Completion Date of (Month, date, year - Contractor to complete) (See Section 01 24 05 for description)	\$	\$	\$
Alternate Price No. 2	Add to Bid Price	Deduct from Bid Price	Accepted or On Hold (circle one)
Short Name (See Section 01 24 05 for description)	\$	\$	\$
Alternate Price No. 3	Add to Bid Price	Deduct from Bid Price	Accepted or On Hold (circle one)
Short Name (See Section 01 24 05 for description)	\$	\$	\$

	To be filled in by General Contractor	This column for University use only
Separate Price No. 1	Add to Bid Price	Accepted or On Hold (circle one)
Short Name (See Section 01 24 03 for description)	\$	\$
Separate Price No. 2	Add to Bid Price	Accepted or On Hold (circle one)

Short Name (See Section 01 24 03 for description)	\$	\$
Separate Price No. 3	Add to Bid Price	<i>Accepted or On Hold (circle one)</i>
Short Name (See Section 01 24 03 for description)	\$	\$

(FOR UNIVERSITY USE ONLY)

FINAL ACCEPTED BID PRICE INCLUDING ACCEPTED AND/OR DECLINED ALTERNATE PRICES LISTED ABOVE:

\$ _____ [Note: insert amount in numbers only]
 (To be filled out by the University of Guelph project manager only)

Project Manager: _____ Date: _____

DECLARATIONS

I / We, the undersigned declare that:

[EDIT NOTE: (Fall 2022): Given the volatility in the construction industry, it is better to ask bidders to set a project's duration / baseline schedule using Declaration 1A then to dictate a specific date using Declaration 1B. By using Declaration 1A, "project schedule" becomes a scoreable criterion in determining Contract Award. Its also important when settling delay claims. More accountability on the Contractor to complete the project in the time they've said it will take. Generally, use Declaration 1A for larger, more complex projects over \$250,000. Use Declaration 1B if achieving completion by a specific date is critical (for legitimate reasons) and sufficient time has been given. Generally, use declaration 1B for simpler projects under \$250,000. Delete unused declaration and drop the letter suffix.]

- .1A Work will commence immediately upon award of Contract and shall achieve Ready-For-Takeover by [Date] or (pick one) Completion of Contract within _____ working days of award of Contract.
- or
- .1B Work will commence immediately upon award of Contract and shall achieve Ready-For-Takeover by [Date] or (pick one) Completion of Contract by month date, 20XX; [Consider an Alternative Price for a possible alternative completion date]
- .2 There is no conflict of interest in submitting this Bid and that no person either natural or body corporate, other than the bidder, has or will have any interest or share in this Bid or in the Contract if awarded to this Bidder;
- .3 There is no collusion or arrangement between the bidder and any other bidder (s) in connection with this Project;
- .4 The bidder has no knowledge of the contents of other bids and has made no comparison of figures, agreements, arrangements, expressed or implied, with any other party in connection with the making of the Bid;
- .5 The bidder will comply with the Owner's policies related to Human rights and Sexual and Gender Harassment and Accessibility for Ontarians with Disabilities.
- .6 This Bid is open to acceptance and irrevocable for a period of sixty (60) days after Bid Closing;
- .7 This agreement supersedes all prior negotiations, representations, or agreements, either written or oral, relating in any manner to the Work;
- .8 The Contract Documents consist of:

- .1 this Bid Form
- .2 the CCDC 2 (2020) Stipulated Price Contract (including the Agreement Between Owner and Contractor, Definitions and General Conditions) as amended by Specifications Section 00 72 01 – Form of Contract and Section 00 73 01 – Supplementary Conditions
- .3 Specification Section 00 72 01 – Form of Contract
- .4 Specification Section 00 73 01 – Supplementary Conditions
- .5 the University of Guelph Standard Specifications Sections, dated April 2022 (except that where amended sections are issued with this Bid Form and Contract the amended sections shall govern over the University of Guelph Standard Specifications Sections for this Contract), as listed in the attached Specification Section 00 00 11 [or 00 00 10] List of Specification Sections & List of Drawings
- .6 the Drawings as listed in the attached Specification Section 00 00 11 [or 00 00 10] List of Specification Sections and List of Drawings
- .9 The following Forms are attached to the Bid:
- .1 Bid Bond
- .2 Agreement to Bond
- .3 Section 00 43 01 – List of Subcontractors and Cost Breakdown
- .4 Section 00 43 03 – Supplementary Bid Form – Unit Prices
- .5 Section 00 43 05 – Supplementary Bid Form – Itemized, Separate and Alternative Prices

[Edit Note: List of Subs and sentences .8 and .9 are to be reviewed and edited as required.]

SIGNATURES:

Signed and submitted by:

Company Name

Printed Name and Title of An Authorized Signing Officer

Signature of Authorized Signing Officer

Printed Name and Title of Witness

Signature of Witness

Dated this _____ day of _____, 20XX.

E-mail Address _____ Telephone No. _____

ACCEPTANCE:

[Edit Note: Delete signature lines that are not applicable]

Use this signature line for contracts to \$99,999

Acceptance recommended _____
Project Lead, Design, Engineering and Construction

Accepted on behalf of the University of Guelph (Owner) _____
Manager, Design, Engineering and Construction

Acceptance Date _____

Project Coordinator: (enter name of coordinator assigned to the work)

Use this signature line for contracts from \$100,000 to \$499,999

Acceptance recommended _____
Manager, Design, Engineering and Construction

Accepted on behalf of the University of Guelph (Owner) _____
Director, Design, Engineering and Construction

Acceptance Date _____

Project Coordinator: (enter name of coordinator assigned to the work)

Use this signature line for contracts from \$500,000 to \$999,999

Acceptance recommended _____
Manager, Design, Engineering and Construction

Recommendation confirmed _____
Director, Design, Engineering and Construction

Accepted on behalf of the University of Guelph (Owner) _____
Associate. V.P., Physical Resources

Acceptance Date _____

Project Coordinator: (enter name of coordinator assigned to the work)

END OF DOCUMENT

Project No.: XXXXXX

Project Name: XXXXXX

NAME OF BIDDER _____

I/We, the undersigned, propose to employ the following Subcontractors and/or Suppliers to perform an item of the Work called for by the Contract. I/We confirm that all have been investigated to confirm their reliability and competency to carry out such work in accordance with the Contract Documents.

I/We acknowledge that the Instructions to Bidders require that we list only one Subcontractor and/or Supplier for each item of the Work described in this List of Subcontractors. I/We further acknowledge that where we have entered "own forces" to perform an item of the Work, we are experienced in the work to be performed and it is our intention to use "own forces" for that purpose.

After bid submission, no substitution for a Subcontractor, Supplier or "own forces" will be permitted except as provided in the Contract.

I/We the undersigned understand that if this Supplementary Bid Form is not completed, our Bid may be declared as "non-compliant".

ITEM OF WORK	SUBCONTRACTOR	COST
_____	_____	\$ _____
_____	_____	\$ _____
_____	_____	\$ _____
_____	_____	\$ _____
_____	_____	\$ _____
_____	_____	\$ _____
_____	_____	\$ _____
_____	_____	\$ _____

[NOTE: insert items of Work for which a list of Subcontractors and a cost is to be provided]

This List of Subcontractors and Cost Breakdown is an integral part of these Bid Documents.

DATE _____

SIGNATURE _____

Name and Title _____

End of Document

Project No.: XXXXXX

Project Name: XXXXXX

NAME OF BIDDER _____

I/We the undersigned offer the following unit prices for the work or for additional work listed here. All unit prices, unless specifically indicated, are for complete work, in place, supplied and installed in accordance with applicable Contract requirements and include all overhead and profit mark-up.

I/We the undersigned agree that the credits for deleted work shall be no less than eighty percent (80%) of the unit prices listed hereunder except for bonding costs which will be same as for an extra.

I/We the undersigned agree that the Owner shall have the right to negotiate the cost of additional work instead of using the unit prices listed hereunder.

I/We the undersigned understand that if this Supplementary Bid Form is not completed, our Bid may be declared as “non-compliant”.

Prices listed hereunder do not include any Value Added Taxes but include all other eligible taxes.

[NOTE: Below, fill in the items for which unit prices are being solicited, including the unit of measurement.]

ITEM OF WORK	UNIT COST / UNIT
Bonding Costs - \$ rate per \$1,000 of actual construction cost	\$_____ per \$1,000

This list of Unit Prices is an integral part of these Bid Documents.

DATE _____

SIGNATURE _____

Name and Title _____

End of Document

Project No.: XXXXXX

Project Name: XXXXXX

NAME OF BIDDER _____

I/We the undersigned offer the Itemized Prices, Separate Prices and Alternative Prices described below.

I/We the undersigned understand that if this Supplementary Bid Form is not completed, our Bid may be declared as “non-compliant”.

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. "Itemized Prices" are for work included in the bid price and are provided for information purposes only. They will not be used to adjust the scope of the work or the bid price.
3. "Alternative Prices" are amounts stipulated by bidders for solicited alternatives which can be stated as additions, deductions or no change to the bid price.
4. Without limiting its rights under the Instructions to Bidders, the Owner reserves the right to accept or reject any of the Alternative Prices. Acceptance of Alternative Prices is subject to the earlier acceptance of the bid or the bid expiry date.
5. "Separate Prices" are amounts stipulated by the Bidders for solicited additional work. Separate prices shall not be included in the Stipulated Price. Consistent with their acceptance or rejection by the Owner, they will be carried in the Agreement as an amount separated from the Contract Amount or in a separate agreement.
6. Prices listed hereunder do not include Value Added Tax but include all other eligible taxes.
7. These amounts shall be irrevocable for the Bid Expiry Period provided in the Instructions to Bidders.

ITEMIZED PRICES

1. The total amount included in the *Bid Price* for the supply of a Performance Bond and a Labour and Materials Payment Bond in accordance with Instructions to Bidders and the Agreement.

\$ _____

2. *(Consultant to list all applicable Itemized Prices, with wording consistent with Section 01 24 03 or note this part as "Not Applicable")*

\$ _____

SEPARATE PRICES

1. *(Consultant to list all applicable Separate Prices, with wording consistent with Section 01 24 03 or note this part as "Not Applicable ")* \$ _____

ALTERNATIVE PRICES

(Consultant to list all applicable Alternative Prices, with wording consistent with Section 01 24 05 and must clearly allow the Contractor to indicate the amount as "extra" credit" or No Cost" or note this part as "Not Applicable ".)

.1 An alternative completion date of

_____ would result in an *Extra or a Credit*
(Month, day and year - Contractor to complete) (strike-out that which does not apply)

to the Contract Amount of

\$ _____

This List of Itemized, Separate and Alternative Prices is an integral part of the Bid Documents.

DATE

SIGNATURE

Name and Title

End of Document

[Edit note: Bonds are required for projects over \$500,000 Contract Price; use this section].

1.0 Performance Bond, Labour
and Materials Payment Bond

- .1 Provide to the Owner a Performance Bond in the value of 50% of the original Contract Price plus Value Added Tax, and a Labour and Materials Payment Bond in the value of 50% of the original Contract Price plus Value Added Tax.
- .2 Required bonds shall be on Forms 31 and 32 as prescribed by the Construction Act.

*****END*****

1. GENERAL

- 1.1** The Standard Construction Document for Stipulated Price Contract, CCDC 2 – 2020, 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 is hereby made part of these *Contract Documents*, as amended by Section 00 73 01 Supplementary Conditions and with the following amendments, additions and modifications:

2. SUPPLEMENTARY CONDITIONS

Refer to Section 00 73 01 Supplementary Conditions for amendments to the General Conditions of CCDC 2 - 2020.

3. REVISIONS TO ARTICLES OF CCDC 2 – 2020**3.1 ARTICLE A-1 THE WORK**

Add the word “Diligently” to the beginning of Article 1.1.

3.2 ARTICLE A-5 PAYMENT

- 3.2.1** Delete paragraphs 5.1.1, 5.1.2 and 5.1.3 in their entirety and substitute the following:

- .1 Pay the *Contractor* the undisputed amounts payable under *Proper Invoices* given to the *Owner* in accordance with the *Contract*, on account of the *Contract Price*, provided the *Contractor* is not in default under the *Contract*, and subject to the provisions of the *Contract*.
- .2 Upon *Substantial Performance of the Work* as certified by the *Consultant*, and after all lien rights regarding the work performed before the date certified to be the date of *Substantial Performance of the Work* have expired, pay to the *Contractor* the unpaid balance of holdback monies then due, together with such Value Added Taxes as may be applicable to such payment, and
- .3 Upon receipt of the *Consultant*’s final certificate for payment, and after all lien rights for finishing work have expired, pay to the *Contractor* the unpaid balance of the *Contract Price* then due together with such Value Added Taxes as may be applicable to such payment.

- 3.2.2** Delete sentences (1) and (2) found in Article 5.2, paragraph .1 and replace with the following:

- (1) 1% per annum above the prime rate for the first 90 days.
- (2) 2% per annum above the prime rate after the first 90 days.

- 3.2.3** Into the blank in Article 5.2, paragraph .1, insert the following words: “Bank of Canada”.

Add new Articles 5.3 and 5.4:

- 5.3** As such payments become due, the *Contractor* shall, in accordance with the terms of its

agreements with any *Subcontractors*, *Suppliers* and workmen, pay all of its *Subcontractors*, *Suppliers* and workmen in full on account of work properly performed or *Products* properly supplied, as applicable, less any holdback monies retained in compliance with the *Construction Act* (Ontario). If requested, the *Contractor* shall promptly provide evidence of all such payments to the *Owner* and the *Consultant*.

- 5.4 The *Contractor* hereby agrees to reasonably substantiate to the *Owner* and the *Consultant*, if requested, the amounts of all accounts representing any portion of the *Contract Price*, including without limitation, providing back up documents evidencing accounts or payments due to employees, *Subcontractors* and *Suppliers*.

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

- 3.3.1 Add the following words after “electronic communication”: “, including by e-mail,”

- 3.3.2 Add new Article 6.2 as follows:

- 6.2 Any notices required to be given under the *Construction Act* (Ontario), including without limitation notices of non-payment, shall be given in accordance with the requirements for *Notices in Writing* prescribed by this Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING. *Proper Invoices* shall be given in accordance with the requirements of GC 5.2 – APPLICATIONS FOR PROGRESS PAYMENT of Section 00 73 01 of the *Specifications*.

3.4 NEW ARTICLES

- 3.4.1 Add the following new Articles to the Agreement between *Owner* and *Contractor*:

ARTICLE A-9 TIME OF THE ESSENCE

- 9.1 Time shall be of the essence with respect to the *Contractor's* obligations under the *Contract*.

ARTICLE A-10 LAW OF THE AGREEMENT

- 10.1 The law of the Province of Ontario and the Laws of Canada applicable therein shall govern the interpretation of this Agreement.
- 10.2 The *Contractor* covenants and agrees to abide by and comply with all federal, provincial, municipal and local laws, regulations, rules, bylaws, standards, ordinances, and codes applicable or related to this Agreement.

ARTICLE A-11 SEVERABILITY

- 11.1 Each provision of the *Contract* shall be valid and enforceable to the fullest extent permitted by law. If any provision of the *Contract* or the application thereof to any person or circumstance is determined to be invalid or unenforceable to any extent:
- .1 the remainder of the *Contract* or the application of such provision to any other person or circumstance shall not be affected thereby; and

- .2 the parties shall negotiate in good faith to amend the *Contract* to implement the provisions set forth.

ARTICLE A-12 RIGHTS AND REMEDIES

- 12.1 The duties and obligations imposed by the *Contract* and the rights and remedies available thereunder shall be in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.
- 12.2 No action or failure to act by the *Owner* or the *Consultant* shall constitute a waiver of any right or duty afforded under the *Contract* or law, nor shall any such action or failure to act constitute an approval of, or acquiescence in, any breach, except as may be specifically agreed to in writing.

ARTICLE A-13 COUNTERPARTS

- 13.1 This *Contract* may be executed in counterparts, each of which shall be deemed to be an original, and all of which such counterparts, together, shall constitute one and the same *Contract*. Counterparts may be executed in original or electronic form, and the parties shall accept any signatures received in electronic form as if they were original signatures of the parties.

3.5 DEFINITIONS

- 3.5.1 Add the following new definitions:

Completion of Contract or Contract Completion

Completion of Contract or *Contract Completion* means when the *Contract* has been completed within the meaning of section 2(3) of the *Construction Act* and Section 01 29 01 of the *Specifications*.

Construction Act

Construction Act means Ontario's *Construction Act*, R.S.O. 1990, c. C.30, as amended, and its regulations.

Make Good

Make Good means to restore new or existing work after being damaged, cut or patched or rejected by the *Consultant*. Use materials identical to the original materials, with new visible surfaces matching the appearance and the expected performance of the original surfaces in all details, with no apparent junctions between the new and existing surfaces.

Mark-up

Markup means the *Contractor's* or the *Subcontractor's* (in the case of work being done by the *Subcontractor*) add for profit and overhead costs as related to the General Conditions and the Sections of Divisions 0 and 1 of the *Specifications* including costs of extension of contract time, office overhead, field supervision, layouts, co-ordination, travelling expenses and any other direct or indirect costs.

Proper Invoice

Proper Invoice has the meaning given to it in the *Construction Act* and includes any additional information, attachments or supporting documentation prescribed by the *Contract Documents*. Any reference to “application for payment” in the *Contract Documents* shall be deemed to mean “*Proper Invoice*”.

Record Documents

Record Documents consist of the *Drawings* and *Specifications* which make up the *Contract Documents* which have been modified to record approved and as-built conditions of the *Work*.

Submittals

Submittals are documents or items required by the *Contract Documents* to be provided by the *Contractor*, such as:

- *Shop Drawings*, samples, models, mock-ups to indicate details or characteristics, before the portion of the *Work* that they represent can be incorporated into the *Work*; and
- *Record drawings* and manuals to provide instructions to the operation and maintenance of the *Work*.

Toxic and Hazardous Substances

Toxic and Hazardous Substances shall mean designated substances as defined by applicable statutory and regulatory requirements.

END OF SECTION

1. GENERAL

- 1.1 The Standard Construction Document for Stipulated Price Contract, CCDC 2 – 2020, 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 is hereby made part of these *Contract Documents*, as amended by the amendments, additions and modifications which follow.
- 1.2 These Supplementary Conditions shall be read together with and will govern over the General Conditions of CCDC 2 – 2020.

Where a General Condition or paragraph of the General Conditions of the Stipulated Price Contract is deleted by these Supplementary Conditions, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, and the numbering of the deleted item will be retained, unused.

2. GC 1.1 CONTRACT DOCUMENTS

- 2.1 Delete paragraph 1.1.4 in its entirety.
- 2.2 Add to the end of subparagraph 1.1.6.2:
- “except where the *Consultant* shall be indemnified as a third party beneficiary as provided in subparagraphs 9.2.7.4 and 9.5.3.4.”
- 2.3 Add new sentence to the end of paragraph 1.1.9 as follows:
- “The *Specifications* 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 *Contract Documents* will be construed to place responsibility on the *Consultant* to settle disputes among the *Subcontractors* and *Suppliers* in respect to such divisions. The *Contractor* is solely responsible for the coordination of *Subcontractors*. The *Contractor* is solely responsible for the division and definition of work between *Contractor* and *Subcontractors* and for any jurisdictional matters arising therefrom.”
- 2.4 Add new paragraphs 1.1.12, 1.1.13 and 1.1.14 as follows:
- 1.1.12 Wherever the words “approved”, “as directed”, “submit”, “make good”, “reviewed”, or similar wording or phrases appear throughout the *Contract Documents*, they shall be understood, unless otherwise provided, to mean materials or items referred to shall be “as approved by the *Consultant*”, “as directed by the *Consultant*”, “make good to the *Consultant*’s satisfaction”, “submit to the *Consultant*”, or “reviewed by the *Consultant*”.
- 1.1.13 The *Owner* shall provide the *Contractor*, without charge, one (1) electronic copy on compact disc of the *Contract Documents*, exclusive of those required by jurisdictional authorities and the executed *Contract Documents*. Reproduction of the CD or printing from the CD will be at the *Contractor*’s expense.
- 1.1.14 The *Contract* supersedes all prior negotiations, representations, or agreements, either written or oral, relating in any manner to the *Work*.

3. GC 1.5 DOCUMENT REVIEW

3.1 Add new General Condition 1.5 as follows:

GC1.5 DOCUMENT REVIEW

1.5.1 The *Contractor* shall review the *Contract Documents* and shall report promptly to the *Consultant* any error, inconsistency or omission the *Contractor* may discover. Such review by the *Contractor* shall comply with the standard of care described in paragraph 3.11.1 of GC 3.11 of the *Contract*. Except for its obligation to make such review and report the result, the *Contractor* does not assume any responsibility to the *Owner* or to the *Consultant* for the accuracy of the *Contract Documents*. The *Contractor* shall not be liable for damage or costs resulting from such errors, inconsistencies, or omissions in the *Contract Documents*, which the *Contractor* could not reasonably have discovered. If the *Contractor* does discover any error, inconsistency or omission in the *Contract Documents*, the *Contractor* shall not proceed with the work affected until the *Contractor* has received corrected or missing information from the *Consultant*.

1.5.2 If the *Contractor* finds discrepancies in and/or omissions from the *Contract Documents* or has any doubt as to the meaning or intent of any part thereof, the *Contractor* must immediately notify the *Consultant*, who will provide written instructions or explanations. Neither the *Owner* nor the *Consultant* will be responsible for oral instructions.

4. GC 2.2 ROLE OF THE CONSULTANT

4.1 Add new sentence to the end of paragraph 2.2.2 as follows:

“Such reviews, or lack thereof, shall not give rise to any claims by the *Contractor* in connection with construction safety at the *Place of the Work*, responsibility for which belongs exclusively to the *Contractor*.”

4.2 Revise paragraph 2.2.13 as follows:

Delete the comma after the word “*Contractor*” and add the words “which are provided” before the words “in accordance”.

5. GC 2.4 DEFECTIVE WORK

5.1 Add new subparagraphs 2.4.1.1 and 2.4.1.2 as follows:

2.4.1.1 The *Contractor* shall rectify, in a manner acceptable to the *Owner* and the *Consultant*, all defective work and deficiencies throughout the *Work*, whether or not they are specifically identified by the *Consultant*.

2.4.1.2 The *Contractor* shall prioritize the correction of any defective work which, in the sole discretion of the *Owner*, adversely affects the day-to-day operation of the *Owner*.

5.2 Delete the word “If” at the beginning of paragraph 2.4.3 and substitute the following:

“Except for defective work or work not performed that may lead to dangerous circumstances and subject the workers to potential or actual health and safety hazards, if ”

5.3 Add new paragraph 2.4.4 as follows:

2.4.4 Defective work or work not performed that may lead to dangerous circumstances and subject workers to potential and actual health and safety hazards shall be immediately corrected, completed and otherwise made safe.

6. GC 3.1 CONTROL OF THE WORK

6.1 Add new paragraph 3.1.3 as follows:

3.1.3 Prior to commencing individual procurement, fabrication and construction activities, the *Contractor* shall verify, at the *Place of the Work*, all relevant measurements and levels necessary for proper and complete fabrication, assembly and installation of the *Work* and shall further carefully compare such field measurements and conditions with the requirements of the *Contract Documents*. Where dimensions are not included or exact locations are not apparent, the *Contractor* shall immediately obtain written instructions notify the *Consultant* in writing and obtain written instructions from the *Consultant* before proceeding with any part of the affected work.

7. GC 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS

7.1 Delete subparagraph 3.2.2.1 in its entirety.

7.2 Add new subparagraph 3.2.3.5 as follows:

3.2.3.5 Subject to GC 9.4 – CONSTRUCTION SAFETY, for the *Owner's* own forces and for *Other Contractors*, assume overall responsibility for compliance with all aspects of the applicable health and safety legislation in the *Place of the Work*, including all of the responsibilities of the constructor under the *OHSA*.

8. GC 3.4 CONSTRUCTION SCHEDULE

8.1 Delete paragraph 3.4.1 in its entirety and substitute new paragraph 3.4.1 as follows:

3.4.1 The *Contractor* shall,

3.4.1.1 Subject to building permit availability, commence *Work* immediately upon award of *Contract* and provide sufficient expertise and resources to ensure the steady progress of the *Work* including overtime work, if required, to perform the *Work* within the *Contract Time* and in accordance with the approved construction schedule.

3.4.1.2 Prior to submitting the first *Proper Invoice*, submit to the *Owner* and the *Consultant* for their review and acceptance a construction schedule indicating the critical path for the *Project* demonstrating that the *Work* will be performed in conformity with the *Contract Time* and in accordance with the *Contract Documents*. The *Contractor* shall provide the schedule information required by this paragraph in both electronic format and hard copy. Once accepted by the *Owner* and the *Consultant*, the construction schedule submitted by the *Contractor* shall become the baseline construction schedule;

- 3.4.1.3 Provide the expertise and resources, such resources including manpower and equipment, as are necessary to maintain progress under the accepted baseline construction schedule referred to in paragraph 3.4.1.2 or any successor or revised schedule accepted by the *Owner* pursuant to GC 3.4;
- 3.4.1.4 Monitor the progress of the *Work* on a weekly basis relative to the construction schedule reviewed and accepted pursuant to paragraph 3.4.1.2, or any successor or revised schedule accepted by the *Owner* pursuant to GC 3.4, update the schedule on a monthly basis, submit the updated schedule with each *Proper Invoice* and advise the *Consultant* and the *Owner* in writing of any variation from the baseline or slippage in the schedule; and
- 3.4.1.5 If, after applying the expertise and resources required under paragraph 3.4.1.3, the *Contractor* forms the opinion that the slippage in schedule reported in paragraph 3.4.1.4 cannot be recovered by the *Contractor*, it shall, in the same notice provided under paragraph 3.4.1.4, indicate to the *Consultant* and the *Owner* if the *Contractor* intends to apply for an extension of *Contract Time* as provided in PART 6 - CHANGES IN THE WORK.

8.2 Add new paragraphs 3.4.2 and 3.4.3 as follows:

- 3.4.2 If at any time it should appear to the *Owner* or the *Consultant* that the actual progress of the *Work* is behind schedule or is likely to become behind schedule, based on critical path methodology, or if the *Contractor* has given notice of such to the *Owner* or the *Consultant* pursuant to 3.4.1.5, the *Contractor* shall take appropriate steps to cause the actual progress of the *Work* to conform to the schedule and shall produce and present to the *Owner* and the *Consultant* a recovery plan demonstrating how the *Contractor* will achieve the recovery of the schedule. If the *Contractor* intends to apply for a change in the *Contract Price* in relation to a schedule recovery plan, the *Contractor* shall proceed with PART 6 – CHANGES IN THE WORK.
- 3.4.3 Without limiting the other obligations of the *Contractor* under GC 3.4, the delivery by the *Contractor* of an updated schedule (including as part of its *Proper Invoice* submission or as part of a recovery plan under paragraph 3.4.2) shall not be deemed to amend the *Contract Time*. Changes to the *Contract Time* shall only be made in writing and in strict accordance with the express terms of the *Contract Documents*.

9. GC 3.5 SUPERVISION

9.1 Delete paragraph 3.5.1 in its entirety and substitute new paragraph 3.5.1 as follows:

- 3.5.1 The *Contractor* shall provide all necessary supervision and appoint competent representatives who shall be in attendance at the *Place of the Work* while work is being performed. Should the *Contractor's* Supervisor or Project Manager prove for valid reasons to be unacceptable to the *Owner*, the *Owner* shall give written notice to the *Contractor* who shall within 7 days of receipt of same provide a suitable replacement acceptable to the *Owner*. The appointed representatives shall not be changed except for valid reasons, and upon the *Contractor* obtaining the *Owner's* written consent, which consent will not be unreasonably withheld.

9.2 Add new paragraph 3.5.3 as follows:

3.5.3 The *Owner* may, at any time during the course of the *Work*, request the replacement of the appointed representative(s), where the grounds for the request involve conduct which jeopardizes the safety of the *Owner's* operations. Immediately upon receipt of the request, the *Contractor* shall make arrangements to appoint an acceptable replacement.

10. GC 3.6 SUBCONTRACTORS AND SUPPLIERS

10.1 Delete paragraph 3.6.2 in its entirety and substitute new paragraph 3.6.2 as follows:

3.6.2 The *Contractor* agrees not to change *Subcontractors* without prior written approval of the *Owner*, which approval will not be unreasonably withheld.

10.2 Add new paragraph as follows:

3.6.7 Where provided in the *Contract*, the *Owner* may assign to the *Contractor*, and the *Contractor* agrees to accept, any contract procured by the *Owner* for work or services required on the *Project* that has been pre-bid or pre-negotiated by the *Owner*.

11. GC 3.7 LABOUR AND PRODUCTS

11.1 Add new sentence to the end of paragraph 3.7.1 as follows:

“The foreperson of each trade engaged on the *Work* must be able to speak and understand the English language sufficiently well to comprehend and carry out all instructions issued and to work in complete coordination with other trades.”

11.2 Add new sentence to the end of paragraph 3.7.3 as follows:

“The *Contractor* represents and warrants that the *Products* provided for in accordance with the *Contract* are not subject to any conditional sales contract and are not subject to any security rights obtained by any third party which may subject any of the *Products* to seizure and/or removal from the *Place of the Work*.”

11.3 Add new paragraph 3.7.4 as follows:

3.7.4 The *Contractor* is responsible for the safe on-site storage of *Products* and their protection (including *Products* supplied by the *Owner* and *Other Contractors* to be installed under the *Contract*) in such ways as to avoid dangerous conditions or contamination to the *Products* or other persons or property and in locations at the *Place of the Work* to the satisfaction of the *Owner* and the *Consultant*. The *Owner* shall provide all relevant information on the *Products* to be supplied by the *Owner*.

12. GC 3.8 SHOP DRAWINGS

12.1 Add the words “AND OTHER SUBMITTALS” to the Title after SHOP DRAWINGS.

12.2 Add “and *Submittals*” after the words “*Shop Drawings*” in clauses 3.8.1, 3.8.2, 3.8.3, 3.8.3.2, 3.8.5, 3.8.6, and 3.8.7.

12.3 Add new sentence to the end of paragraph 3.8.4 as follows:

“Where the *Consultant*’s shop drawing review stamp is affixed to any one page, drawing or sheet in a submission for a *Product* or process, it shall be deemed to apply to all pages, drawings or sheets in the submission for the *Product* or process.”

12.4 Delete subparagraph 3.8.3.1 in its entirety and substitute new subparagraph 3.8.3.1 as follows:

3.8.3.1 the *Contractor* has determined and correlated all of the required field measurements with the *Shop Drawings* and any *Submittals* and field construction conditions, *Product* requirements, catalogue numbers and similar data, or will do so if not possible at the time of the review, and

12.5 Delete paragraph 3.8.7 in its entirety and substitute new paragraph 3.8.7 as follows:

3.8.7 The *Consultant* will review and return *Shop Drawings* and *Submittals* in accordance with the schedule agreed upon in 3.8.8, or, in the absence of such schedule, with reasonable promptness. If, for any reason, the *Consultant* cannot process them within the agreed-upon schedule or with reasonable promptness, the *Consultant* shall notify the *Contractor* and they shall meet to review and arrive at an acceptable revised schedule for processing. The *Contractor* shall update the *Shop Drawings* and *Submittals* schedule to correspond to changes in the construction schedule. *Changes* in the *Contract Price* or *Contract Time* may be made only as otherwise provided in the *Contract*.

12.6 Add new paragraphs 3.8.8, 3.8.9, 3.8.10, 3.8.11, 3.8.12, 3.8.13, 3.8.14, 3.8.15, 3.8.16 and 3.8.17 as follows:

3.8.8 Prior to the first *Proper Invoice*, the *Contractor* and the *Consultant* shall jointly prepare a schedule of the dates for submission and return of *Shop Drawings* and any other *Submittals*.

3.8.9 *Contractor* shall secure, from all his *Subcontractors* and material suppliers, uniform size *Shop Drawings* of all items, as listed in their respective trade specifications, showing construction materials, etc., or as required, and upon which representative trade bids have been based.

3.8.10 *Shop Drawings* shall define divisions of responsibility between trades, and all items shown on *Shop Drawings* shall be supplied as part of the *Contract* unless it is specifically approved that certain items are not part of the *Contract*.

3.8.11 *Shop Drawings* shall be laid out with the same orientation as the *Contract Documents*.

3.8.12 *Contractor* shall submit digital copy of *Shop Drawings*, providing a 75 x 180 mm blank space for the *Consultant*’s use. Upon receipt of these copies, the *Consultant* will review, mark corrections or changes, and digitally return to the *Contractor*. *Shop Drawings* shall be corrected and resubmitted for the *Consultant*’s further review and further revision if necessary. *Shop drawings* will be digitally returned to *Contractor* for reproduction. For Divisions 3, 5, 10, 15 and 16, the *Contractor* shall submit two additional copies. All fixture cuts, equipment brochures and printed descriptive literature shall be digitally submitted on letter size paper. The *Contractor* shall provide 5 prints or an electronic PDF copy of *Shop Drawings* for each requirement requested in *Specification* sections.

- 3.8.13 Upon completion of review by *Consultant*, *Shop Drawings* and other *Submittals* will be returned to the *Contractor* for reproduction and issuance to all concerned. The *Contractor* shall retain one complete set of all reviewed *Shop Drawings* and other *Submittals* for *Owner* which shall, on completion of the *Work*, be issued to the *Owner* in an approved form.
- 3.8.14 Any fabrication work done before receiving final reviewed *Shop Drawings* and other *Submittals* shall be at the *Contractor's* and his *Subcontractor's* and/or supplier's risk.
- 3.8.15 The *Contractor* shall provide *Shop Drawings* and other *Submittals* in the form specified in this GC 3.8 and Section 01 33 01 of the *Specifications*.
- 3.8.16 *Shop Drawings* and other *Submittals* which require approval of any legally constituted authority having jurisdiction shall be provided to such authority by the *Contractor* for approval.
- 3.8.17 The *Contractor* shall notify the *Consultant* in writing of any revisions to the *Shop Drawings* and other *Submittals* other than those requested by the *Consultant*.

13. GC 3.9 DOCUMENTS AT THE SITE

- 13.1 Add new General Condition 3.9 as follows:

GC 3.9 DOCUMENTS AT THE SITE

- 3.9.1 The *Contractor* shall keep one copy of the current *Contract Documents*, *Supplemental Instructions*, contemplated *Change Orders*, *Change Orders*, *Change Directives*, reviewed *Shop Drawings*, *Submittals*, approved construction schedule, as-built drawings, reports and records of meetings at the *Place of the Work*, in good order and available to the *Owner* and *Consultant*.

14. GC 3.10 USE OF THE WORK

- 14.1 Add new General Condition 3.10 as follows:

GC 3.10 USE OF THE WORK

- 3.10.1 The *Contractor* shall confine *Construction Equipment*, *Temporary Work*, storage of *Products*, waste products and debris, and operations of employees and *Subcontractors* to limits indicated by laws, ordinances, permits, or the *Contract Documents* and shall not unreasonably encumber the *Place of the Work*.
- 3.10.2 The *Contractor* shall not load or permit to be loaded any part of the *Work* with a weight or force that will endanger the safety of the *Work*. The *Contractor* shall undertake the implementation of procedures and practices to review, at least on a weekly basis, the proposed loading of any part of the *Work* to ensure that the proposed weight or force of the load will not endanger the safety of the *Work* or the *Workers*.

15. GC 3.11 PERFORMANCE BY CONTRACTOR

- 15.1 Add new General Condition 3.11 as follows:

GC 3.11 PERFORMANCE BY CONTRACTOR

3.11.1 In performing its services and obligations under the *Contract*, the *Contractor* shall exercise a standard of care, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The *Contractor* acknowledges and agrees that throughout the *Contract*, the *Contractor's* obligations, duties and responsibilities shall be interpreted in accordance with this standard. The *Contractor* shall exercise the same standard of due care and diligence in respect of any *Products*, personnel, or procedures which it may recommend to the *Owner*.

3.11.2 The *Contractor* further represents, covenants and warrants to the *Owner* that:

- .1 The personnel it assigns to the *Project* are appropriately experienced;
- .2 It has a sufficient staff of qualified and competent personnel to replace its designated supervisor and project manager, subject to the *Owner's* approval, in the event of death, incapacity, removal or resignation; and
- .3 There are no pending, threatened or anticipated claims that would have a material effect on the financial ability of the *Contractor* to perform its work under the *Contract*.

16. GC 4.1 CASH ALLOWANCES

16.1 Delete paragraph 4.1.7 in its entirety and substitute new paragraph 4.1.7:

4.1.7 At the commencement of the *Work*, the *Contractor* shall prepare for the review and acceptance of the *Owner* and the *Consultant*, a schedule indicating the times, within the construction schedule referred to in GC 3.4.1.2, that items called for under cash allowances and items that are specified to be *Owner* purchased and *Contractor* installed or hooked up are required at the site to avoid delaying the progress of the *Work*.

16.2 Add new paragraph 4.1.8 as follows:

4.1.8 The *Owner* or the *Contractor* shall call for competitive bids for portions of the *Work*, to be paid for from cash allowances.

17. GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

17.1 Revise the heading, "**GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER**" to read, "**GC 5.1 FINANCING INFORMATION REQUIRED**".

17.2 Delete paragraph 5.1.1 in its entirety and substitute new paragraph 5.1.1 as follows:

5.1.1 The *Owner* and *Contractor* shall provide each other with timely *Notice in Writing* of any material change in their financial ability to fulfill their respective obligations under the *Contract*.

17.3 Delete paragraph 5.1.2 in its entirety.

18. GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT

18.1 Add to the end of paragraph 5.2.1 the following: “subject to such limitations and conditions as may be otherwise indicated.”

18.2 Add new paragraphs 5.2.9 and 5.2.10 as follows:

5.2.9 The *Contractor* shall meet with the *Consultant* at least five (5) *Working Days* prior to the last *Working Day* of the month to review and evaluate the *Contractor's* proposed application for payment. The *Consultant* is expected to provide an evaluation of the application prior to the last *Working Day* of the month and prior to the submission of a *Proper Invoice* to the *Owner*.

5.2.10 The *Contractor* shall submit to the *Owner* and to the *Consultant* a *Proper Invoice* with all required documentation and supporting materials as required by this Section 00 73 01 and Section 01 29 01 of the *Specifications*.

19. GC 5.3 PAYMENT

19.1 Delete paragraph 5.3.1 in its entirety and substitute new paragraph 5.3.1 as follows:

5.3.1 After receipt by the *Owner* and the *Consultant* of an application for payment which constitutes a *Proper Invoice* in accordance with the *Construction Act*, Section 00 73 01 and Section 01 29 01 of the *Specifications*:

- .1 the *Consultant* and the *Owner* will review the application to ensure all required documentation has been submitted;
- .2 if the application for payment is complete and constitutes a *Proper Invoice*, the application will be date stamped;
- .3 the *Consultant* will issue to the *Owner* no later than five (5) *Working Days* after the date stamp of the accepted *Proper Invoice*, a certificate for payment in the amount applied for. If the *Proper Invoice* requires an amendment which affects the amount applied for, the *Owner* will promptly advise the *Contractor* in writing in the form prescribed by the *Construction Act* giving reasons for the amendment within fourteen (14) calendar days of the receipt of the *Proper Invoice*.
- .4 The *Owner* shall make payment to the *Contractor* on account or as amended as provided in Article A-5 of the Agreement – PAYMENT no later than twenty-eight (28) calendar days after the stamped date of the *Proper Invoice*.

19.2 Add new paragraph 5.3.2 as follows:

5.3.2 Notwithstanding any provisions in the *Contract Documents* to the contrary, the *Owner* shall be entitled to deduct from any payment to the *Contractor* an amount equal to the value, as determined by the *Consultant* in the first instance, of any claim, deficiency in the *Work*, or other significant risk that the *Owner* faces due to the failure of the *Contractor* to perform any material obligations under the *Contract*.

20. GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

- 20.1 Delete from paragraph 5.4.4 the words “GC 5.3 – PAYMENT” and substitute with the words “Section 01 29 00 of the *Specifications*”.

[Edit Note: If progressive release of holdback is not expected, use the following clause]

- 20.2 Delete paragraph 5.4.5 in its entirety.

[Edit Note: If progressive release of holdback is expected, use the following clause]

- 20.3 Add the following sentence to the end of paragraph 5.4.5:

“Progressive release of holdback shall be made in accordance with Section 01 29 00 of the *Specifications*.”

- 20.4 Add new paragraph 5.4.7, 5.4.8, 5.4.9, and 5.4.10 as follows:

5.4.7 The *Contractor* shall publish, in a construction trade newspaper in the area of the location of the *Work*, a copy of the certificate of *Substantial Performance of the Work* within seven (7) days of receiving a copy of the certificate signed by the *Consultant*, and the *Contractor* shall provide a copy of the published certificate to the *Consultant* and *Owner*. If the *Contractor* fails to publish the certificate, the *Owner* shall be at liberty to publish and back charge the *Contractor* its reasonable costs for doing so.

5.4.8 The *Contractor*’s application for certificate of *Substantial Performance of the Work* shall comply with the requirements of Section 01 29 01 of the *Specifications*.

5.4.9 Notwithstanding any other term in the *Contract Documents*, and with the prior consent of the *Owner*, and as may be described in the *Contract Documents*, the *Contractor* may elect to waive application for a certificate of *Substantial Performance of the Work* and proceed to completion of the *Contract* as defined in applicable lien legislation.

5.4.10 Immediately following the issuance of the certificate of *Substantial Performance of the Work*, the *Contractor*, in consultation with the *Consultant*, shall establish reasonable dates for finishing the *Work* and correcting deficient work.

21. GC 5.5 FINAL PAYMENT

- 21.1 Delete paragraph 5.5.1 in its entirety and substitute new paragraph 5.5.1 as follows:

5.5.1 When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment within 60 days of the completion of the *Contract* within the meaning of the *Construction Act*. Failure to submit an application for final payment within the specified time frame voids *Owner*’s obligation to pay invoice.

- 21.2 Delete from the first line of paragraph 5.5.2 the words, “calendar days” and substitute the following words: “Working Days”.

- 21.3 Delete from the second line of paragraph 5.5.4 the words, “calendar days” and substitute the following words: “Working Days”.

21.4 Add new paragraphs 5.5.5 and 5.5.6 as follows:

5.5.5 As additional requirements for release of finishing construction lien holdback, the *Contractor* shall submit the following documentation:

- .1 *Contractor's* written request for release of holdback, including a declaration that no written notices of lien have been received by it.
- .2 *Contractor's* Statutory Declaration CCDC 9A-2018.
- .3 *Contractor's* Workplace Safety & Insurance Board Clearance Certificate.

5.5.6 The release of the remaining holdback monies shall become due and payable on the day following the expiration of the statutory limitation period stipulated in the lien legislation applicable to the *Place of the Work* providing that the *Owner* may retain out of such holdback monies any sums required by law to satisfy any liens against the *Work* or monetary claims against the *Contractor* and enforceable against the *Owner*, and providing that the *Contractor* has submitted to the *Owner* a sworn statement that all accounts for labour, subcontracts, products, construction machinery and equipment and other indebtedness which may have been incurred by the *Contractor* in the performance of the *Work*, and for which the *Owner* might in any way be held responsible, have been paid in full, except holdback monies properly retained.

22. GC 5.8 WITHHOLDING OF PAYMENT

22.1 Add new General Condition 5.8 as follows:

GC 5.8 WITHHOLDING OF PAYMENT

5.8.1 The *Owner* may retain from any amounts otherwise payable to the *Contractor* under this *Contract* an amount sufficient to satisfy any claims made by third parties arising out of the *Contractor's* performance of the *Work*, or of the performance of others for whom the *Contractor* is responsible in law, including, without limiting the foregoing, amounts sufficient to satisfy court judgments or arbitration awards.

5.8.2 The *Owner* may retain from any amounts otherwise payable to the *Contractor* under this *Contract* an amount sufficient to satisfy bona fide claims of the *Owner*, including, without limiting the foregoing, the amount of any additional costs incurred by the *Owner* arising from the *Contractor's* failure to perform its contractual obligations under the *Contract*.

5.8.3 The withholding or retention of funds by the *Owner* under this GC 5.8 - WITHHOLDING OF PAYMENT shall not constitute grounds under GC 7.2 - CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT for declaring the *Owner* in default, but shall be subject to the provisions of the lien legislation applicable to the *Place of the Work*.

23. GC 5.9 CONSTRUCTION LIENS

23.1 Add new General Condition 5.9 as follows:

GC 5.9 CONSTRUCTION LIENS

- 5.9.1 Provided the *Owner* is not in default of its payment obligations under the *Contract* and notwithstanding anything else in this PART 5 PAYMENT, in the event a claim for lien is registered against the *Project* lands, or the *Owner* receives any written notice of lien, or the *Owner* is given a claim of lien, the *Owner* shall be entitled to withhold any payment otherwise due to the *Contractor* until such time as such claims have been dealt with as provided below.
- 5.9.2 In the event that a written notice of a lien from the performance of the *Work* is received by the *Owner*, the *Contractor* shall, within 10 calendar days, at its sole expense, arrange for the withdrawal or other disposal of the written notice of a lien pursuant to the *Construction Act*.
- 5.9.3 If a construction lien arising from the performance of the *Work* is registered against the *Project* lands or is otherwise preserved (including by way of a claim of lien), the *Contractor* shall, within 10 calendar days, at its expense, vacate or discharge the lien. If the lien is merely vacated, the *Contractor* shall, if requested, undertake the *Owner's* defense of any subsequent action commenced in respect of the lien at the *Contractor's* expense.
- 5.9.4 If the *Contractor* fails or refuses to vacate or discharge a construction lien or written notice of lien within the time prescribed above, the *Owner* shall, at its option, be entitled to take all steps necessary to vacate and/or discharge the lien, and all costs incurred by the *Owner* in doing so (including, without limitation, legal fees on a solicitor and his own client basis and any payment which may ultimately be made out of or pursuant to security posted to vacate the lien) shall be for the account of the *Contractor*, and the *Owner* may deduct such amounts from the amounts otherwise due or owing to the *Contractor*.
- 5.9.5 Without limiting any of the foregoing, the *Contractor* shall satisfy all judgments and pay all costs resulting from any construction liens or any actions brought in connection with any liens, or in connection with any other claim or lawsuit brought against the *Owner* by any person that provided services or materials to the *Project* lands which constituted part of the *Work*, and the *Contractor* shall indemnify the *Owner* for any and all costs (including, without limitation, legal fees on a solicitor and client basis) the *Owner* may incur in connection with such claims or actions.
- 5.9.6 This GC 5.9 – CONSTRUCTION LIENS does not apply to construction liens claimed by the *Contractor*.

24. GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

- 24.1 Add the following sentences to the end of paragraph 6.1.2:

“This requirement is of the essence and it is the express intention of the parties that any claims by the *Contractor* for a change in the *Contract Price* and/or *Contract Time* shall be barred unless there has been strict compliance with PART 6 CHANGES IN THE WORK. No course of conduct or dealing between the parties, no express or implied acceptance of alterations or additions to the *Work* and no claims that the *Owner* has been unjustly enriched by any alteration or addition to the *Work*, whether in fact there is any such unjust enrichment or not, shall be the basis of a claim for additional payment under this *Contract* or a claim for any extension of the *Contract Time*.”

24.2 Add new paragraph 6.1.3 as follows:

6.1.3 The *Contractor* shall perform the work for any and all changes to the standards prescribed in the *Contract Documents* including quality of workmanship in a safe manner.

25. GC 6.2 CHANGE ORDER

25.1 Add a new paragraph 6.2.3 as follows:

6.2.3 The *Contractor* shall not be entitled to any additional compensation arising out of changes to the *Work* aside from the amounts determined and agreed to under GC 6.2 – CHANGE ORDER. In no event shall the *Owner* be liable to the *Contractor* for any costs, including indirect or consequential costs, arising out of changes to the *Work* beyond the agreed upon amount of the *Change Order*.

26. GC 6.3 CHANGE DIRECTIVE

26.1 Delete paragraphs 6.3.6 to 6.3.8 and substitute the following:

6.3.6 Adjustment to the *Contact Price* for a change carried out by way of *Change Directive* shall be as described in Section 01 29 01 of the *Specifications*.

27. GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

27.1 Add new paragraph 6.4.5 as follows:

6.4.5 The *Contractor* confirms that, prior to bidding the *Project*, it carefully investigated the *Place of the Work* and applied to that investigation the degree of care and skill described in paragraph 3.11.1 of GC 3.11, given the amount of time provided between the issue of the bid documents and the actual closing of bids, the degree of access provided to the *Contractor* prior to submission of bid, and the sufficiency and completeness of the information provided by the *Owner*. The *Contractor* is not entitled to compensation or to an extension of the *Contract Time* for conditions which could reasonably have been ascertained by the *Contractor* by such careful investigation undertaken prior to the submission of the bid.

28. GC 6.5 DELAYS

28.1 Delete the period at the end of paragraph 6.5.1, and substitute the following words: “, but excluding any consequential, indirect or special damages.”

28.2 Amend paragraph 6.5.2 by adding after the words “directly or indirectly,” in the third line, the following:

“and provided the issuance of such order was the direct result of an action or omission of the *Owner* or *Consultant*, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the *Contract Documents*,”

28.3 Delete the period at the end of paragraph 6.5.2, and substitute the following words: “, but excluding any consequential, indirect or special damages.”

28.4 Add new paragraphs 6.5.6. and 6.5.7 as follows:

- 6.5.6 If the *Contractor* is delayed in the performance of the *Work* by an act or omission of the *Contractor* or anyone employed or engaged by the *Contractor* directly or indirectly, or by any cause within the *Contractor's* control, then the *Contract Time* may be extended for such reasonable time as the *Consultant* may decide in consultation with the *Owner*. As a condition to the *Owner's* agreement to extend the *Contract Time*, the *Owner* shall be reimbursed by the *Contractor* for all reasonable costs incurred by the *Owner* as the result of such delay, including all services required by the *Owner* or the *Consultant* as a result of such delay by the *Contractor* and, in particular, the cost of the *Consultant's* services during the period between the date of *Ready-for-Takeover* stated in Article A-1 herein as the same may be extended through the provisions of these General Conditions and any later, actual date of *Ready-for-Takeover* achieved by the *Contractor*.
- 6.5.7 The *Contractor* shall be responsible for the care, maintenance and protection of the *Work*, in the event of a suspension or delay in the performance of the *Work*, regardless of the reason for such suspension or delay. In the event the delay or suspension was not the fault of the *Contractor*, the *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such care, maintenance and protection of the *Work*.

28.5 Add new paragraphs 6.5.8 to 6.5.10 – DELAYS RELATED TO COVID-19 as follows:

- 6.5.8 The parties acknowledge that in March 2020 the World Health Organization declared a global pandemic of the virus leading to COVID-19. The Governments of Canada and the Province of Ontario responded to the pandemic with legislative amendments, controls, orders, requests of the public, and requests and requirements to the parties to change their activities in various ways (collectively, the “Governmental Response”). It is uncertain how long the pandemic, and the related *Governmental Response*, will continue, and it is unknown whether there may be a resurgence of the virus leading to COVID-19 or any mutation thereof (collectively, the “Virus”) and resulting or supplementary renewed *Government Response*. Notwithstanding any other provision in the *Contract Documents*, if the *Contractor* is delayed in the performance of the *Work* by the continued spread of the *Virus* (or any other pandemic or epidemic) and/or the continuation of or a renewed *Governmental Response* to control the spread of the *Virus*, then the *Contract Time* shall be extended for such reasonable time as agreed between the *Owner* and *Contractor*. The extension of time shall not be less than the time lost as the result of the event causing such delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to any payment for costs incurred by such delays, save and except as expressly provided for in GC 6.5.9. Nothing in this GC 6.5.8 shall excuse the *Contractor* from complying with the provisions of GC 6.5 – DELAYS including, without limitation, the obligation to provide a *Notice in Writing* of the cause of the delay pursuant to GC 6.5.4. The *Contract* shall comply, and cause anyone for whom it is responsible to comply, with all of the *Owner's* policies, and any applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction that relate in any way to the *Virus* or any other pandemic or epidemic.
- 6.5.9 In the event of a delay to the *Contractor's* performance of the *Work* pursuant to GC 6.5.8, the *Contractor* shall be entitled to payment of the direct costs it reasonably incurs as a result of having to comply with new legislative amendments, controls or orders that are implemented by the Governments of Canada or the Province of Ontario after bid closing in response to the *Virus* associated with the following:

- .1 the *Contractor* being required to use additional tools or equipment, including PPE equipment, in its performance of the *Work*;
- .2 the *Contractor* being required to purchase, use or provide additional safety-related supplies in connection with its performance of the *Work*; or
- .3 the *Contractor* being required to install temporary facilities or structures, including hand washing stations.

The *Owner* shall not be liable for any other costs or damages incurred as a result of such delay including, without limitation, any costs associated with increased labour or material costs or any indirect, consequential or special damages, such as loss of profits, loss of opportunity or loss of productivity resulting from such delay.

6.5.10 Notwithstanding any other provision in the *Contract*, the *Owner* shall not be liable or deemed to be in breach of the *Contract* for any failure or delay in rendering performance arising out of:

- .1 the *Virus*;
- .2 *Governmental Response*; and.
- 3 any impacts to the *Owner's* operations and performance of its obligations hereunder that are beyond its reasonable control and are caused by, relate to or arise out of the *Virus* or the *Governmental Response* (including, without limitation, any delays in obtaining possession or access to the *Place of the Work* or in obtaining permits from permitting offices or authorities)."

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

29.1 Add to the end of paragraph 7.1.1, the following new words:

"without affecting in any respect the liability of the *Contractor* in respect of earlier defaults."

29.2 Add to paragraph 7.1.2, after the word "properly", the following new words:

"or fails or neglects to maintain the latest approved schedule provided pursuant to GC 3.4 – CONSTRUCTION SCHEDULE"

29.3 Delete the words "to a substantial degree" from paragraph 7.1.2.

29.4 Add to paragraph 7.1.3.1 after the word "commences" the words:

"and is diligently proceeding with"

29.5 Delete in paragraph 7.1.3.2 the words "provides the *Owner* with an acceptable schedule for such correction, and" and insert the words "provides a schedule acceptable to the *Owner* for such correction, and".

29.6 Add the following new paragraph 7.1.7:

7.1.7 Upon providing seven (7) calendar days' *Notice in Writing* to the *Contractor*, the *Owner* may, at its sole option and discretion and without penalty, terminate the *Contract* for convenience. The *Owner's* rights pursuant to the immediately preceding sentence shall include, without limitation, the right to have the *Contractor* assign any contracts or written agreements with *Subcontractors* or *Suppliers* directly to the *Owner* and the *Contractor* hereby consents to such assignment. Upon receiving the notice of termination, the *Contractor* shall cease or cause the cessation of all operations except those which, in the *Contractor's* opinion, are necessary for the safety of personnel or for the care and preservation of the *Work*. Subject to any directions in the notice of termination, the *Contractor* shall discontinue or cause to be discontinued the ordering of products, material, equipment and supplies and shall make reasonable efforts to cancel existing orders on the best terms available. In the event the *Contract* is terminated pursuant to this paragraph, the *Contractor* shall be entitled to be paid for all *Work* properly performed to the date of termination and other reasonable direct substantiated costs the *Contractor* incurred as a direct result of the termination. The *Contractor* shall not be entitled to consequential, indirect or special damages, loss of profit, loss of revenue, loss of opportunity or loss of productivity. The *Contractor* shall include an equivalent provision to this paragraph in its agreements with *Subcontractors* and *Suppliers*.

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

30.1 Amend paragraph 7.2.2 by adding after the words "employed or engaged by the *Contractor*," in the third line the following:

"and provided the issuance of such order was the direct result of an action or omission of the *Owner* or *Consultant* (or any person employed or engaged by the *Owner* or *Consultant*) contrary to the provisions of the *Contract Documents*,".

30.2 Delete subparagraph 7.2.3.1 in its entirety.

30.3 Delete subparagraph 7.2.3.3 in its entirety and substitute new subparagraph 7.2.3.3 as follows:

7.2.3.3 the *Owner* fails to pay the *Contractor* when due the amount certified by the *Consultant* or awarded by adjudication, arbitration or a Court, except where the *Owner* has a bona fide claim for set off, or

30.4 Delete from line 2 of subparagraph 7.2.3.4, the words, "OF THE OWNER".

30.5 Add new subparagraph 7.2.3.5 as follows:

7.2.3.5 The foregoing default shall not apply to the proper withholding of payment as provided for under the *Contract*, including the *Contractor's* failure to promptly pay previously valid claims or because of registration or notice of liens against the *Owner's* property, until such claims and liens are discharged. The foregoing default shall not apply to the withholding of funds for setoff under GC 5.8 – WITHHOLDING OF PAYMENT.

30.6 Delete from the second line of paragraph 7.2.4 the words, "5 *Working Days*" and substitute the following words: "15 *Working Days*".

30.7 Add new paragraph 7.2.6 as follows:

- 7.2.6 If the *Contractor* terminates the *Contract* under the conditions described in this GC 7.2, the *Contractor* shall be entitled to be paid for all work performed to the date of termination. The *Contractor* shall also be entitled to recover the direct costs associated with termination, including the costs of demobilization, losses sustained on *Products* and construction machinery and equipment but in no event shall the *Contractor* be entitled to receive nor shall the *Owner* be required to pay, indirect, special or consequential damages including, without limitation, loss of overhead and profit, as a result of the termination.

31. GC 8.1 AUTHORITY OF THE CONSULTANT

- 31.1 Add in the first line of paragraph 8.1.3, the word “written” before the word “instructions”.

- 31.2 Delete last sentence of 8.1.3 and substitute the following sentence:

“If it is subsequently determined that such instructions were at variance with the *Contract Documents*, the *Owner* shall pay the *Contractor* costs incurred by the *Contractor* in carrying out such instructions which the *Contractor* was required to do beyond the requirements of the *Contract Documents*, including costs resulting from interruption of the *Work*.”

32. GC 8.2 ADJUDICATION

- 32.1 Add new paragraph 8.2.2 as follows:

8.2.2 Any documents or information disclosed by the parties during an adjudication are confidential and the parties shall not use such documents or information for any purpose other than the adjudication 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 for the adjudicator.

33. GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

- 33.1 Delete from the last sentence in paragraph 8.3.2 the words, “10 *Working Days*” and substitute the following words:

“15 *Working Days*”.

- 33.2 Delete from the first line of paragraph 8.3.4 the words, “10 *Working Days*” and substitute the following words:

“15 *Working Days*”.

- 33.3 Add new paragraphs 8.3.9 and 8.3.10 as follows:

8.3.9 The cost of arbitration shall be apportioned against the parties hereto or against any one of them as the arbitrator may decide, as outlined in the latest edition of the Rules for Mediation of CCDC 2 Construction Disputes, except that those costs shall not include counsel fees for any of the parties to the arbitration. Counsel fees shall be paid by each party.

8.3.10 Notwithstanding any other provision in GC 8.3, the *Contractor* agrees that the *Owner* may require the *Contractor* to join into an arbitration involving a dispute between the *Owner* and a third party in which the *Owner* wishes the *Contractor* to be bound by the results of

the arbitration, and the *Contractor* hereby consents to such joinder and the *Contractor* also agrees that should the *Owner* wish to join a third party into an arbitration involving a dispute between the *Owner* and the *Contractor*, the *Contractor* shall and does hereby consent to such joinder.

34. GC 8.4 RETENTION OF RIGHTS

34.1 Add new paragraph 8.4.3 as follows:

8.4.3 If the *Owner* gives the *Notice in Writing* described in paragraph 8.3.6 to have a dispute resolved by arbitration, the *Contractor* agrees that this paragraph 8.4.3 shall be construed as a formal consent to the stay of any lien proceedings until an award is rendered in the arbitration or such dispute is otherwise resolved between the parties. In no event shall the *Contractor* be deprived of its right to enforce its lien against the *Project* should the *Owner* fail to satisfy any arbitral award against it in full on the dispute in respect of which the lien proceedings were commenced. Nothing in this paragraph 8.4.3 shall prevent the *Contractor* from taking the steps required by the *Construction Act* to preserve and/or perfect a lien to which it may be entitled.

35. GC 9.1 PROTECTION OF WORK AND PROPERTY

35.1 Delete subparagraph 9.1.1.1 in its entirety and substitute new subparagraph as follows:

9.1.1.1 errors in the *Contract Documents* which the *Contractor* could not have discovered applying the standard of care described in paragraph 3.11.1;

35.2 Delete paragraph 9.1.2 in its entirety and substitute the following new paragraph 9.1.2 as follows:

9.1.2 Before commencing any work, the *Contractor* shall determine the locations of all underground utilities and structures indicated in the *Contract Documents* or that are discoverable by applying to inspection of the *Place of the Work* the degree of care and skill described in paragraph 3.11.1.

35.3 Add new paragraph 9.1.5 as follows:

9.1.5 The *Contractor* shall neither undertake to repair and/or replace any damage whatsoever to the work of *Other Contractors*, or to adjoining property, nor acknowledge the same was caused or occasioned by the *Contractor*, without first consulting the *Owner* and receiving written instructions as to the course of action to be followed from either the *Owner* or the *Consultant*. However, where there is danger to life or public safety, the *Contractor* shall take such emergency action as it deems necessary to remove the danger.

36. GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

36.1 Add to paragraph 9.2.6 after the word “responsible”, the following new words:

“or whether any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which

threatens human health and safety or the environment, or material damage to the property of the *Owner* or others,”

36.2 Add “and the *Consultant*” after “*Contractor*” in subparagraph 9.2.7.4.

36.3 Add to paragraph 9.2.8 after the word “responsible”, the following new words:

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

37. GC 9.4 CONSTRUCTION SAFETY

37.1 Delete paragraph 9.4.1 in its entirety and substitute new paragraphs 9.4.1 as follows:

9.4.1 The *Contractor* shall be the “constructor” within the meaning of *OHS*A and shall be solely responsible for construction safety at the *Place of the Work* and for compliance with the rules, regulations and practices required by the applicable construction health and safety legislation and shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the *Work*.

37.2 Add the to the end of paragraph 9.4.4 the following words:

9.4.4 The *Owner* undertakes to include in its contracts with *Other Contractors* and/or in its instructions to its own forces the requirement that the *Other Contractor* or own forces, as the case may be, will comply with directions and instructions from the *Contractor* with respect to occupational health and safety and related matters. The text of such instruction is attached to these Supplementary Conditions as Appendix A.

37.3 Delete paragraph 9.4.5 and substitute the following:

9.4.5 Prior to the commencement of the *Work*, the *Contractor* shall submit to the *Owner*:

- .1 a current WSIB clearance certificate;
- .2 copies of the *Contractor*’s insurance policies having application to the *Project* or certificates of insurance, at the option of the *Owner*;
- .3 documentation of the *Contractor*’s in-house safety-related programs;
- .4 a copy of the Notice of *Project* filed with the Ministry of Labour naming itself as “constructor” under *OHS*A.

The *Contractor* represents that the safety-related programs in subparagraph 9.4.5.3 fulfill all applicable requirements under *OHS*A.

9.4.6 The *Contractor* shall indemnify and save harmless the *Owner*, its agents, officers, directors, employees, consultants, successors and assigns from and against the consequences of any and all safety infractions committed by the *Contractor* under *OHS*A,

including the payment of legal fees and disbursements on a full indemnity basis. Such indemnity shall apply to the extent to which the *Owner* is not covered by insurance, provided that the indemnity contained in this paragraph shall be limited to costs and damages resulting directly from such infractions and shall not extend to any consequential, indirect or special damages.

38. GC 9.5 MOULD

38.1 Delete paragraph 9.5.3.3 in its entirety and substitute new paragraph 9.5.3.3 as follows:

9.5.3.3 Extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. If in the opinion of the *Consultant*, the *Contractor* has been delayed in performing the *Work* and / or has incurred additional costs under paragraph 9.5.1.2, the *Owner* shall reimburse the *Contractor* for reasonable costs incurred as a result of the delay and as a result of taking those steps, and

38.2 Add “and the *Consultant*” after “*Contractor*” in subparagraph 9.5.3.4.

39. GC 10.1 TAXES AND DUTIES

39.1 Add to the end of paragraph 10.1.2 the following words:

“, except for changes announced prior to the time of the bid closing that are to take effect at some time thereafter, shall be deemed to have been taken into account in the *Contract Price*. The *Contractor* shall furnish to the *Owner* such information concerning its acquisition of equipment, inventory and other materials to enable the *Owner* to accurately assess effect upon the *Contractor* of such change in tax or duty.”

39.2 Add new paragraphs 10.1.3 and 10.1.4 as follows:

10.1.3 The *Contractor* is not entitled to any mark-up for profit, overhead or otherwise, due to an increase in taxes or duties. The *Contractor* shall be entitled to claim for the increase in cost equal to the amount of the tax and/or duty on the uncompleted cost of the *Work*. The *Owner* will be entitled to withhold payment to the *Contractor* a sum equal to the amount of tax and/or duty reduction on the uncompleted portion of the *Work*.

10.1.4 Where the *Owner* is entitled to an exemption or a recovery of sales taxes, customs duties, excise taxes or *Value Added Taxes* applicable to the *Contract*, the *Contractor* shall, at the request of the *Owner* or the *Owner's* representative, assist with 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 *Owner*. The *Contractor* agrees to endorse over to the *Owner* any cheques received from the federal or provincial governments, or any other taxing authority, as may be required to give effect to this paragraph.

40. GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

[NOTE: 10.2.2, regarding provision of permits, should be reviewed on every project and amended if necessary.]

40.1 Add to the end of paragraph 10.2.4, the following words:

“The *Contractor* shall notify the Chief Building Official or the registered code agency where applicable, of the readiness, substantial completion, and completion of the stages of construction set out in the Ontario Building Code. The *Contractor* shall be present at each site inspection by an inspector or registered code agency as applicable under the Ontario Building Code.”

40.2 Delete from the first line of paragraph 10.2.5 the word, “The” and substitute the following words: “Subject to paragraph 1.5.1, the”.

40.3 Amend paragraph 10.2.7 by adding the following sentence to the end of the paragraph:

“Notwithstanding the preceding sentence, if, subsequent to the time of proposal closing or bid closing, any changes are made to applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction that relate in any way to the virus leading to COVID-19 (including any legislative amendments, controls, regulations, requirements or orders that get issued by the Governments of Canada and the Province of Ontario in response thereto), the *Contractor’s* entitlement to compensation and any adjustment to the *Contract Price* pursuant to this GC 10.2.7 shall be limited to payment of the direct costs it reasonably incurs as a result of having to comply with new legislative amendments, controls or orders that are implemented by the Governments of Canada or the Province of Ontario after bid closing in response to the *Virus* associated with the following:

- .1 the *Contractor* being required to use additional tools or equipment, including PPE equipment, in its performance of the *Work*;
- .2 the *Contractor* being required to purchase, use or provide additional safety-related supplies in connection with its performance of the *Work*; or
- .3 the *Contractor* being required to install temporary facilities or structures, including hand washing stations.”

41. GC 11.1 INSURANCE

[Consideration Note: A project specific risk assessment is required for any projects more than \$500,000 which are complex and have an element of risk in case changes to the insurance coverage requirements spelled out herein are required. Risk assessment to be performed by Project Lead, Associate Director - Capital Development, & UofG Insurance Manager. – Delete Note]

[Edit Note: The following amendments apply only to contracts with a value of less than \$3,000,000.]

41.1 Delete from the first sentence of paragraph 11.1.1, the following:

“the requirements of which are specified in CCDC 41 – CCDC Insurance Requirements in effect at the time of bid closing except as hereinafter provided:”

41.2 Add to the end of subparagraph 11.1.1.1, the following words:

“General liability insurance shall be with limits of not less than \$3,000,000 per occurrence, an aggregate limit of not less than \$3,000,000 within any policy year with respect to completed operations and a deductible not to exceed \$5,000. The insurance coverage shall not be less than the insurance provided by IBC Form 2100 (including an extension for a standard provincial and territorial form of non-owned automobile liability policy) and IBC Form 2320. To achieve the desired limit, umbrella or excess liability insurance may be used.”

- 41.3 Add to the end of subparagraph 11.1.1.2, the following words:

“Automobile liability insurance in respect of vehicles that are required by law to be insured under a contract by a Motor Vehicle Liability Policy, shall have limits of not less than \$3,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof covering all vehicles owned for leased by the *Contractor*. Where the policy has been issued pursuant to a government operated automobile insurance system, the *Contractor* shall provide the *Owner* with confirmation of automobile insurance coverage for all automobiles registered in the name of the *Contractor*.

- 41.4 Add to the end of subparagraph 11.1.1.3, the following words:

“Aircraft and watercraft liability insurance with respect to owned or non-owned aircraft and watercraft (if used directly or indirectly in the performance of the *Work*) including use of the additional premises, shall have limits of not less than \$3,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof and limits of not less than \$3,000,000 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the *Owner*.

[Edit Note: for renovation work in an existing building up to \$3,000,000 in value, “All Risks” or “Broad Form” property insurance to be provided by Owner under CURIE policy – use the following]

- 41.5 Delete paragraph 11.1.1.4 and replace with the following:

“The *Owner* will maintain its existing “all risks” or “broad form” property insurance on the building.”

[Edit Note: for a new building up to \$3,000,000 in value, “All Risks” “ or “Broad Form” property insurance to be provided by Owner – use the following]

- 41.6 Delete paragraph 11.1.1.4 and replace with the following:

The *Owner* will obtain and maintain “Builders’ Risk” or “all risks” or “course of construction” property insurance shall be in the joint names of the *Owner*, the *Contractor*, and the *Consultant*, insuring not less than the sum of 1.1 times Contract Price and the full value, as stated in the Contract, of Products and design services that are specified to be provided by the *Owner* for incorporation into the *Work*. The policy shall carry a deductible of not more than \$10,000 for general claims and \$25,000 for water related claims and shall be maintained continuously from commencement of work until 10 calendar days after the date of Ready-for-Takeover.

- (1) The policies shall provide that, in the case of a loss or damage, payment shall be made to the *Owner* and the *Contractor* as their respective interests may appear. The *Owner* shall act on behalf of the *Contractor* for the purpose of adjusting the amount of such

loss or damage payment with insurers. When the extent of the loss or damage is determined, the *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except that the *Contractor* shall be entitled to such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*.

- (2) The *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount at which the *Owner's* interest in restoration of the *Work* has been appraised, such amount to be paid as the restoration of the *Work* proceeds in accordance with progress payment provisions. In addition, the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor's* interest in the restoration of the *Work*.
- (3) In the case of loss or damage to the *Work* arising from the work of another contractor, or *Owner's* own forces, the *Owner* shall, in accordance with the *Owner's* obligations under the provisions relating to the construction by the *Owner* or other contractors, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and in accordance with the progress payment provisions.

41.7 Add to the end of subparagraph 11.1.1.5, the following words:

Boiler and machinery insurance shall have limits of not less than the replacement value of the permanent or temporary boilers and pressure vessels, and other insurable objects forming a part or the *Work*. The insurance coverage shall not be less than the insurance provided by a comprehensive boiler and machinery policy.

[Edit Note: only where the Owner maintains the property insurance for the project, add the following]

41.8 Delete the word “property” at all instances in sub-paragraph 11.1.1.6.

[Edit note: leave in the following for all instances]

41.9 Add to the end of subparagraph 11.1.1.6, the following words:

“Broad Form” contractors’ equipment insurance coverage covering *Construction Equipment* used by the *Contractor* for the performance of the *Work*, shall be in a form acceptable to the *Owner* and shall not allow subrogation claims by the Insurer against the *Owner*.

[Edit Note: The following amendments apply to contracts with a value between \$3,000,000 to \$10,000,000]

41.10 Delete from the first sentence of paragraph 11.1.1, the following:

“the minimum requirements of which are specified in CCDC 41 – CCDC Insurance Requirements in effect at the time of bid closing except as hereinafter provided:”

41.11 Add to the end of subparagraph 11.1.1.1, the following words:

“General liability insurance shall be with limits of not less than \$5,000,000 per occurrence, an aggregate limit of not less than \$5,000,000 within any policy year with respect to completed operations and a deductible not to exceed \$5,000. The insurance coverage shall not be less than the insurance provided by IBC Form 2100 (including an extension for a standard provincial and territorial form of non-owned automobile liability policy) and IBC Form 2320. To achieve the desired limit, umbrella or excess liability insurance may be used.”

- 41.12 Add to the end of subparagraph 11.1.1.2, the following words:

“Automobile liability insurance in respect of vehicles that are required by law to be insured under a contract by a Motor Vehicle Liability Policy, shall have limits of not less than \$5,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof covering all vehicles owned for leased by the *Contractor*. Where the policy has been issued pursuant to a government operated automobile insurance system, the *Contractor* shall provide the *Owner* with confirmation of automobile insurance coverage for all automobiles registered in the name of the *Contractor*.

- 41.13 Add to the end of subparagraph 11.1.1.3, the following words:

“Aircraft and watercraft liability insurance with respect to owned or non-owned aircraft and watercraft (if used directly or indirectly in the performance of the *Work*) including use of the additional premises, shall have limits of not less than \$5,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof and limits of not less than \$5,000,000 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the *Owner*.

- 41.14 Delete paragraphs 11.1.1.4 in its entirety.

- 41.15 Add to the end of subparagraph 11.1.1.7, the following words:

“Broad Form” contractors’ equipment insurance coverage covering *Construction Equipment* used by the *Contractor* for the performance of the *Work*, shall be in a form acceptable to the *Owner* and shall not allow subrogation claims by the Insurer against the *Owner*.

- 41.16 Add new paragraphs 11.1.1.8 as follows:

11.1.1.8 The *Owner* will obtain and maintain “Builders’ Risk” or “all risks” or “course of construction” property insurance shall be in the joint names of the *Owner*, the *Contractor*, and the *Consultant*, insuring not less than the full replacement cost of the building and associated equipment. The policy shall carry a deductible of not more than \$10,000 for general claims and \$25,000 for water related claims and shall be maintained continuously from commencement of work until 10 calendar days after the date of Ready-for-Takeover.

- (1) The policies shall provide that, in the case of a loss or damage, payment shall be made to the *Owner* and the *Contractor* as their respective interests may appear. The *Owner* shall act on behalf of the *Contractor* for the purpose of adjusting the amount of such loss or damage payment with insurers. When the extent of the loss or damage is determined, the *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except that the *Contractor* shall be entitled to

such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*.

- (2) The *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount at which the *Owner's* interest in restoration of the *Work* has been appraised, such amount to be paid as the restoration of the *Work* proceeds in accordance with progress payment provisions. In addition, the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor's* interest in the restoration of the *Work*.
- (3) In the case of loss or damage to the *Work* arising from the work of another contractor, or *Owner's* own forces, the *Owner* shall, in accordance with the *Owner's* obligations under the provisions relating to the construction by the *Owner* or other contractors, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and in accordance with the progress payment provisions.

[Edit Note: For a project with a value of over \$10,000,000, the Owner will provide Wrap-up Liability insurance, please use the following in lieu of the above items 44.1 through 44.6. Also, 44.7 is to remain but renumbered.]

41.17 Delete paragraph 11.1.1 in its entirety and substitute the following:

11.1.1 The *Owner* will provide Wrap-up Liability. The *Contractor* shall provide, maintain and pay for General Liability insurance in the joint names of the *Contractor*, the *Owner*, the *Consultant*, and any and all subcontractors and sub-consultants involved in the *Work*, with limits of not less than \$10,000,000 per occurrence and with a property damage deductible not exceeding \$10,000. The insurance coverage shall include at least the following extensions: Premises, Property and Operations; Occurrence basis, Owners/Contractors protective, Products and Completed Operations; Blanket Contractual; Employees as Additional Insureds; Broad Form Property Damage; Broad Form Loss of Use; Personal Injury; Incidental Malpractice; Contingent Employers Liability; Cross Liability/Severability of Interests; Non-Owned Automobile Liability including Endorsement Form 96; Intentional Injury to protect persons or property, Xplate/unlicensed/specially licensed vehicles; Attached Machinery; Hostile fire exception to any pollution exclusion; Voluntary Medical Payments. To achieve the desired limit, umbrella or excess liability insurance may be used. All liability coverage shall be maintained for the completed operations hazard from the date of *Ready-for-Takeover*, for 24 months following. The Policy shall be endorsed to provide the *Contractor* with not less than 30 days notice in writing in advance of any cancellation or change or amendment restricting coverage.

[Edit Note: The following clauses are to be left in for any contract. Renumbering may be required.]

41.18 Delete paragraphs 11.1.6 and 11.1.7 in their entirety.

41.19 Delete paragraph 11.1.8 and substitute the following:

“A Change Directive shall not be used to direct a change in the insurance requirements to be provided by the *Contractor*.”

42. GC 11.2 CONTRACT SECURITY

42.1 Add new General Condition 11.2 as follows:

GC 11.2 CONTRACT SECURITY

11.2.1 The *Contractor* shall, prior to commencement of the *Work*, provide to the *Owner* a Performance Bond in the amount equal to 50% of the *Contract Price* and a Labour and Material Payment Bond in the amount equal to 50% of the *Contract Price*. The Performance Bond shall guarantee the faithful performance of the *Contract* in accordance with the *Contract Documents*. The Labour and Material Payment Bond shall ensure payment of wages and products to *Subcontractors* and *Suppliers*, and discharge of liens and debts, including commitments in law, such as Employment Insurance, Income Tax Deductions, Workplace Safety and Insurance Board premiums and Vacation Pay.

11.2.2 The Performance Bond and Labour and Material Payment Bond shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province of Ontario and shall be maintained in good standing until the fulfillment of the *Contract*. The form of such bonds shall be in accordance with Forms 31 and Form 32 as prescribed by the *Construction Act*.

11.2.3 The *Contractor* and not the *Owner* shall be responsible for notifying the surety company of any changes made to the *Contract* during the course of construction.

11.2.4 Obligations incurred in the event of the *Contractor*'s default shall include, but not necessarily be limited to the following:

11.2.4.1 The payment of all legal, accounting, architectural, engineering and consulting fees incurred by the *Owner* in determining the extent of the *Work* executed and any additional work required as a result of the interruption of the *Work*, and

11.2.4.2 The payment of additional expenses by the *Owner* in the form of security, light, heat, power, etc. during the period between the default of the *Contractor* and the commencement of the *Work*.

11.2.5 Without limiting the foregoing in any way, the Performance Bond shall indemnify and hold harmless the *Owner* for and against any and all costs and expenses (including all legal and professional fees and court costs) arising out of or as a result of or as a consequence of any default of the *Contractor* under the *Contract*.

11.2.6 The Performance Bond shall remain in effect for the duration of the warranty period as specified in GC 12.3, or as may be amended by these Supplementary Conditions, and shall cover all extended warranty periods specified in GC 12.3.

43. GC 12.1 READY-FOR-TAKEOVER

43.1 Add the following subparagraphs 12.1.1.9 to 12.1.1.17:

- .9 Guarantees.
- .10 Warranties.
- .11 Certificates.
- .12 Testing and balancing reports.
- .13 Distribution system diagrams.
- .14 Maintenance materials and spare parts as described in Section 01 77 01 of the *Specifications*.
- .15 Operating and maintenance manuals as described in Section 01 77 01 of the *Specifications*.
- .16 Project record documents as described in Section 01 77 01 of the *Specifications*.
- .17 Other materials or documentation required to be submitted under the *Contract*, including Section 01 77 01 of the *Specifications*, together with written proof acceptable to the *Owner* and the *Consultant* that the *Work* has been performed in conformance with the requirements of municipal, government and utilities authorities having jurisdiction.

43.2 Add new paragraph 12.1.7 as follows:

12.1.7 The *Contractor* shall allocate an amount of the *Contract Price* in the schedule of values referred to in paragraph 5.2.4 and 5.2.5 of GC 5.2 – APPLICATIONS FOR PAYMENT to the achievement of *Ready-for-Takeover*, including the delivery of all closeout documents and materials referenced in Section 01 77 01 of the *Specifications* and paragraph 12.1.1 of this GC 12.1, by the date set out in Article A-1, as security for the performance of those obligations. Such amount shall be equal to at least 1% of the *Contract Price*, but in no event less than \$15,000. For clarity, the *Contractor* shall not be entitled to payment of this amount until completion of the requirements under this GC 12.1 and Section 01 77 01. If the *Contractor* fails to deliver all closeout documents and materials referenced in Section 01 77 01 of the *Specifications* and paragraph 12.1.1 of this GC 12.1 by the date of demobilization, it is deemed to forfeit its right to receive payment of this amount.

44. GC 12.2 EARLY OCCUPANCY OF THE OWNER

44.1 Delete GC 12.2 in its entirety and substitute the following new GC 12.2:

GC 12.2 EARLY OCCUPANCY OF THE OWNER

12.2.1 The *Owner* shall have the right to enter or occupy the *Work* in whole or in part for the purpose of placing fittings and equipment or for other uses before *Substantial Performance of the Work*, if, in the opinion of the *Consultant* and *Contractor*, such entry or occupation does not prevent or substantially interfere with the *Contractor* in completion of the *Contract* within the *Contract Time*. Such entry or occupation shall not be considered as acceptance of the *Work* or in any way relieve the *Contractor* from responsibility to complete the *Contract*.

[Edit Note: Use the following paragraph only for renovation projects and only for new work under extreme circumstances.]

12.2.2 The *Owner* shall have the right to use and occupy the *Place of the Work*, including but not limited to the building and site in accordance with other provisions of the *Contract Documents*. Such use and occupation shall not be considered acceptance of the *Work*, nor shall such use and occupation in any way relieve the *Contractor* from his responsibility to complete the *Contract*. Such use shall not be considered an act or omission by the *Owner* causing delay in GC 6.5 – Delays, and the *Contractor* is responsible for coordinating the *Work* to suit such use and occupancy, as may be further required in the *Contract Documents*.

45. GC 12.3 WARRANTY

45.1 Delete from the first line of paragraph 12.3.2 the word, “The” and substitute the following words: “Subject to paragraph 1.5.1, the”

45.2 Add new paragraph 12.3.7 as follows:

12.3.7 Notwithstanding any other term in the *Contract Documents*, nothing in the *Contract* shall be interpreted to limit, shorten or negate any limitation period or discoverability rights under the *Limitation Act, 2002* that would otherwise apply to a claim or proceeding the *Owner* has or commences against the *Contractor* in connection with latent or substantial defects or deficiencies.

46. GC 13.1 INDEMNIFICATION

46.1 Delete subparagraph 13.1.2.3.

47. GC 13.2 WAIVER OF CLAIMS

47.1 Delete the last sentence of subparagraph 13.2.3.4 and substitute the following:

“For purposes of this subparagraph 13.2.3.4, “substantial defects or deficiencies” means those defects or deficiencies in the *Work* where the reasonable cost of repair of such defects or deficiencies exceeds:

.1 if the *Contract Price* is \$2 million or less, the sum of \$50,000, before *Value Added Tax*;

.2 if the *Contract Price* exceeds \$2 million, the sum of \$100,000, before *Value Added Tax*.

In any event, “substantial defects or deficiencies” shall include defects or deficiencies in the *Work* which affect the *Work* to such an extent or in such a manner that a significant part or the whole of the *Work* is unfit for the purpose intended by the *Contract Documents*.”

48. PART 14 OTHER PROVISIONS

48.1 Add new PART 14 as follows:

PART 14 OTHER PROVISIONS

GC 14.1 OWNERSHIP OF MATERIALS

14.1.1 Unless otherwise specified, all materials existing at the *Place of the Work* at the time of execution of the *Contract* shall remain the property of the *Owner*. All work

and *Products* delivered to the *Place of the Work* by the *Contractor* shall be the property of the *Owner*. The *Contractor* shall remove all surplus or rejected materials as its property when notified in writing to do so by the *Consultant*.

GC 14.2 CONTRACTOR DISCHARGE OF LIABILITIES

- 14.2.1 In addition to the obligations assumed by the *Contractor* pursuant to GC 3.6, the *Contractor* agrees to discharge all liabilities incurred by it for labour, materials, services, *Subcontractors* and *Products*, used or reasonably required for use in the performance of the *Work*, except for amounts withheld by reason of legitimate dispute which have been identified to the party or parties, from whom payment has been withheld.

GC 14.3 RECORD DRAWINGS

- 14.3.1 As provided in the *Contract Documents*, the *Contractor* shall prepare record *Drawings* and specifications and provide them to the *Consultant* for review.

GC 14.4 DAILY REPORTS/DAILY LOGS

- 14.4.1 The *Contractor* shall cause its supervisor, or such competent person as it may delegate, to prepare a daily log or diary reporting on weather conditions, work force of the *Contractor*, *Subcontractors*, *Suppliers* and any other forces on site and also record the general nature of *Project* activities. Such log or diary shall also include any extraordinary or emergency events which may occur and also the identities of any persons who visit the site who are not part of the day-to-day work force.
- 14.4.2 The *Contractor* shall also maintain records, either at its head office or at the job site, recording manpower and material resourcing on the *Project*, including records which document the activities of the *Contractor* in connection with GC 3.4 – CONSTRUCTION SCHEDULE, and comparing that resourcing to the resourcing anticipated when the most recent version of the schedule was prepared pursuant to GC 3.4 – CONSTRUCTION SCHEDULE.

GC 14.5 NEUTRAL APPOINTING AUTHORITY

- 14.5.1 Notwithstanding Sections 5.2 and 9.7 of the CCDC 40 – Rules for Mediation and Arbitration of Construction Disputes, if the parties are unable to agree on a Mediator or Arbitrator within the time required under the *Contract*, either party may request the head of the construction section of the ADR Institute of Ontario, Inc. presiding at the time notice of the dispute is given pursuant to the *Contract* to appoint the Mediator or Arbitrator, as the case may be.

GC 14.6 HUMAN RIGHTS AND SEXUAL AND GENDER HARASSMENT POLICIES

- 14.6.1 The parties agree to be governed by the provisions of the Ontario Human Rights Code. Furthermore, the parties agree to comply with the provisions of the Client's Human Rights Policy and any subsequent related policy or procedures that the Client may approve. The architect shall refer to www.uoguelph.ca/hre/hr.shtml for more information.

GC14.7 ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA)

14.7.1 The parties agree to be governed by the provisions of the Accessibility for Ontarians with Disabilities Act (AODA).

14.7.2 The *Contractor* agrees to:

- (a) comply with the accessibility standards established under the AODA by the Ontario Government and adhere to the *Owner's* policies and procedures in regards to accessibility as well as to ensure all of its *Subcontractors* similarly do the same;
- (b) ensure that training on the requirements of the accessibility standards are provided to those of its employees who will be working with the public (students, staff, faculty, visitors or other third parties) at, or on behalf of, the *Owner* and who participate in developing the proponent's policies, practices or procedures;
- (c) keep records of such training;
- (d) provide such records when required by the *Owner*; and
- (e) upon Notice of Award, provide to the *Owner* with a signed AODA Supplier Compliance Form prior to commencing any work for the *Owner*.

GC14.8 SMOKING RESTRICTIONS

14.8.1 The parties agree that smoking, vaping or consumption of tobacco or cannabis products in any form is forbidden on any and all of the *Owner's* property.

14.8.2 The *Contractor* agrees to require offenders to leave the property.

14.8.3 The *Contractor* further acknowledges and agrees that repeat offenders shall be removed from the *Owner's* property and may result in loss of future business.

GC14.9 OWNER'S POLICIES

14.9.1 Without limiting the applicability of GC 14.6, 14.7, and 14.8 above, the *Contractor* shall comply, and cause anyone for whom they are responsible to comply, with all policies and directives by the *Owner* and any applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction including, without limitation, all those relating to the preservation of the public health, occupational health and safety and to the *Virus* (or any other pandemic or epidemic).

GC14.10 PROJECT CASH FLOW

14.10.1 The Contractor shall,

- 14.10.1.1. Prior to submitting the first application for payment, submit to the *Owner* and the *Consultant* for their review and acceptance, a forecast of the cash flow the *Project* demonstrating that the *Work* will be

financially performed in conformity with the *Contract Time* and in accordance with the *Contract Documents*.

- 14.10.1.2. Cash flow values shall be “earned value” amounts.
- 14.10.1.3. Once accepted by the *Owner* and the *Consultant*, the cash flow forecast submitted by the *Contractor* shall become the baseline cash flow forecast;
- 14.10.1.4. The *Contractor* shall provide the forecast information required by this paragraph 14.10.1 in both electronic format and hard copy;
- 14.10.1.5. Provide the expertise and resources as are necessary to maintain progress under the accepted baseline cash flow forecast referred to in paragraph 14.10.1.1 or any successor or revised cash flow forecast accepted by the *Owner*;
- 14.10.1.6. Monitor the progress of the *Work* on a monthly basis relative to the cash flow forecast reviewed and accepted pursuant to paragraph 14.10.1.1, or any successor or revised cash flow forecast accepted by the *Owner*, update the cash flow forecast on a monthly basis, submit the updated cash flow forecast with each application for a progress payment and advise the *Consultant* and the *Owner* in writing of any variation from the baseline or slippage in the cash flow forecast.

APPENDIX “A” TO SUPPLEMENTARY CONDITIONS**LANGUAGE FOR OWNER PERSONNEL OR FOR THIRD PARTY CONTRACTORS
ENTERING A PROJECT SITE WHERE THE CONTRACTOR HAS ASSUMED OVERALL
RESPONSIBILITY – IN CONTRACT – FOR OCCUPATIONAL HEALTH AND SAFETY**

“The [NAME OF TRADE/EMPLOYEE] acknowledges that the work it will perform on behalf of the University of Guelph (the “Owner”) requires it to enter a job site which is under the total control of [NAME OF CONTRACTOR] (the “CONTRACTOR”) which has a contract with the Owner. The [NAME OF TRADE/EMPLOYEE] acknowledges that the Contractor has assumed overall responsibility for compliance with all aspects of the health and safety legislation of Ontario, including all the responsibilities of the “constructor” under the *Occupational Health and Safety Act*, R.S.O. 1990, c. O.1, as amended. Further, [NAME OF TRADE/EMPLOYEE] acknowledges that the Contractor is also responsible to the Owner to co-ordinate and schedule the activities of our work with the work of the Contractor.

[NAME OF TRADE/EMPLOYEE] agrees to comply with the Contractor’s directions and instructions with respect to occupational health and safety and coordination. [NAME OF TRADE/EMPLOYEE] acknowledges that it will be cause for termination under its contract with the Owner should it fail or refuse to accept the direction and instruction of the Contractor with respect to matters of occupational health and safety or matters related to coordination of work.

[NAME OF TRADE/EMPLOYEE] agrees to have the Contractor named as an additional insured on its comprehensive liability policy.”

END OF SUPPLEMENTARY CONDITIONS

PART ONE – GENERAL

1.1 Summary of Work

.1 Without limiting the scope of work, the Contract includes all products, labour, equipment, materials and temporary facilities as required, or implied by the drawings and specifications to complete the Work, complete with all necessary incidentals.

1.2 Related Sections

.1 Section 00 73 01 Supplementary Conditions.

.2 The requirements of this Section apply to all other Sections of the specifications.

1.3 Specification Format

.1 Specifications are not intended as a detailed description of installation methods but serve to indicate particular requirements to insure the performance of the completed work.

.2 Material shown or specified on Drawings or in Specifications, unless otherwise specified, shall conform to standards designated in Ontario Building Code. Similarly, unless otherwise specified, installation methods and standards of workmanship shall also conform to standards required by Ontario Building Code.

.3 Parts of specification are written in short form, therefore it is understood that where a component of Work is stated in heading followed by a material or operation, "shall be", "shall consist of" or similar words or phrases are implied which denote complete supply and installation of such material or operations for component of work designated by heading.

.4 Division One of the specifications shall be read into and form part of each Section of the Specifications.

.5 The Contract Documents are to be interpreted as a whole, although they are arranged in divisions and sections for convenience and clarity. The Contractor is responsible for all the work, regardless of the division of the work in the Contract Documents, and such division does not impose any obligation on the Consultant or upon the Owner as arbiters to establish limits or responsibility between the Contractor and the Subcontractors.

1.4 Quality of Work

.1 Work shall be of the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Consultant if required work is such as to make it impractical to produce required results.

.2 Do not employ any unfit persons or anyone unskilled in their required duties.

.3 Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with the Consultant, whose decision is final.

.4 All contractor personnel are restricted to the job site and necessary access routes. No personnel shall visit other areas or buildings without specific authorization.

1.5 Allowances

- .1 Refer to Section 01 21 01 Allowances

1.6 Available Documentation
of Existing Building

- .1 Refer also to Section 00 31 01 Information Available to Bidders.
- .2 Partial drawings of the existing site and building, as applicable, are available for review at the office of the Owner. Neither the Owner nor the Consultant represent or warranty that these drawings are complete or accurate, and these drawings are made available for information only.
- .3 The Contractor remains solely liable for site verification of conditions.

1.7 Site Examination

- .1 Contractor warrants that:
 - .1 the Contractor has visited and assessed the site prior to submitting a bid, including a review of any existing pertinent drawings and other documents and;
 - .2 that the Contractor and the subcontractors are familiar with all matters discussed at any bidder's site briefing, and;
 - .3 that the Contractor and the subcontractors are familiar with all visible, known or reasonably inferable site conditions.
- .2 No claims for extra payment will be allowed for extra work made necessary or difficulties encountered due to conditions of the site which were visible upon or reasonably inferable from an examination of the site, and the Contract Documents prior to the closing of the bids. Execution of the form of Contract shall be deemed a waiver of all claims for extra payment due to any visible or reasonably inferable condition of the site existing prior to the closing of bids.
- .3 The Contractor expressly agrees that conditions above existing suspended acoustic tile ceilings but below the level of plaster or gypsum board at the underside of structure shall be considered exposed conditions for the purposes of making findings under the provisions of this Contract, and that there shall be no claims for extra costs under CCDC 2 - 2008, GC 6 for extra work due to hidden conditions in these areas.

1.8 Owner's Use of Premises

[The following should only be used for minor renovations within an occupied building. Edit accordingly.]

- .1 The Owner reserves the right to maintain use of the building and site. All work shall be scheduled and co-ordinated to accommodate this requirement and all necessary precautions shall be taken to ensure safe occupancy. Coordinate use of premises under direction of Owner.
- .2 Protect equipment, furnishings, Owner's and occupants' effects remaining in any area in which work is occurring as required, and as specified elsewhere. Make good all damage to the satisfaction of the Owner. Relocate all furnishings, equipment and effects remaining in rooms, as needed to execute the Work, and return same to original location before Owner re-occupies rooms or spaces.
- .3 Take all measures necessary and as directed by the Owner to minimize disruption of the building, and its use by the Owner.
- .4 Throughout the duration of the Work, maintain access for building and site users, occupants and others, who will use the building and site during the course of the Work. All work shall be scheduled and co-ordinated to accommodate this requirement and all necessary precautions shall be taken to ensure safe occupancy.

Coordinate use of premises under direction of Owner and Consultant.

.5 Adjacent buildings and facilities may be occupied for Owner's uses and activities.

.6 Work carried out during Owner's standard operating hours shall not adversely affect the Owner's ongoing use and occupancy of the building, the site or adjacent buildings or facilities, otherwise work shall be carried out after hours, on weekends and holidays. Schedule work with the Owner to minimize disruption to Owner's operations. Contract Price includes all necessary overtime premium costs and cost to work statutory holidays, to ensure orderly progression of work and continuous operation of the Owner's facilities.

1.9 Restrictions on Contractor Movement

.1 Contractor personnel are restricted to the job site and necessary access routes. No personnel shall visit other areas or buildings without prior authorization. The extent of the work site shall be confined to the areas in which work is occurring and access routes to those areas.

1.10 Safety

.1 Refer to CCDC 2 – 2008, GC 9.4.

.2 Contractor's current health and safety statement and policy shall be filed with University of Guelph - Design, Engineering and Construction prior to start of work, for the Owner's information only.

.3 The health and safety statement and policy shall include:

- .1 Current Material Safety Data Sheets for the products to be used.
- .2 Provisions for safety including the use of continuous snow fencing in lieu of barricades or caution tape.
- .3 Signage to indicate DANGER ZONES, CLOSURES, DETOURS, ETC.
- .4 Set-up locations and procedures.
- .5 Material storage and handling.
- .6 Fire protection.
- .7 Debris handling, storage, disposal and clean-up.
- .8 Personnel safety required by the regulations including roof barriers, travel restraint systems and fall arrest systems.
- .9 Other measures pertinent to the Work.

.4 Owner's receipt of such policy is not approval of completeness and accuracy of policy, nor confirmation of compliance with applicable legislation. The Owner shall in no way be held liable for contents or enforcement of the Contractor's health and safety statement and policy, or the Contractor's detailed health and safety procedures. Owner's comments, or lack thereof, shall not be construed as approval of the Contractor's health and safety practices.

.5 Observe and enforce construction safety measures required by Ontario Building Code, Canadian Construction Safety Code 1977, Occupational Health and Safety Act 1980 and all latest amendments including the Regulations for Construction Projects, , Ontario Regulations 413/90 and all latest amendments, Workers' Compensation Board and municipal statutes and authorities.

.6 In the event of conflict between provisions of above authorities the most stringent provision applies.

.7 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.

.8 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.

.9 Contractor is solely liable for construction safety and for compliance with applicable legislation.

.10 Provide a copy of the project registration filed with a Director under the Occupational Health and Safety Act (Ontario) called "Registration Forms of Construction and Employers of Workers".

.11 Where legislation requires a joint health and safety committee, provide minutes of the committee's meetings to the Owner for the Owner's information.

.12 Provide Owner and Consultant with a copy of Ministry of Labour inspection report and any orders arising within 24 hours of receiving report, for Owner's information.

.13 Correct all safety deficiencies immediately.

.14 Accidents

.1 In addition to requirements of applicable legislation, in any emergency requiring the use of a resuscitator, the University Fire Prevention Office shall be notified.

.2 Make arrangements for emergency treatment of accidents.

.3 Provide Owner and Consultant with a copy of WSIB injury report for all reportable accidents and injuries, for information purposes, within 24 hours of incident.

.15 The Contractor will be responsible for verifying through locates the location of any utilities or services that cross or enter the area of the Work.

.16 Indemnify and hold harmless the Owner of any and all liability of every nature and description that may be suffered through bodily injuries, involving deaths of any persons, by reasons of negligence of the contractor, his agents, employees, or his sub-contractors.

1.11 Project Coordination

.1 Coordinate progress of the Work, progress schedules, submittals, use of site, temporary utilities, construction facilities, Owner's continuing use and occupancy of the building and site during the Work.

.2 Assume full responsibility for, and execute complete layout of work to locations, lines and elevations indicated including any existing utilities or services.

.3 Provide devices needed to lay out and construct work.

.4 Supply such devices as straight edges and templates required to facilitate Consultant's review of work.

.5 Each trade shall examine the work upon which the trade or specification Section depends. Have all defects and deficiencies corrected prior to proceeding with work. The application of work or any part of it shall be deemed acceptance by the Contractor of the work upon which subsequent work depends.

1.12 Cutting and Patching

Refer to Section 01 54 01 Cutting and Patching

1.13 Electronic Contract Administration Platform

.1 All Contract administration processes, tasks and documentation are to be executed on the University's KAHUA construction project management software platform. This includes but is not limited to:

- .1 Contracting
- .2 Preconstruction and mobilization
- .3 Schedules
- .4 Submittals
- .5 Meetings
- .6 Invoicing
- .7 RFIs and SIs
- .8 Change Management
- .9 Site observation reporting and tracking
- .10 Site safety management
- .11 Commissioning
- .12 Closeout and demobilization
- .13 Post-construction and warranties
- .14 All other Contract administration requirements whether described explicitly herein the project's Specifications or not

.2 The University hosts the KAHUA construction project management software platform. The University's project lead will initiate platform invitations to all project participants, Owner, Contractors, Consultants, and others.

.3 Platform support is available through the University's personnel &/or KAHUA Support at:

<https://support.kahua.com/support/home>

1.14 Project Meetings

- .1 Preconstruction Meeting
 - .1 Attend a preconstruction meeting before commencing work. Purpose of meeting is to review procedures.
 - .2 Submit, at this meeting, proof that application has been made to the Ministry of Labour for "Notice of Project" where legislation requires this notification be made. Work may not proceed until the Ministry has been notified.
 - .3 Record minutes. Include significant proceedings and decisions. Identify 'action by' parties and critical dates.
 - .4 Reproduce and distribute copies of minutes within three days after each meeting and transmit to meeting participants, affected parties not in attendance, Consultant, and Owner.
 - .5 The Owner, the Consultant, all other consultants, the Contractor (including site superintendent(s) and project manager), commissioning authority, and inspection and testing company will be in attendance.
 - .6 Agenda to include, but not be limited to, review of commissioning

requirements and establishment of commissioning schedule. Refer also to Section 01 91 01 for commissioning requirements.

.2 Progress Meetings

- .1 Schedule and administer project progress meetings before work begins, throughout progress of work, and at call of Consultant.
- .2 Distribute written notice of each meeting four days in advance of meeting date to Consultant, Owner, and major subtrades involved in the Work. Subtrades who have work in progress or imminent at the time of the meeting shall attend project meetings.
- .3 Provide physical space and make arrangements for meetings.
- .4 Record minutes. Include significant proceedings and decisions. Identify 'action by' parties and critical dates.
- .5 Reproduce and distribute copies of minutes within three days after each meeting and transmit to meeting participants, affected parties not in attendance, Consultant, and Owner.
- .6 Tracking documents:
 - .1 Contractor to prepare and bring to each progress meeting current copies of the following documents:
 - .1 RFI log.
 - .2 C.C.O., C.O., R.F.C.O. logs.
 - .3 Submittals logs.
 - .4 Schedule CD and CADA.
 - .5 S.I. log.
 - .6 Minutes of the previous progress meeting.
 - .2 The tracking documents specified above shall be provided for information purposes and shall not be subject to the review process specified under Section 01 33 01 unless otherwise directed by the Consultant, and an absence of comment on such tracking documents by the Consultant or the Owner shall not imply approval or acceptance of the logs so submitted.
- .7 Attendees at progress meetings shall include the following:
 - .1 Contractor
 - .2 Contractor's site superintendent(s)
 - .3 Consultant
 - .4 Owner
 - .5 Commissioning Authority
 - .6 Commissioning Agent (appointed by GC)
 - .7 Major Sub-trades including mechanical and electrical
- .8 Agenda to include the following:
 - .1 Owner's guidelines and policies.
 - .2 Review, approval of proceedings of previous meeting.
 - .3 Review of items arising from proceedings.
 - .4 Review of progress of the Work since previous meeting and Contractor's monthly progress report.
 - .5 Field observations, problems, conflicts.
 - .6 Review and update critical path construction schedule including a "look ahead" of construction activities for the next month.
 - .7 Problems that impede compliance with construction schedule.
 - .8 Review of off-site fabrication delivery schedules.
 - .9 Review material delivery dates/schedule.
 - .10 Corrective measures and procedures to regain construction schedule.
 - .11 Revisions to construction schedule.

- .12 Progress, schedule, during subsequent period of the Work.
- .13 Review submittal schedules.
- .14 Review status of submittals.
- .15 Maintenance of quality standards.
- .16 Pending changes and substitutions.
- .17 Review of Contract modifications and interpretations including, but not limited to: requests for interpretation and log, contemplated change orders, Change Orders, Change Directives, Supplemental Instructions, for effect on construction schedule and on Contract Time.
- .18 Review of status of as-built documents.
- .19 Review of site safety including review of approved plans and alternatives related to means of egress and exiting, parking in fire routes, fire alarm and life safety and fire suppression shut-downs.
- .20 Review of commissioning schedule and requirements and commissioning status.
- .21 Other business.

.3 Pre-Installation Meetings

- .1 During the course of the Work prior to Substantial Performance of the Work, schedule pre-installation meetings as required by the Contract Documents and coordinated with the Consultant.
- .2 As far as possible, pre-installation meetings shall be scheduled to take place on the same day as regularly scheduled progress meetings.
- .3 Agenda to include the following:
 - .1 Owner's guidelines and policies.
 - .2 Appointment of official representatives of participants in the Project.
 - .3 Review of existing conditions and affected work, and testing thereof as required.
 - .4 Review of installation procedures and requirements.
 - .5 Review of environmental and site condition requirements.
 - .6 Schedule of the applicable portions of the Work.
 - .7 Schedule of submission of samples, colour chips, and items for Consultant's consideration.
 - .8 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences.
 - .9 Requirements for notification for reviews. Allow a minimum of 48 hours notice to Consultant for review of the Work.
 - .10 Requirements for inspections and tests, as applicable. Schedule and undertake inspections and tests.
 - .11 Delivery schedule of specified equipment.
 - .12 Special safety requirements and procedures.
- .4 The following shall be in attendance:
 - .1 Contractor.
 - .2 Subcontractors affected by the work for which the pre-installation meeting is being conducted.
 - .3 Consultant.
 - .4 Manufacturer's representatives, as applicable.
 - .5 Inspection and testing company, as applicable.

.4 Commissioning Meetings: refer also to Section 01 91 01.

.5 Special Meetings:

- .1 Owner and/or Consultant reserve the right to require special meetings which

may be held on short notice and at which attendance by Contractor and representatives of affected Subcontractors and Suppliers is mandatory. Contractor shall keep detailed and accurate meeting notes and distribute copies promptly to all in attendance and those affected by agreements made at such meetings.

1.15 Schedule

- .1 Schedules Required.
 - .1 Construction Progress Schedule. The Contractor shall cooperate and fully inform the Owner of their schedules and work to be done.
- .2 Schedule Requirements:
 - .1 Microsoft Project to be used as the scheduling tool.
 - .2 An updated copy of the schedule both in pdf format and Microsoft Project format is to be provided / uploaded to KAHUA every two weeks and with each “proper invoice” application for payment to the University and Consultants.
 - .3 The schedule must show the following:
 - .1 Initial planned start date and finish date for each item work.
 - .2 Actual start and completion dates.
 - .3 Critical path.
 - .4 Schedule must be reviewed and confirmed that all activities required for the successful construction have been accounted for.

[Edit paragraph .2 above if other scheduling tools are acceptable]
- .3 Format
 - .1 Unless otherwise advised, prepare schedule in form of horizontal bar chart.
 - .2 Provide separate bar for each trade or operation.
 - .3 Provide horizontal time scale identifying first work day of each week.
 - .4 Format for listings: List of Contents of this specification.
- .4 Submission
 - .1 Submit initial schedule within 7 days after award of Contract.
 - .2 Consultant will review schedule and return reviewed copy within 10 days after receipt.
 - .3 Resubmit finalized schedule within 7 days after return of reviewed copy.
 - .4 With each application for progress payment, submit an up-to-date schedule.
- .5 Maintenance and Resubmission
 - .1 Monitor progress of work relative to approved schedule.
 - .2 Submit schedules at each progress (site) meeting indicating actual progress of the Work relative to approved schedule.
 - .3 Advise Consultant and Owner where progress of work varies from schedule, paying particular attention to variances that may result in delay of completion of Work, in whole or in part, or achievement of any milestone dates.
 - .4 Where progress of work varies from approved schedule, revise and resubmit schedule, showing means to recover from delays and achieve completion date(s).
 - .5 Revise and resubmit schedule to reflect extensions in Contract Time agreed to in Change Orders.
 - .6 All Site Instructions, Change Orders and Requests for Information must be entered on the schedule and then indicated how they affect the overall schedule. All weather conditions initiating resulting in lost days must also be entered on

the schedule with their overall affect noted.

.7 Owner's or Consultant's acceptance of revised schedules showing completion dates later than contractually agreed shall not relieve Contractor of any responsibility for compensating Owner for costs incurred as a result of delayed completion of work, nor result in any liability by the Owner or the Consultant to the Contractor for additional costs due to the Contractor's delay in completing the Work.

1.16 Project Cash Flow Forecasts

- .1 Forecasts Required.
 - .1 Project Cash Flow Forecasts. The Contractor shall cooperate and fully inform the Owner of their expected cash flows.
- .2 Forecast Requirements:
 - .1 Microsoft Excel / KAHUA to be used as the scheduling tool.
 - .2 An updated copy of the forecast is to be provided with each "proper invoice" application for payment to the University and Consultants.
 - .3 The schedule must show the following:
 - .1 Initial planned start date and finish date.
 - .2 Actual start and completion dates.
 - .3 Baseline forecast for the full time period of the project.
- .3 Format
 - .1 Unless otherwise advised, prepare schedule in form of horizontal chart.
 - .2 Provide separate bar for baseline forecast and each subsequent monthly update.
 - .3 Provide horizontal time scales identifying the months and years for the full time period of the project.
- .4 Submission
 - .1 Submit initial forecast within 7 days after award of Contract.
 - .2 With each "proper invoice" application for progress payment, submit an up-to-date forecast.
- .5 Maintenance and Resubmission
 - .1 Monitor progress of work relative to approved project schedule and the baseline forecast.
 - .2 Submit updated cash flow forecast with each "proper invoice" application for payment indicating actuals and future forecasts related to the progress of the Work relative to baseline forecast.
 - .3 Advise Consultant and Owner where progress of work varies from any schedule or cash flow forecast, paying particular attention to variances that may result in delay of completion of Work, in whole or in part, or achievement of any milestone dates.
 - .4 Revise and resubmit forecasts to reflect extensions in Contract Time agreed to in Change Orders.
 - .5 Owner's or Consultant's acceptance of revised forecasts showing completion dates later than contractually agreed shall not relieve Contractor of any responsibility for compensating Owner for costs incurred as a result of delayed completion of work, nor result in any liability by the Owner or the Consultant to the Contractor for additional costs due to the Contractor's delay in completing the Work.

1.17 Quality Control

- .1 Refer to Section 01 45 01 Quality Control.

1.18 Construction Facilities and Temporary Controls

- .1 Sanitary facilities, water supply, temporary heating, temporary power, and temporary telephone: refer to Section 01 51 01 Temporary Utilities.
- .2 Construction facilities, site storage/loading, equipment/tool/materials storage: refer to Section 01 52 01 Temporary Facilities
- .3 Temporary controls: refer to Section 01 5 01 Temporary Controls
- .4 Project Cleanliness: refer to Section 01 74 01 Cleaning.
- .5 Assistance with Consultant's Site Review
 - .1 The Contractor shall render all necessary assistance to the Consultant and if required shall take and furnish him with levels, measurements, or anything else required by the Consultant to review the Work. The Contractor shall provide sufficient, safe and proper facilities at all times for the review of the Work by the Consultant.

1.19 Material and Equipment

- .1 Refer to Section 01 61 01 Material and Equipment.

1.20 Additional Documents Required

- .1 In addition to the requirements of CCDC 2 – 2008, GC 3.9, maintain at place of the Work one copy of each of the following:
 - .1 additional written instructions that change this work and supplement the Contract;
 - .2 one copy of each Change Order and Contemplated Change Order;
 - .3 Field Inspection and test reports by testing and inspection agencies;
 - .4 one copy of each of the Consultant's site visit reports;
 - .5 copy of approved work schedule;
 - .6 manufacturers' installation and application instructions;
 - .7 reviewed shop drawings and other submittals;
 - .8 a copy of Fire Watch Duties and Log Sheets for each fire watch conducted; and
 - .9 up-to-date progress schedule.

1.21 Daily Log

- .1 Maintain a daily log recording following data:
 - .1 An address directory recording the names, address and telephone number of representative of all subcontractors, trades and suppliers doing work or supplying material for project.
 - .2 Record briefly various items of work being carried out on each day including the number of workers and amount of work completed.
 - .3 Record maximum and minimum daily weather temperatures both inside and outside of the building. In this regard the Contractor shall maintain a minimum/maximum thermometer both inside and outside the building for the duration of project.
 - .4 Record ordering dates and receiving dates of material F.O.B. job site to the site.
 - .5 Record accidents and first aid given.
 - .6 Record of any Fire Watch
- .2 Daily log shall be open to review by the Consultant and by the Owner. Upon request, provide copy of log to Owner or Consultant.

1.22 Existing Assemblies: Fire Separation Integrity

.1 Unless otherwise indicated, assume all existing walls, floors and ceilings are fire separations that have a fire resistance rating of at least 1 hour. Assume all existing doors and frames have fire ratings, whether bearing a fire-rating label or not.

.2 Execute work to maintain fire resistance rating integrity and fire separation integrity, including but not limited to reclipping acoustic ceiling tiles, and fire stopping openings to Building Dept. satisfaction, and as otherwise specified or indicated.

1.23 Existing Conditions Assessment

[Where a full building pre-construction survey is required, refer to Section 01 14 01, subsection 1.3]

.1 Where the Contractor is required to remove and re-install existing assemblies, elements or materials to suit work of this Contract, survey same for damage existing prior to the start of work, other than that caused by the Contractor during other work operations.

.2 Submit written statement to Consultant outlining damage where damage exists.

.3 Commencement of work shall mean the Contractor accepts existing conditions as being without damage.

1.24 Repair, Restore, & Make Good

.1 Repair, make good or restore shall mean the use of materials and technologies and methods to return damaged assemblies, elements or materials to the better of the condition in which they were prior to the beginning of construction, or to the standard specified in other Sections for new work. In general, repaired areas shall be indistinguishable from adjacent areas.

.2 Repair, make good or restore damaged assemblies, elements or materials where assemblies, elements or materials are damaged by work of this Contract, or by operations of the Contractor during the work of the Contract. This shall include elements damaged by removal of abutting elements.

.3 Repair, make good or restore damaged utilities or services where utilities or services are damaged by work of this Contract, or by operations of the Contractor during the work of the Contract.

.4 Use repair materials which match the damaged substrates, or are recommended for repair of the damaged materials, which retain or return the damaged assemblies, elements or materials to their specified architectural, structural and fire-resistant/fire rated capabilities.

.5 Where no recommended repair material exists, provide the Consultant with options from which to select a preferred repair. Consultant's selection and decision shall be final.

.6 At penetration of fire-rated wall, ceiling or floor construction, completely seal voids with fire-rated and/or fire-resistant materials, to ensure the fire rating of the assembly being penetrated is maintained. Applied materials as outlined by manufacture for the construction element involved.

.7 Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to the nearest intersection. For assembly, refinish entire unit.

1.25 Unexpected Discovery of Asbestos

.1 Where a friable material is discovered during construction, renovations and/or demolition and it is suspected to contain asbestos, stop all work that may disturb the material. Advise the Owner of the discovery and await instructions.

1.26 Designated Materials in Existing Paint

.1 Proceed on the basis that all existing paint contains lead, mercury or other designated substances.

.2 Take all necessary health and safety precautions.

1.27 Compressed Gas or Explosive-Actuated Fastener Tools

.1 Use of compressed gas or explosive-actuated fasteners and associated tools is prohibited in buildings occupied by the Owner.

.2 Use of compressed gas or explosive-actuated fasteners and associated tools is accepted in buildings unoccupied by the Owner, and where stray fasteners will not injure personnel.

.3 Use explosive-actuated and compressed gas fastener tools only under strictest safety conditions. Keep equipment locked in storage cabinet unless in active use by personnel. Equipment shall not be left unattended, or be accessible to anyone other than authorized users.

1.28 Climatic Conditions

.1 Where the climate may affect in any manner the ways and means for the performance of the work or the timing for the project, thoroughly examine the climatic data for the past 10 year period, and incorporate all information reasonably inferable from such data into the Contract Price, Construction Schedule and Contract Time.

1.29 Hazardous Materials

.1 Hazardous materials shall not be introduced for experimental or any other use prior to being evaluated by the Consultant.

.2 Make known any hazardous materials to be used and method of application before using. Be responsible for storage and proper safety requirements.

.3 Where a suspected hazardous material is discovered during construction, renovations and/or demolition stop all work that may disturb the suspected hazardous material. Advise the Owner of the discovery and await instructions.

.4 The disposal of hazardous chemical waste such as PCB's, mercury, oil shall be disposed of through the use of the following contractor's services: RPR Environmental, 164-166 South Service Road, Stoney Creek, Ontario L8H 3H6, telephone number 1-800-667-5217, facsimile number is 1-905-662-3828, contact name is Patrick Whitty and e-mail address is pat@rpr-environmental.com.

1.30 Discovered Valuables

.1 All articles of value, such as relics, antiquities, or items of historical or scientific interest which may be discovered during demolition, dismantling, or excavation of the Place of the Work are the property of the Owner and shall be immediately delivered into the custody of the Owner.

1.31 Smoking Restrictions

.1 Smoking, vaping or consumption of tobacco or cannabis products in any form is forbidden on any and all of the Owner's property. Failure to comply will require offenders to leave the property and may result in loss of future business. Repeat

offenders shall be removed from the Owner's property.

1.32 Security and Keys

- .1 Comply with Owner's policy and practices regarding site and building security. Do not reduce level of security afforded to building and site by work of this Contract.
- .2 Owner will issue keys for areas upon receipt of cheque, made payable to the University of Guelph as refundable deposit upon return of keys in good condition.
 - .1 Service keys--NSK, HOSK singular or as a pair ... \$500.00 each
 - .2 Building masters \$500.00 each
 - .3 Building sub masters \$300.00 each
 - .4 Housekeeping keys \$300.00 each
 - .5 Individual room keys \$200.00 each
- .3 Owner's policy requirements include but are not limited to:
 - .1 Minimum 48 hours prior to start of work arrange with Owner to obtain keys and adjust security alarms for overtime work.
 - .2 Do not copy Owner's keys. Return Owner's keys to Owner prior to issuing final invoice for work. Owner reserves the right to withhold all or part of final payment, in addition to deposit made, until keys have been returned. In the event of loss of key, the Contractor shall reimburse the Owner, by means of a deduction from any amounts due the Contractor and by direct reimbursement, for all costs associated with keying plus 100% overhead.
 - .3 Upon return of keys obtain receipt of keys from Owner. Make arrangements via Owner's representative for refund of key deposit.
 - .4 Calls to the Owner from the subcontractors for keys or access to the building are prohibited. It shall be the Contractor's responsibility to arrange access for workers.
- .4 Ensure all doors and windows are locked and secured prior to leaving the site.

1.33 Subcontractors

- .1 The Owner reserves the right to reject a proposed subcontractor in accordance with the provisions of CCDC 2 - 2008.
- .2 Subcontractors named in the Contractor's Bid Form shall be engaged for work of this Contract, and shall not be replaced by the Contractor except with the Owner's prior consent.

1.34 Identification

- .1 All personnel engaged by the Contractor, directly or indirectly, in work of this Contract shall wear identification badge issued by Owner while on Owner's property.
- .2 Badges are the property of the Owner and shall be returned at the earlier of completion of work or upon request.

1.35 Inspections by Authorities Having Jurisdiction

- .1 The Contractor shall arrange all inspections required by Authority(s) Having Jurisdiction.
- .2 Where the Owner feels it necessary, for any reason whatsoever, the Owner may also arrange for the Authority(s) Having Jurisdiction to attend at the work site.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE - GENERAL

1.1 Related Work

- .1 Section 01 11 01 General Requirements
- .2 Section 01 21 01 Allowances
- .3 Section 01 57 01 Temporary Controls
- .4 Section 01 77 01 Cleaning
- .5 The requirements of this Section apply to all other Sections of the specifications.

1.2 Building Permit and Regulatory Inspections

[Edit note: If building permit applies, use the following text. If no building permit, delete clause. Co-ordinate with Supplementary Conditions]

- .1 The Owner will apply and pay for the Building Permit required under the Ontario Building Code. Contractor is advised that workload at the authorities having jurisdiction may delay permit issuance.
- .2 Application and payment for all damage deposits, and other permits, licenses, fees and costs remain the responsibility of the Contractor. For clarification, the Contractor is required to post all damage deposits required by the authorities having jurisdiction as a condition of permit issuance.
- .3 Obtain copy of Building Permit from Owner, complete with drawings on which authorities having jurisdiction may have made comments, and examine same. Advise Consultant of any changes required, complete with associated costs
- .4 Arrange all required inspections by authorities having jurisdiction on behalf of the Owner.

1.3 Preconstruction Survey

[Edit Note: Use the preconstruction survey clause where it is important to survey for damage prior to beginning construction in areas adjacent to the Work, or where work may damage elements in the work site that will remain. Edit to provide level of detail appropriate to the project. Note that this would replace Section 01 11 01, 1.21 Existing Conditions Assessment – coordinate accordingly.]

- .1 Prior to commencing work, complete a survey of existing conditions within work area(s) and along path of travel for goods to be delivered and removed from the site.
- .2 Prior to commencing work, complete a survey of existing site services and utilities within work area(s) and along path of travel for goods to be delivered and removed from the site.
- .3 Owner will accompany Contractor on inventory tour. Arrange mutually agreeable time for survey.
- .4 Inventory all existing damage, accurately recording all observed conditions. Use photographs, written records, spreadsheets videography, etc. to fully document existing conditions, noting existing damage in sufficient detail to act as record of conditions.

- .5 Within 2 business days of inventory, and prior to commencing demolition or construction, provide each of Owner and Consultant with copy of inventory records. Identify photographs using room numbers and detailed descriptions of observed damage.
- .6 Owner will review submission. Revise and resubmit rejected inventory. Demolition and/or construction may only commence after acceptance by Owner of inventory records.
- .7 Repair and make good any damage found subsequent to submission of inventory, which in the opinion of the Consultant is the result of the Work, and which is not documented in the inventory submitted to the Owner and Consultant to Owner. Repairs shall return damaged elements to their condition prior to start of work. Where work increases extent of existing damage, repair shall return element to match previous damaged condition. Refer to CCDC 2 – 2008, GC 9.1
- .8 Where repairs cannot, in the opinion of the Consultant, be expediently implemented the Consultant shall ascertain the value to be deducted from the amounts due the Contractor in the manner permitted under CCDC 2 – 2008, GC 2.4.

1.4 Asbestos

[Edit note: in general, select one of the following 3 options for asbestos, delete the inapplicable options. Coordinate with and revise Section 01 21 01 Allowances where cash allowances are used to pay for asbestos abatement.]

- .1 There is no known asbestos in the building.
- .2 There is asbestos present in the building, but there is no known asbestos present in the area in which the Work is expected to occur. Obtain detailed building asbestos inventory from Owner prior to starting work
- .3 Comply with applicable legislation regarding asbestos. Should the Contractor encounter asbestos or material that is suspected to contain asbestos during the course of the Work, report same to Owner. Owner will advise means of confirming or denying asbestos is present and will advise regarding process for removal.
- .4 No person shall apply or install or cause to be applied or installed, any material containing 0.1 per cent or more asbestos by dry weight that can become friable.

1.5 Other Contracts: Legislative Compliance

- .1 Be advised that the Owner may let other contracts for other works in the building, and the work of this Contract shall be organized as directed by the Owner to prevent the Owner becoming the *constructor* for these projects as defined in applicable Occupational Health and Safety legislation.
- .2 Comply with directives to achieve objectives in sentence above.

1.6 Special Suspension Requirements for Suspended Ceilings, Mechanical and Electrical Elements

- .1 Existing suspended acoustic tile ceilings, and suspended mechanical and electrical items, when re-installed, shall be suspended from and anchored to structural loadbearing members. Where existing hangers and supports are of inadequate length, size or strength, provide new suspension systems. The term loadbearing shall be as defined in the Ontario Building Code.

.2 For greater clarity, and in addition to other site conditions that affect support systems, note that suspended items are occasionally supported from suspended ceilings that will be demolished and not be replaced, requiring extended hangers to secure elements to loadbearing structural members. Unless otherwise indicated or accepted by the Consultant, existing suspended ceilings are not considered acceptable support for suspended elements.

1.7 Tunnel Access Procedures

- .1 The Owner restricts access to its service tunnels.
- .2 Comply with all provisions of the Owner's access procedures.
- .3 Tunnels contain high pressure steam piping, chilled water piping, high voltage cabling, asbestos, and other hazards. Obtain details of hazards from Owner and take appropriate precautions.

*****END*****

[Edit Note: edit this section carefully and use it to describe particular scheduling requirements, only after hours work or when there is a delay in starting work after the bids close or when parts of the work must be completed at different times (phased construction or completion). The text below is a sample only.]

PART ONE - GENERAL

1. Contractor's Use of Premises and Project Scheduling

- .1 Execute construction work starting **[start date]** (subject to receipt of regulatory
 - .1 Submit shop drawings not later than **[date]**.
- .2 Work Hours
 - .1 Contractor shall have unrestricted work hours, subject to applicable legislation, between **[date] to [date]**, **only between the hours of 5:00pm to 7:00am the next day** except as required to suit other activities in the building and on campus.
- .3 After Hours Work
 - .1 **All work will be after normal work hours.** Schedule work with staff through the Owner's representative to limit disruption to ongoing operations. Include for any overtime, to ensure orderly and continuous progression of work and maintain Owner's operation of facility.
 - .2 Arrange 48 hours in advance with Owner's representative to obtain keys and adjust security alarms for overtime work.
 - .3 Be responsible for ensuring doors and windows are secured prior to leaving the building.
- .4 Work in the building prior to **[date]** shall consist of and be limited to measuring and other similar non-intrusive work, which shall occur after classes have recessed for the day, unless otherwise agreed by the Owner.
- .5 Execute work on weekends and outside regular work hours to complete the Work on schedule.
- .6 Limit use of premises to allow for Owner's continued use of the site. **Confine vehicles to paved areas of the work site.**
- .7 Do not block fire access routes. **Vehicles found parking in fire routes will be towed at vehicle owner's expense.**

*****END*****

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 00 73 01 Supplementary Conditions.
- .2 Section 01 18 01 Utility and Building System Service Interruptions: provisions regarding system shutdown and re-activation.
- .3 Section 01 18 01 Utility and Building System Service Interruptions for particular provisions regarding fire alarm and fire protection system shutdowns and re-activation.
- .4 The requirements of this Section apply to all other Sections of the specifications.

1.2 Fire Protection and Fire Safety

- .1 Provide temporary fire protection throughout the period of construction.
- .2 Particular attention shall be paid to the elimination of fire hazards.
- .3 Take all necessary precautions to prevent fires, and to prevent damage to buildings, materials, personnel, equipment, furnishings and chattels.
- .4 Provide fire extinguishers as required by the stricter of the Occupational Health and Safety Act and regulations made thereunder, and the Ontario Fire Code.
- .5 Comply with the Owner's directives regarding fire safety.
- .6 Hot Work Permits
 - .1 A Contractor's Hot Work Permit must be submitted in writing to the Owner's Construction Coordinator for any and all work involving bitumen kettles, open flame, cutting, grinding, soldering or welding or any hot surface applications in occupied facilities. For clarification, all existing buildings and tunnels are considered occupied facilities. Contractor's Hot Work Permit to contain, at a minimum, the following information:
 - .1 Company performing hot work
 - .2 Location of hot work
 - .3 Nature of hot work
 - .4 Duration of hot work – including the time frame for fire watches
 - .5 Name and contact information of person performing the work and of the person supervising hot work and of the person(s) conducting the fire watches
 - .6 Protection method against false fire alarms and/or sprinkler activation including requests for any shutdown of any fire or life safety alarm system or fire suppression system, in part or in whole
 - .7 Precautions being taken
 - .2 Submit permits a minimum of 48 hours in advance of commencing hot work.
 - .3 Do not perform hot work without the Owner's written approval or sign-off on the Contractor's proposed Hot Work Permit.
 - .4 The approved hot work permit must be clearly displayed on site at the location of the hot work.

.5 Follow all applicable legislation and standards including but not limited to Ontario Fire Code O. Reg. 256/14 which amends O. Reg 213/07 and OHSAA O. Reg 851 and CSA Standard W117.2-94 when performing hot work.

.7 Electric & Gas Welding & Cutting Operations

.1 Conduct all work involving electric and gas welding and cutting and grinding operations in accordance with the safety standards specified in the latest edition of CSA W117.

.8 Flammable Liquids

.1 Flammable liquids are to be kept to a minimum and shall be stored in approved safety containers. Obtain Owner's prior approval for storing flammable and combustible liquids in occupied buildings.

.9 Fire

.1 In the event of a fire use the nearest pull station and/or call Owner's emergency number 52000 or 9-911. If the fire is extinguished without using City of Guelph Fire Department, immediately notify Owner's Security Services at extension 52000.

.10 Emergency Telephone Numbers: be advised of the following emergency services contact telephone numbers

.1 Guelph Ambulance, Fire and Police Service: 9-911

.2 Guelph General Hospital: 519-822-5350

.3 U. of G. Fire Division: 519-824-4120 (extension 52071 for administration, **extension 52000 for emergency**)

.4 U. of G. Police Division: 519-824-4120 (extension 52245 for administration, **extension 52000 for emergency**)

1.3 Fire Watches

.1 For any fire watch required for any hot work permit and the partial or whole shut-down of any fire or life safety alarm system or fire suppression system, conform to the requirements of Fire Watch Duties and Log Sheet as posted on PR website at <https://www.pr.uoguelph.ca/projects-planning/consultant-and-contractor-lists-and-information>

.2 Appoint personnel that are experienced and familiar with fire or life safety alarm system or fire suppression systems, have the knowledge and experience and are trained to the requirements of the Fire Watch Duties to conduct any fire watch.

1.4 False Fire Alarms

.1 Reimburse the Owner, by means of a deduction from any amounts due the Contractor by the Owner, for all costs related to false alarms of the fire alarm system or the security alarm system attributable to acts or omissions of the Contractor. Costs shall include charges levied by local authorities, charges levied by the Owner's alarm monitoring service, labour and expense costs for Owner's staff to attend at site in response to a false alarm, Consultant's cost related to any work for a false alarm, all to a minimum of \$500 per false alarm incident.

1.5 Fire Alarm Activation

.1 A fire alarm system that has been activated by other than testing shall not be reset until the cause of the alarm has been investigated and until authorized by the

Owner's Fire Prevention Office and City of Guelph Fire Department.

1.6 Fire Protection Equipment Impairment

- .1 Take all precautions when fire protection equipment (nearby hydrants, sprinklers, chemical fire suppression systems, standpipes, fire extinguishers, related water service, etc.) is taken out of service, including but not limited to restricting all hot work operations and hazardous processes.
- .2 Take measures to minimize the shut down or impairment of use of fire protection. Plan operations required to reduce system impairment time to the least amount possible.
- .3 Advise Owner of complete or partial impairment of fire protection system, including time required, areas affected, etc., in accordance with Section 01 18 01 Utility and Building System Service Interruptions.
- .4 Provide temporary protection such as extra extinguishers during all periods of fire protection equipment impairment.
- .5 If fire protection system is restorable, either in whole or in part, assign personnel during the period of impairment to restore the system promptly in the event of a fire.
- .6 During periods when fire protection service is interrupted, establish and maintain a fire watch, including but not limited to the following:
 - .1 Patrol all halls, corridors, stairwells and high-risk areas affected.
 - .2 Fire patrol shall have immediate access to a telephone and call University of Guelph Campus Community Police Dispatch at 519-840-5000 if they see a fire.
 - .3 Report all other problems encountered.
 - .4 Remain on patrol until fire and life safety system is restored to service

1.7 Fire Routes

- .1 Parking in posted fire routes will not be permitted. Vehicles found parked in a posted fire route will be towed without warning at vehicle owners' expense.
- .2 Conform to approved plans related to any construction in or along posted fire routes.
- .3 Where deliveries or pickups of large equipment are expected or the placement of large construction is required in or along a posted fire route, planning prior to any placement is required and is to include dates, duration of time, provision for alternative fire route access and acknowledgement that the delivery person or driver will be present at all times. Approval via the Owner's construction personnel is required.

1.8 Fire Safety Plans

- .1 Conform to approved plans related to any construction that will affect existing fire alarm or life safety systems, fire suppression systems, existing means of egress and existing fire exits.
- .2 When logistics or phasing of the work will affect the systems and exits noted above in .1 and will alter the approved plans, alternative measures related to maintaining fire alarm or life safety systems, fire suppression systems, existing

means of egress and existing fire exits are to be planned with all parties clearly set down in writing which is to include requirements for posting and construction requirements, clearly delineated on floor plans and submitted for approval.

.3 Alternative measures must include signage, fire watches for the affected areas, procedures for notification to all occupants and users, construction personnel, Physical Resources, the University's Fire Prevention Office and City of Guelph Fire Department.

.4 Alternative measures related to fire alarm and life safety system shall include modifications and temporary installations related to maintaining any fire alarm and life safety system including elements such as detectors, early warning lights and bells and fire alarm pull stations.

.5 Approved alternative measures are to be posted in the building at the main entrance to the building.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 01 11 01 General Requirements
- .2 Section 01 21 01 Allowances
- .3 Section 01 14 05 Fire Safety Requirements
- .4 Section 01 51 01 Temporary Utilities
- .5 The requirements of this Section apply to all other Sections of the specifications.

1.2 Owner's Use of Premises

- .1 Take all measures necessary and as directed by the Owner to minimize disruption of facilities and their use by the Owner. Facilities generally include buildings, roads, parking lots, tunnels, landscaped areas and all spaces normally occupied by the Owner and shall include any existing utilities and services.
- .2 Take all measures necessary and as directed by the Owner to minimize disruption of adjacent facilities and areas of the Owner's property, and use by the Owner.
- .3 Be advised that Owner's facilities and chattels include numerous scientific, research and other valuable efforts and goods, and the Owner's facilities contain irreplaceable contents. Unplanned loss of utilities may cause irreparable loss.
- .4 Work carried out during Owner's standard operating hours shall not adversely affect the Owner's ongoing use and occupancy of the building, the site or adjacent buildings or facilities, otherwise work shall be carried out after regular working hours, on weekends and statutory holidays. Schedule work with the Owner to minimize disruption to Owner's operations. Contract Price includes all necessary overtime premium costs and cost to work statutory holidays, to ensure orderly progression of work and continuous operation of the Owner's facilities.

1.3 System Shutdown Requirements: Owner's Systems

- .1 Arrangements for shut down of Owner's utility and building systems (interruption of service) will be mutually arranged between the Owner and the Contractor. No shutdown to occur without the prior written consent of the Owner. Provide minimum 4 full working days advance notice of any required shutdown of an Owner's system, either in whole or in part.
- .2 Where length of service shutdown will exceed 12 hours, provide minimum 7 full working days advance notice of shutdown.
- .3 Schedule service shutdowns to occur outside Owner's regular operating hours, unless otherwise agreed.
- .4 Provide detailed schedule of operations for shutdown.
- .5 Obtain Owner's acceptance of proposed shutdown.
- .6 Unless otherwise agreed or as required by Contract Time, schedule steam system shutdowns to occur during warm weather where construction extends into periods of normally warm (summer) weather.

- .7 Unless otherwise agreed or as required by Contract Time, schedule chilled water system shutdowns to occur during cool or cold weather where construction extends into periods of normally cool or cold weather.
- .8 Unless otherwise agreed or as required by Contract Time, where construction extends into Owner's summer semester, schedule all other shutdowns to occur during this period.
- .9 Take all measures to minimize period of shutdown/interruption of service.
- .10 Systems that may require shutdown include, but are not limited to:
 - .1 normal power, including power distribution, lighting, etc.;
 - .2 essential (emergency) power;
 - .3 heating, cooling or ventilating systems;
 - .4 domestic water;
 - .5 chilled water;
 - .6 sanitary sewer or drains;
 - .7 storm sewer or storm drains;
 - .8 steam;
 - .9 raw water;
 - .10 compressed air;
 - .11 natural gas;
 - .12 de-ionized water;
 - .13 scientific vacuum systems;
 - .14 fire alarm or life safety system;
 - .15 sprinkler system or fire suppression system;
 - .16 hose and standpipe system;
 - .17 medical and scientific gases;
 - .18 telephone, data or other telecommunications systems;
 - .19 roads, parking lots and walkways;
 - .20 areas of buildings.
- .11 Subject to 1.3.12 below, the Contractor is responsible for providing qualified personnel to implement shutdown and re-activation of services. The Owner reserves the right to attend and monitor the shutdown and re-activation to assess effects on remainder of property and physical plant.
- .12 The Owner reserves the right to shutdown and re-activate Owner's utilities and/or services under the Contractor's direction, where the utility and/or service affects buildings or parts thereof outside the Contractor's work area and in the Owner's opinion there is a significant concern of adverse impacts outside the work area arising from the shutdown and re-activation. Where Owner elects to implement shutdown and re-activation, Contractor shall have qualified personnel attend and direct the shutdown and re-activation process.

1.4 Fire Alarm Shut Down Procedure

- .1 Arrangements for shutdown (interruption of service) of fire alarm system will be mutually arranged between the Owner and the Contractor. No shutdown to occur without the prior consent of the Owner. Provide minimum 5 full working days advance notice of any required shutdown of Owner's system, either in whole or in part. Where length of service shutdown will exceed 12 hours, provide minimum 7 full working days advance notice of shutdown.
- .2 Schedule service shutdowns to occur outside Owner's regular operating hours,

unless otherwise agreed.

- .3 Provide detailed schedule of operations for shutdown.
- .4 Obtain Owner's acceptance of proposed shutdown.
- .5 A Certified Fire Alarm Technician, per the Ontario Fire Code section 1, subsection 1, shall supervise additions, shutdowns and changes to the fire alarm system, including but not limited to changes in device location, and removal and re-installation of devices.
- .6 Provide proof of staff certification upon request.
- .7 Minimize periods of interruption of existing fire alarm system (shut down).
- .8 Wherever possible, shut down only the devices or the zone needing work and schedule this down time in unoccupied hours to the greatest extent possible.
- .9 Place signs at all de-activated pull stations indicating pull station is out of service. Remove signs immediately once pull stations are re-activated.
- .10 During periods of audibility and visibility testing, place signs at all building entries indicating such testing is occurring, and indicating hours of testing. Remove signs upon completion of testing.
- .11 Review the proposed period when the system will be disabled, in whole or in part, with Owner prior to any partial or complete system shut down, and obtain Owner's prior approval for shut down.
- .12 The Owner will advise affected Owner's personnel normally resident in affected building of fire alarm system shut down. This will include instructions to call extension 52000 or to call 9-911 if a fire is observed.
- .13 Establish and maintain a fire watch and patrol which conforms to the requirements of Fire Watch Duties and Log Sheet as posted on PR website at <https://www.pr.uoguelph.ca/projects-planning/consultant-and-contractor-lists-and-information> for all periods when the fire alarm is shut down, in whole or in part, and such fire watch shall include but is not limited to the following:
 - .1 Patrol all halls and high-risk areas affected.
 - .2 Fire patrol shall have immediate access to a telephone and call University of Guelph Campus Community Police Dispatch at 519-840-5000 if they see a fire.
 - .3 Report all other problems encountered.
 - .4 Remain on patrol until system is restored to service.
 - .5 Where alarms (bells, etc.) are temporarily disabled, provide staff to monitor panel. Staff shall be knowledgeable with panel operation and be able and prepared to either immediately return panel to service, or be capable of raising fire alarm in the building through other means such as manual activation of bells, and through use of phones to alert Fire Dept. Such panel monitoring staff shall be equipped with two-way radios connected to other staff in the building who can advise the panel monitor to sound the alarm.

.14 Provide full details to Owner's fire alarm monitoring service as requested including contact name, company name, and length of time service is interrupted.

.15 An approved inspection firm shall verify all new and replaced fire alarm devices, in accordance with applicable regulations. Submit Certificate of Verification prior to applying for Substantial Performance, or Completion of Contract as defined in applicable lien legislation where no application is made for Substantial Performance.

1.5 System Shutdown
Requirements: Municipal Utility
System

.1 Provide Owner with minimum 5 full working days advance notice of any required shutdown of municipal utility, either in whole or in part.

.2 Where length of service shutdown will exceed 12 hours, provide not less than 7 full working days advance notice of shutdown.

.3 In general, schedule service shutdowns to occur outside Owner's regular operating hours.

.4 Provide detailed written schedule of operations for shutdown.

.5 Obtain Owner's written acceptance of proposed shutdown.

.6 Take all measures to minimize period of shutdown/interruption of service.

1.6 Safety

.1 Provide all necessary safety measures resulting from or required by shutdown of utility or service.

.2 Advise Owner of any safety precautions required of Owner during system shutdown. Such measures may include, with Owner's prior consent, rescheduling uses, cancellation of uses, etc.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE – GENERAL**1.1 Related Sections**

- .1 Section 01 11 01 General Conditions.
- .2 Section 00 73 01 Supplementary Conditions.
- .3 Details of work covered by cash allowance: in respective Section.

1.2 Cash Allowances

- .1 Refer to CCDC 2 - 2020, GC 4.1.
- .2 Include in the Contract Price the cash allowances stated herein.
- .3 Expenditures under cash allowances shall be authorized by the Owner through the Consultant.
- .4 Cash allowances, unless otherwise specified, cover net cost to the Contractor of services, products, construction machinery and equipment, freight, handling, unloading, storage and other authorized expenses incurred in the performance of the *Work*.
- .5 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.
- .6 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.
- .7 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.
- .8 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.
- .9 The amount of each allowance, for Work specified in the respective specification Sections, exclusive of any Value Added Tax shall be:

[Edit Note: provide a complete listing including description and amount of any allowance as per sample below]

.1 \$3,000 to

- .10 Unexpended total balance of allowances shall be deducted from the Contract Price by Change Order.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

[Edit note: The University discourages the submission of complex data as part of the initial bid submission, preferring that only the most basic and critical data be submitted: stipulated bid price and contract time (completion schedule) unless the other data is also critical or limited in scope/complexity. As a result, we discourage requests that initial bids include complex alternative prices, unit prices, or itemised prices, lengthy lists of subtrade names and similar information which can be based on data received from trades only moments before bid close. Where this type of information is necessary, consider requesting it be submitted shortly (within 1 to 2 hours) after the initial bid close. This allows bidders time to properly prepare and verify the data. Material that can be prepared well in advance, such as WSIB, Retail Sales Tax compliance, etc., can be reasonably requested in the initial bid submission. Amend the text below accordingly.]

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 00 21 03 - Instruction to Bidders: Product or System Options.
- .2 Section 01 24 05 - Alternatives

1.2 General

- .1 Prices included in the Agreement shall be complete for the applicable work, and shall constitute the full consideration, payment, compensation and remuneration to the Contractor for all such. For greater certainty, but without limitation to the foregoing, such prices will constitute full and complete consideration, payment, compensation and remuneration to the Contractor for the following (subject to adjustment only as specified in the Contract Documents):

- the
 - .1 Expenditures for wages and for salaries of workmen, engineers, superintendents, draftsmen, foremen, timekeepers, accountants, expeditors, clerks, watchmen and other such personnel as may be approved, employed directly under the Contractor and while engaged on the applicable work at site and expenditures for travelling and board allowances of such employees when required by location of the applicable work or when covered by trade agreements and when approved; provided, however, that nothing shall be included for wages or salary of the Contractor's firm if the Contractor is a firm or the salary of any officer of the Corporation if the Contractor is a corporation, unless otherwise agreed to in writing;
 - .2 Expenditures for material used in or required in connection with the construction of the applicable work including material tests and mix designs required by the laws or ordinances of any authority having jurisdiction and not included under Subparagraph .9 (or paid from a cash allowance in Section 01 21 01);
 - .3 Expenditures for preparation, inspection, delivery, installation and removal of materials, plant, tools, and supplies;
 - .4 Temporary facilities as required for the applicable work;
 - .5 Travelling expenses properly incurred by the Contractor in connection with the inspection and supervision of the applicable work in connection with the inspection of materials prepared or in course of preparation for the applicable work and in expediting their delivery;
 - .6 Rentals of all equipment whether rented from the Contractor or others, in accordance with approved rental agreements including any approved applicable insurance premiums thereon and expenditures for transportation to and from the site of such equipment, costs of loading and unloading, cost of installation, dismantling and removal thereof and repairs of replacements during its use on the applicable work, exclusive of any repairs which may be necessary because of defects in the equipment when brought to the work or appearing within thirty (30) days thereafter;
 - .7 The cost of all expendable materials, supplies, light, power, heat, water and

- tools (other than tools customarily provided by tradesmen) less the salvage value thereof at the completion of the applicable work;
 - .8 Assessments under the Workers' Compensation Act, the Unemployment Insurance Act, Canada Pension Act, statutes providing for government hospitalization, vacations with pay or any similar statutes; or payments on account of usual vacations made by the Contractor to his employees engaged on the applicable work at the site, to the extent to which such assessments or payments for vacations with pay relate to the work covered by the specified price; and all sales taxes or other taxes where applicable;
 - .9 The amounts of all Subcontracts related to the specified price;
 - .10 Premiums on all insurance policies called for under this Contract;
 - .11 Royalties for the use of any patented invention on the applicable work;
 - .12 Fees for licences and permits in connection with the applicable work;
 - .13 Duties/taxes imposed on applicable work.
 - .14 Such other expenditures in connection with the applicable work as may be approved;
 - .15 Provided always that except with the consent of the Owner, the above items of cost shall be at rates comparable with those prevailing in the locality of the work.
- .2 The above noted list together with the list provided in paragraph 6.3.7 of the Agreement (CCDC 2-2020) shall be used to determine the itemized accounting for any quotation or a Change Directive.

1.3 Unit Prices

- .1 Unit prices included in the Agreement, and which were submitted as a part of the bid, shall be based on units of measurement described in the bidding documents to include for labour, materials, preparation of shop drawings, design fees, delivery, handling, disposal of surplus material, applicable taxes, excluding Value Added Tax, and any other direct or indirect expenditures, of such work measured complete in place, and as further described in other Sections of the Specifications.
- .2 Unit prices for specified units of measurements, shall apply to any and all work which can be measured in the said units regardless of the variations in productivity and job conditions, or the time when instructions to carry out that work will be issued.
- .3 Unit prices shall apply only to the net change in quantities for each unit of work in each change to the work, provided that the instructions to change have been given before the start of applicable work and/or ordering of equipment. The Contract Price shall be adjusted by multiplying the unit price figure in the Contractor's Bid Form by the quantity used for measurement for payment. Consultant's determination of quantity used for measurement for payment shall be final.
- .4 After the applicable work has started, the unit prices shall cover the new work without any credit for the work already completed. Work completed and to be removed to accommodate new work shall be paid for as described for Changes in the Work in the General Conditions on a lump sum or by cost and fixed or percentage fee basis. Changes to the quantities of the work executed under Unit Prices, which result in Change to the Contract value, shall not be subject to the allowable overhead and profit mark-ups specified elsewhere for changes.

- .5 Unit Prices for "CREDIT" shall be not less than 80% of Unit Prices for "EXTRA" except for bonding costs which will be same as for an extra.
- .6 Value Added Taxes will be calculated on the net change.
- .7 The unit prices required are:
 - .1 **Unit Price No. 1:**
 - .1 ***Bonding Costs***
 - .2 The unit rate for bonding costs applicable to an extra or credit to the Contract Amount based on the approved cost of the *Work*.
 - .2 **Unit Price No. 2:**
 - .1 ***[Describe unit price work]***
 - .2 Contract includes XXXXX quantity of above unit price work. The Consultant shall determine the location and actual quantity of work to be completed. Should the quantity of work be increased, the Owner may, at his sole discretion and with the consent of the Contractor, extend the Contract Time for completion of this aspect of the Work only.

1.4 Itemized Prices

- .1 Itemized prices, requested in the Tender Documents, shall be the total amounts included in the Stipulated Price for the specified work, and which are required for accounting purposes.
- .2 The itemized prices required are:
 - .1 **Itemized Price No. 1**
The total amount included in the *Bid Price* for the supply of a Performance Bond and a Labour and Materials Payment Bond in accordance with Instructions to Bidders and the Agreement.
 - .2 **Itemized Price No. 2**
The total amount included in the tender amount for the supply of the
XX
XX
XXX.
 - .3 **Itemized Price No. 3**
The total amount for the supply and installation of the
XX
XX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX.

1.5 Separate Prices

- .1 Separate prices, requested in the Tender Documents, shall not be included in the Stipulated Price. Consistent with their acceptance or rejection by the Owner. They will be carried in the Agreement as an amount separated from the Contract Amount or in a separate agreement.
- .2 The required separate prices are as follows:
 - .1 **Separate Price No. 1**
The total amount for the supply and installation of the

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August 2022

[Edit note: The University discourages the submission of complex data as part of the initial bid submission, preferring that only the most basic and critical data be submitted: stipulated bid price and contract time (completion schedule) unless the other data is also critical or limited in scope/complexity. As a result, we discourage requests that initial bids include complex alternative prices, unit prices, or itemised prices, lengthy lists of subtrade names and similar information which can be based on data received from trades only moments before bid close. Where this type of information is necessary, consider requesting it be submitted shortly (within 1 to 2 hours) after the initial bid close. This allows bidders time to properly prepare and verify the data. Material that can be prepared well in advance, such as WSIB, Retail Sales Tax compliance, etc., can be reasonably requested in the initial bid submission. Amend the text below accordingly.]

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 00 21 03 - Instruction to Bidders: Product or System Options.
- .2 Section 00 43 05 – Supplementary Bid Form
- .3 Section 01 24 03 - Prices

1.2 General

- .1 Alternate prices requested in the bidding documents, and expressed as a “Credit” or as an “Extra” or a No Cost to the Stipulated Price, shall be used in calculation of the final Contract Amount consistent with their acceptance or rejection by the Owner . The prices shall be calculated in accordance with Section 01 24 03 - Prices. Each alternate price must include all applicable taxes except for the Valued Added Taxes.

1.3 Alternatives

- .1 The prices for alternatives required are:
 - .1 **Alternative Price No. 1:**
 - .1 The cost associated with an alternative completion date in lieu of the completion date of **month, day, year** as specified in Section 01 14 03 and the Bid Form and Contract Agreement.
 - .1 **Alternative Price No. 2:**
 - .1 *The cost associated with the substitution of XXXXXXXXXXXXXXXXXXXX as specified in Section XXXXXXXXXXX X and shown on Drawings XXXXXX in lieu of XXXXXXXXXXXXXXXXXXXX as specified in Section XXXXXX and shown on Drawings XXXX.*

1.4 Project Record Documents

- .1 Contractor’s as-built drawings shall show the quantity/extent of work executed under Alternatives.

PART 2 - PRODUCTS

- .1 Refer to other Sections for requirements related to each material.

PART 3 - EXECUTION

- .1 Refer to other Sections for requirements related to each material.

*****END*****

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 00 73 01 Supplementary Conditions
- .2 Section 01 11 01 General Requirements
- .3 Section 01 24 03 Prices
- .4 Section 01 29 03 Sample Invoice Format

1.2 General

- .1 All submissions under this section shall bear the project name, Owner's name and Project No., Consultant Project No., and date.
- .2 Where a Certificate of Clearance from the Workplace Safety and Insurance Board (WSIB) is requested, the Certificate submitted shall clearly show that the Contractor is in good standing with the WSIB.
- .3 WSIB “independent operator” status for any Contractor is not acceptable.
- .4 Contractor is solely responsible for ensuring that each of the Contractor’s personnel, including but not limited to employees, directors, officers, principals and executives of the Contractor, are covered by WSIB insurance.
- .5 Contractor warrants and certifies to the Owner that each of the Contractor’s personnel, including but not limited to employees, directors, officers, principals and executives of the Contractor, are covered by WSIB insurance.
- .6 Contractor shall defend, indemnify and hold harmless the Owner against any and all claims made due to failure to pay WSIB premiums or provide WSIB coverage for any person engaged by the Contractor, directly or indirectly, for Work of this Contract.
- .7 Obtain a valid WSIB Certificate of Clearance from each Subcontractor or Supplier prior to releasing payment to the Subcontractor or Supplier. Indemnify and hold harmless the Owner against any failure of the Contractor to obtain valid Subcontractor’s or Supplier’s WSIB Certificate of Clearance prior to releasing payment to respective Subcontractor or Supplier.
- .8 Payments due to the Contractor shall be made in accordance with the Construction Act and will be made electronically to the Contractor based on the electronic funds transfer (EFT) information provided by the Contractor.
- .9 The Contractor shall maintain Record Drawings which shall consist of the Drawings and Specifications revised by the Contractor during the Work, showing changes to the Drawings and Specifications. The Contractor shall ensure the Record Drawings are continuously updated and in any event at least once per month. Record Drawings are not to be provided with invoice submissions but shall be made available for inspection and review. The Consultant reserves the right to withhold a reasonable amount for the value of the Record Drawings not presented for review.

1.3 Proper Invoice

- .1 A Proper Invoice must be submitted electronically via the University’s

KAHUA construction project management software platform and include the following information:

- .1 Firm – name, address, contact information
 - .2 HST Registration Number
 - .3 Project information – name, address
 - .4 University's project number
 - .5 Invoice Number
 - .6 Period covered
 - .7 Original contract value
 - .8 Approved Changes
 - .9 Totals
 - .10 Current \$ Value of Work
 - .11 Holdback Amounts
 - .12 Previously paid amounts
 - .13 Invoice Total
 - .14 Applicable Taxes
 - .15 Total Payment
- .2 Additionally, a Proper Invoice must include the following attachments:
- .1 Contract Breakdown
 - .2 Summary of Change Orders and Change Directives
 - .3 Subcontractors' invoices
 - .4 Statutory Declaration
 - .5 WSIB Certificate of Clearance
 - .6 Up-to-date construction schedule
 - .7 Up-to-date cash flow forecast

1.4 Invoicing Periods

- .1 For Contracts with a Contract Price of \$15,000 or less, submit **via KAHUA** one Proper Invoice within 45 days of completion of the Work. Progress invoices prohibited without prior consent.

[Edit Note: Strike-out the paragraph that does not apply]

- .2 For all other Contracts, submit **via KAHUA** monthly Proper Invoices. Proper Invoices shall be dated last Working Day of each payment period, which is the last Working Day of the month. Submit **via KAHUA** final Proper Invoice within 45 days of completion of Contract as defined in applicable lien legislation. Failure to submit Proper Invoices within schedule voids Owner's obligations to pay invoices.

1.5 Schedule of Values

- .1 Refer to CCDC 2 - 2020, GC 5.2.
- .2 Costs of temporary facilities and utilities shall be amortized over the duration of the Work. Claims for 'mobilization', 'bidding costs' or similar lump sums at or before start of work not acceptable.
- .3 Include as separate line items in the Schedule of Values, the following:
- .1 Submittals
 - .2 Final Cleaning – by a professional cleaning service
 - .3 Commissioning, valued at 1% of the overall Contract value. The Commissioning Authority (CxA) will review the construction draws from a commissioning perspective and provide recommendations to the prime

Consultant and the Owner. The chart below will be utilized by the CxA to evaluate the construction draws.

Carry 1% of overall contract value for cx'ing paperwork only. Validation of the cx'ing process is tied to progress draws and in particular Schedule of Values using the following chart. For example, fans cannot invoice more than 75%, if the pre-functional verifications are not complete, or more than 95% if the equipment start-up checklists & execution and functional performance testing is not complete.

Schedule of Values % Complete						
	10%	25%	75%	95%	97%	99%
Cx'ing Tasks to be Completed by these Milestone Percentages	* Cx'ing Kick Off Meeting Held	* Shop Drawing Submittal Review Process Complete	* Pre-functional Verifications Complete	* Equipment Start-up Checklists & Execution Complete	* As-built Drawings and O&M Manuals Submitted	* All Items on the Cx'ing Issues Log have been Addressed
	* Contractors Name Their Cx Agent (Designated Representative)	* Project Schedule has Incorporated Cx'ing Tasks		* Functional Performance Testing Complete	* Owner Training Complete	

.4 Project Close-out documentation

.5 Value Added Tax

.6 An amount of the Contract Price allocated for the achievement of Ready-for-Takeover, including the delivery of all closeout documents and materials referenced in Section 01 77 01 of the Specifications and paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER, by the date set out in Article A-1 as security for the performance of those obligations. Such amount shall be equal to at least 1% of the Contract Price, but in no event less than \$15,000.

1.6 Proper Invoices and Applications for Certificates

.1 In addition to other requirements of the Contract, the following information applies Proper Invoices and applications for certificates under the Construction Act.

.2 Proper Invoices

.1 Proper Invoices shall indicate the value complete of each item in the Schedule of Values, percentage complete to date of application, value previously certified for payment by the Consultant, and value of Work remaining. Refer to Section 01 29 03 for sample Proper Invoice format. All values shall be exclusive of Value Added Tax (GST or HST), except that Value Added Tax shall be applied to the total amount claimed, and the value of Value Added Tax indicated on the Proper Invoice.

.2 Include a summary of changes with Proper Invoice, showing values complete.

.3 No payment will be made for Products ordered or manufactured, but not yet delivered to the Place of the Work.

.4 Include evidence to support claims for Products delivered to the Place of the Work, but not yet incorporated into the Work, as the Consultant may require to establish the value and delivery of the Products.

.5 Products delivered to the Place of the Work are the property of the Owner and shall not be removed without the Owner's consent, except where rejected as defective Products or removed as legitimate debris. Any Products delivered to the Place of the Work but not yet incorporated into the Work shall remain at the risk of the Contractor notwithstanding that title has passed to the Owner.

.6 In addition to other requirements, Proper Invoices shall indicate the cost of the following items as separate items:

.1 bonds

.2 insurances

- .3 temporary facilities and controls
 - .4 contract closeout, record and as-built drawings, maintenance and operating manuals.
 - .5 Value Added Tax
 - .7 Proper Invoices claiming monies against cash allowances shall be accompanied by true copies of all invoices and statements from Suppliers or Subcontractors furnishing products, etc., purchased under cash allowances.
 - .8 A WSIB Certificate of Clearance, valid for the date on which payment of the Proper Invoice is likely to be made, shall accompany all Proper Invoices.
 - .9 All Proper Invoices shall include update construction schedule as required by General Condition 3.4 of Section 00 73 01.
 - .10 All Proper Invoices after the first shall include CCDC Statutory Declaration 9A-2018, duly executed, with a copyright seal. CCDC Statutory Declaration 9A is acceptable only where it bears an original CCDC Statutory Declaration 9A-2018 copyright seal.
 - .11 Provide an updated cash flow forecast with each Proper Invoice as required by General Condition 14.9 of Section 00 73 01.
- .3 Applications for Certificate of Substantial Performance
- .1 Applications for a certificate of Substantial Performance of the Work, release of holdback, and statement of completion shall be completed in accordance with OAA/OGCA Document 100 Takeover Procedures (latest edition). In Document 100, substitute "Consultant" for "Architect", and "review" for inspection where it appears in relation to the Consultant's assessment of the Work.
 - .2 The Contractor shall make a formal application to the Consultant or the Payment Certifier for the certificate.
 - .3 The application shall also include:
 - statements that the Contract is substantially performed;
 - a statement that all required submissions have been made;
 - statements of completion with a cost value for deficiencies, outstanding documentation, work that can not be performed and which is beyond the Contractor's control, and any work which is to be completed at a later date as agreed to by the Owner; and
 - a separate invoice showing the amount of holdback to be released.
 - .4 If the Consultant finds the application to be complete, the Consultant will visit the Place of the Work to verify the validity of the application.
 - .5 If the application is approved by the Consultant, the Consultant will issue a certificate of Substantial Performance of the Work to the Owner and to the Contractor.

1.7 Release of Holdback

- .1 Holdback monies will be released in accordance with applicable legislation.
- .2 After the issuance of the certificate of Substantial Performance of the Work, the Contractor shall submit **via KAHUA** an application for payment of holdback, which shall include:
 - .1 the holdback amount
 - .2 A CCDC 9A 'Statutory Declaration' to state that all accounts for labour, subcontracts, Products, Construction Equipment, and other indebtedness which may have been incurred by the Contractor in the Substantial Performance of the Work and for which the Owner might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute.

- .3 A declaration that no written notices of lien have been received by it.
- .4 A Workplace Safety & Insurance Board Clearance Certificate.

.3 Once the lien period has expired and the holdback monies are no longer held in trust, the Owner may withhold sufficient funds to protect itself from loss on account of any of the following:

- .1 Defective work not remedied.
- .2 Delay in performance of the work.
- .3 Delay in submission of documentation.
- .4 Claims filed or reasonable evidence indicating probable filing of claims.
- .5 Overpayment for completed work.
- .6 Damaged work caused by Contractor, Subcontractors or Suppliers.

.4 When all conditions for which money has been withheld have been remedied, and an application for payment of holdback received by the Contractor the Consultant will immediately issue (a) certificate(s) for the amount(s) withheld.

.5 A certificate for payment of holdback will only be made upon receipt by the Consultant of proof of publication which includes the certificate of Substantial Performance of the Work from the publishing newspaper/entity.

.6 Where the Contractor does not publish the certificate of Substantial Performance of the Work within 10 calendar days of the Consultant's issuance of the certificate, the Owner may, at the Owner's sole discretion, publish the certificate of Substantial Performance of the Work, deducting the cost of the publication from the Contract Price. Cost of publication will include the advertising fees, plus Owner's and Consultant's labour costs charged at regular hourly rates for time involved in arranging publication. Where there are no regular hourly rates, costs shall be charged at hourly salary or wages multiplied by 3.

[Edit Note: Strike-out the following paragraph if it does not apply]

.7 For projects with a final Contract Price of \$300,000 or less the conditions in sentences .5 and .6 above are waived where the Contractor elects to waive application for Substantial Performance of the Work and proceed directly to Completion of Contract as defined in the *Construction Act* and must include a Declaration of Last Supply, Form 7 of the Construction Act.

[A Certificate of Substantial Performance shall be published for all Contracts with a final Contract Price of more than \$300,000.]

[Edit Note: If progressive release is expected, use the following clauses and delete Section 1.13 - Application for Certification of Completion of a Subcontract and Early Release of Holdback (below), otherwise delete Sentences 8 & 9]

.8 For release of holdback on subcontract work which is 100% complete, prior to final payment, the Contractor shall make application by written request for a review to determine the date of completion of the subcontract and shall submit such supporting material as the Consultant may in his discretion require, and may include statutory declarations from such persons and dealing with such matters as the Consultant requires. Such material shall in any event include:

- .1 Description of the scope of work included in the subcontract.

.2 Declaration of Last Supply by the Subcontractor as prescribed in subsection 31(5) of the Act (Form 7).

.3 Certificate of Completion of Subcontract as prescribed in subsection 33(1) of the Act (Form 10).

.4 Workplace Safety & Insurance Board clearance certificate for the Contractor, the Subcontractor concerned, and any other subcontractors and suppliers who have provided any services to the Subcontractor.

.5 Statutory declaration by an officer of the Subcontractor in the form CCDC Document 9B - 2018.

.6 Contractor's written acknowledgement to the Owner that the requirements of the Contract Documents will not be altered by early release of the holdback of the completed subcontracts.

.7 Confirmation by the bonding company that it has been notified of the intent to claim early release of holdback and does not object.

.9 The Consultant, in his sole discretion, may refuse to certify completion of the work of any or all Subcontractors or Suppliers, without offering reason. The Contractor shall obtain the Consultant's permission before submitting any claim for such certification. The Contractor shall indemnify, hold harmless and defend the Consultant and the Owner against any and all claims arising from such certification or lack of such certification.

1.8 Final Payment

.1 When all deficiencies have been corrected and the work completed, the Contractor will request that the Consultant visit the Place of the Work for a further review.

.2 Upon being satisfied that all deficiencies have been corrected and that all other conditions listed under 1.6 above have been satisfied, all to the satisfaction of the Owner, the Consultant will so inform both the Contractor and the Owner.

.3 Upon receipt of the Contractor's application for final payment which shall be provided in accordance with GC 5.5 – FINAL PAYMENT, paragraph 5.5.1 of Section 00 73 01 of the *Specifications*, the Consultant will review such application and issue a certificate for final payment in accordance with CCDC 2 – 2020, GC 5.5 – FINAL PAYMENT. In addition to the requirements for *Proper Invoices* in 1.6 of this Section 01 29 01, the application for final payment shall include a declaration that no written notice of lien have been received by the Contractor.

.4 If a subsequent site review(s) is (are) required to verify 100% completion of deficiencies, the Contractor will be expected to compensate the Owner, by way of a Change Order to the Contract, for the time and travel expenses incurred by the Consultant for any subsequent review(s). The rates for time and travel are outlined in an agreement between the Consultant and the Owner.

.5 If the deficiencies are not completed within a reasonable period of time, as agreed to by all parties, the Owner make invoke the requirements of CCDC 2-2020, GC 7.1 – OWNERS RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT and Section 00 73 01 of the *Specifications*.

1.9 Field/Site Instructions and Supplemental

.1 Field Instructions, Site Instructions and/or Supplemental Instructions (hereinafter called Supplemental Instructions) are issued only for the purpose of

Instructions

recording any clarifications or interpretation of the Contract Documents or giving direction on field conditions. These instructions are subject to the provisions of the Contract Documents and unless stated herein and specifically co-authorized by the Owner, will not affect the Contract Price or Contract Time.

.2 If in the opinion of the Contractor a Supplemental Instruction involves an increase in the Contract Price or Contract Time, the Contractor shall within 7 Working Days of receipt of the Supplemental Instruction advise the Consultant in writing accordingly, complete with an itemized proposal. Failure to provide written notification within time stipulated shall be deemed acceptance of Supplemental Instruction by the Contractor without any increase to the Contract Price or Contract Time.

.3 Where the Contractor requests a change in Contract Time or Contract Price due to the provisions of Supplemental Instruction, the Contractor shall not proceed with any work of the Supplemental Instructions until directed. If the Owner accepts the proposal, the Supplemental Instructions will be issued as a Change Order.

.4 Where, in the reasonable opinion of the Consultant or the Owner, the Supplemental Instruction involves a decrease in the Contract Price or Contract Time, the Consultant or the Owner through the Consultant shall advise the Contractor of such opinion, including the details of the proposed adjustment, in writing prior to the final payment being made. The Contractor shall provide satisfactory evidence that an adjustment is not warranted, failing which the Owner shall proceed to deduct the applicable amount from final payment or adjust the Contract Time, as the case may be. Where, in the opinion of the Consultant or the Owner the Supplemental Instruction warrants a decrease in Contract Time or Contract Price, the Consultant or the Owner through the Consultant shall so advise the Contractor prior to release of final payment.

1.10 Valuation of
Changes in the Work

.1 Further to CCDC 2 – 2020, Part 6, the method to be used in determining the value of a change to the Work, by either Change Order or Change Directive, shall be:

- .1 estimate and acceptance in a lump sum, unless the Consultant otherwise determines that the method shall be one of:
- .2 unit prices set out in the Contract.
- .3 cost and a fee.

.2 Where methods .1 or .2 (from 1.10.1 above) are used the Contractor shall provide the Consultant with a detailed cost analysis of the contemplated change indicating:

- .1 quantity of each material.
- .2 unit cost of each material.
- .3 time involved.
- .4 subtrade quotations including a complete analysis of costs.
- .5 cost of **approved** changes to bonding requirements.
- .6 markups, if applicable.
- .7 value of Value Added Tax as applicable.
- .8 proposed change in Contract Time.

.3 Where method .3 (from 1.10.1 above) is used, propose a fee and a method for determining cost, and any proposed change in Contract Time.

.4 Unit rates for bonding shall be based on the cost of the Work without the addition of Value Added Tax.

.5 The cost of performing the Work attributable to a change carried by way of Change Directive or Change Order shall be limited to the actual cost of the following in as much as it contributes directly to the implementation of the change:

.1 Rates that are listed in the Contract Documents or as agreed by the Owner and the Contractor including wages, benefits, compensation, contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada Pension Plan for:

(a) Trade labour in the direct employ of the Contractor.

.2 Cost of all Products including cost of transportation thereof.

.3 In the absence of agreed rates, cost less salvage value of Construction Equipment, Temporary Work and tools, exclusive of hand tools under \$1,000 owned by the Contractor.

.4 Rental cost of Construction Equipment, Temporary Work and tools, exclusive of hand tools under \$1,000.

.5 Subcontract amounts of Subcontractor with pricing mechanism approved by the Owner.

.6 Deposits lost provided that they are not caused by negligent acts or omissions of the Contractor.

.7 Cost of quality assurance such as independent inspection and testing services.

.8 Royalties, patent license fees, and damages for infringement of patents and cost of defending suits therefor subject always to the Contractor's obligation to indemnify the Owner as provided in paragraph 10.3.1 of GC 10.3 – PATENT FEES.

.9 Losses and expenses sustained by the Contractor for matters which are the subject of insurance under the policies prescribed in GC 11.1 – INSURANCE when such losses and expenses are not recoverable because the amounts are in excess of collectible amounts or within the deductible amounts.

.10 Taxes, duties, other than Value Added Taxes, income, capital, or property taxes, relating to the Work for which the Contractor is liable.

.11 Legal costs, incurred by the Contractor, in relation to the performance of the Work provided that they are not:

(a) relating to a dispute between the Owner and the Contractor unless such costs are part of a settlement or awarded by arbitration or court,

(b) the result of the negligent acts or omissions of the Contractor,

(c) the result of a breach of this Contract by the Contractor.

.12 Cost of auditing when requested by the Owner; and

.13 Cost of Project-specific information technology in accordance with the method determined by the parties.

.6 For clarity, the following shall not be included in the cost of the Work but are covered by the allowance (mark-ups) for overhead and profit:

.1 The Contractor's head office and site office expenses, including stationary, postage and other office supplies.

.2 The costs of any and all of the Contractor's project manager, clerical and administrative personnel including but not limited to any estimator and

assistants, and executive personnel.

.3 Use of temporary offices, sheds, small tools, etc., including the cost of telephone, light, power, water and heat used therein.

.4 Any parking and transportation and overnight room expenses for out of town labour, if local labour is not available.

.5 Insurance premiums.

.6 Licenses and permits, except when these are special for a particular item of work.

.7 Printing charges for proposed changes, Change Orders and Drawings for Contractor's and Subcontractors' use in the Work. Consultant will provide one copy of change notice documentation and in the event of re-issue of full size drawings will provide one sepia and one print.

.8 The cost of record drawings and shop drawings.

.9 The cost of clean up and disposal of waste material.

.7 The Contractor shall not be entitled to any additional compensation arising out of changes to the Work other than the amounts determined and agreed to under CCDC 2 - 2020 GC 6.2.

.8 The maximum percentage fee for markups shall be as stated below.

.9 In computing accounts for extras and credits for any proposed change, all credits shall be deducted from the total sum of the extras before markups or charges for overhead and profit are added.

1.11 Permitted Mark-ups

.1 The following maximum net overhead and profit mark-ups by Contractors will be permitted for extra work under Change Order or Change Directive:

Cost of Extra Work, not including Value Added Tax	Contractor's Mark-Up on Work of Own Forces (%)	Contractor's Mark-Up on Subcontracted Work (%)
\$0 to \$5,000	10	7
>\$5,000 to \$10,000	10	7
>\$10,000 to \$50,000	7	5
>\$50,000	5	4

.2 The following maximum net overhead and profit mark-ups by Subcontractors will be permitted for extra work:

Cost of Extra Work, not including Value Added Tax	Subcontractor's Mark-Up on Work of Own Forces (%)	Subcontractor's Mark-Up on Sub-subcontracted Work (%)
\$0 to \$5,000	10	7
>\$5,000 to \$10,000	10	7
>\$10,000 to \$50,000	7	5
>\$50,000	5	4

.3 The permitted overhead and profit mark-ups are not cumulative or escalating. They are a one-time mark-up based on the total cost.

.4 The maximum permitted overhead and profit mark-up on materials shall be 10%.

.5 Where a proposed change order includes both credits and extras, overhead and profit mark-ups apply to the net extra or credits, if any, of the entire change.

1.12 Tax Recovery

.1 When an exemption or recovery of government sales taxes, duties or excise taxes is applicable to the Contract, the Contractor shall at the request of the Owner assist, join in, or make application for an exemption, recovery or refund of all such taxes and duties. All amounts recovered or exemptions obtained shall be for the sole benefit of the Owner. The Contractor agrees to endorse over to the Owner any cheques received from the federal or provincial governments as may be required to implement the foregoing failing which the Owner is authorized to deduct the amount from any Contract payment that is then or may thereafter become due to the Contractor.

.2 Maintain accurate records, tabulating equipment and component costs showing all respective taxes and duties or excise taxes. At the request of the Owner, assist, join in, or at Owner's expense, make application on behalf of the Owner for any exemption, recovery or refund, and provide the Owner with copies, or where required originals of records, invoices, purchase orders or other documentation as may be necessary to support such application.

1.13 Application for
Certification of Completion
of a Subcontract and Early
Release of Holdback

.1 Certification of completion of a subcontract will **not** be made.

[Edit Note: This paragraph is typical. If it does not apply, i.e. – certification of a sub-contract is expected, Article 1.12 needs to be deleted and SC 25 in Section 00 73 01 deleted as well.]

*****END*****

1.0 Sample Invoice Format

- .1 Refer to Section 01 29 01 for invoicing requirements for Proper Invoices.
- .2 The following examples illustrate *sample formats* to follow when submitting Proper Invoices. Provide actual project name and numbers, and name of Owner's representative on completed invoices. Variations from this format are acceptable where all of the information indicated below is provided.
- .3 Proper Invoices shall be submitted electronically via the University's KAHUA construction project management software platform.

Proper Invoice – Sample

Physical Resources
CERTIFICATE OF PAYMENT

Certificate of Payment No. 0006

Date: 6/1/2022

Contractor: Kahua

Address:

10000 Avalon Boulevard

Alpharetta, Georgia 30009

Project Title: Configuration Review

University of Guelph Project Number: 3824B

This certificate consists of Page **1**
of **2**

This is to certify that the values of the Work performed, and Products delivered to the Place of the Work as of 6/1/2022 the contractor is \$101,700.00 (inclusive of Value Added Taxes)

Contract Summary

1	Original Contract Price (including HST)	\$1,130,000.00
2	Change Orders	\$0.00
3	Value of <i>Contract Price</i> on last day of payment period (1+2) (including Value Added Taxes)	\$1,130,000.00

Certification Summary

7	Total Certified	\$113,000.00
	Value of Change Orders included above (7)	\$0.00
8	Current Holdback	\$11,300.00
9	Amount (value of <i>Work</i> performed and <i>Products</i> delivered to the <i>Place of the Work</i> less holdback retained (7-10)	\$101,700.00
10	Less amount from previous certificate for payment	\$0.00
11	Amount of <i>Contract Price</i> payable current period (including Value Added Taxes)	\$101,700.00

Recommended:

Consultant

Date: _____

Approved:

University of Guelph, Physical Resources, Construction Co-Ordinator

Date: _____

Approved:

 University of Guelph, Physical Resources, Project Manager

Date: _____

Approved:

 University of Guelph, Physical Resources, DEC Manager

Date: _____

Approvals required for lien holdback release(s) and for final Certificate

Approved:

 University of Guelph, Physical Resources, Director
 Design, Engineering and Construction

Date: _____

Proper Invoice Summary - Sample

Contractor Name										
Project Name										
Application Number										
Period: From:		To:								
CONTRACT										
Cat #	Category Name	Contract Value	Value to Date		Previously Billed		This Billing		Balance to Complete	
		\$\$	%	\$\$	%	\$\$	%	\$\$	\$\$	\$\$
1	Excavation & Backfill	\$ 100,000.00	10%	\$ 10,000.00	5%	\$ 5,000.00	5%	\$ 5,000.00	\$ 90,000.00	\$ 90,000.00
2	Sanitary Sewers	\$ 75,000.00	10%	\$ 7,500.00	5%	\$ 3,750.00	5%	\$ 3,750.00	\$ 67,500.00	\$ 67,500.00
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
	Subtotal	\$ 175,000.00		\$ 17,500.00		\$ 8,750.00		\$ 8,750.00		\$ 157,500.00
ADDITIONS TO CONTRACT										
Cat #	Category Name	Contract Value	Value To Date		Previously Billed		This Billing		Balance to Complete	
		\$\$	%	\$\$	%	\$\$	%	\$\$	\$\$	\$\$
101	C.O. 1 -	\$ 10,000.00	100%	\$ 10,000.00	5%	\$ 500.00	95%	\$ 9,500.00	\$ -	\$ -
102	C.O. 2 - Dewatering	\$ 5,000.00	50%	\$ 2,500.00	25%	\$ 1,250.00	25%	\$ 1,250.00	\$ 2,500.00	\$ 2,500.00
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
	Subtotal	\$ 15,000.00		\$ 12,500.00		\$ 1,750.00		\$ 10,750.00		\$ 2,500.00
TOTALS		\$ 190,000.00		\$ 30,000.00		\$ 10,500.00		\$ 19,500.00		\$ 160,000.00

Attachments

- summary of Change Orders and Change Directives
- WSIB Certificate of Clearance
- Stat Dec 9A-2018
- substantiation for cash allowance expenditures, etc.
- evidence to support claims for Products delivered to the Place of the Work, but not yet incorporated into the Work
- updated construction schedule as required by General Condition 3.4 of Section 00 73 01
- updated cash flow forecast as required by General Condition 14.9 of Section 00 73 01

1.0 Sample Invoice Format

- .1 Refer to Section 01 29 01 for invoicing requirements for Proper Invoices.
- .2 The following examples illustrate *sample formats* to follow when submitting Proper Invoices. Provide actual project name and numbers, and name of Owner's representative on completed invoices. Variations from this format are acceptable where all of the information indicated below is provided.
- .3 Proper Invoices shall be submitted on the Contractor's corporate letterhead or otherwise bear the Contractor's name, address, telephone number, and HST registration number. Proper Invoices shall be signed.

Proper Invoice – SampleContractor LogoContractor Name
Firm's Address

HST Registration Number:

Attention: Project Co-ordinator (Name)Design, Engineering and Construction
Physical Resources, Hersey Building
University of Guelph
Guelph, Ontario
N1G 2W1**Project: Project Name**University of Guelph, Guelph
Consultant File No.:
Physical Resources Project No.:

Facsimile (519) 837-0581

Proper Invoice No. XX**Period: From May 01, 2020 to May 31, 2020**

Contract Summary			
1	Original Contract Price (excluding HST)	\$10,000.00	
2	Change Orders (numbers 1 to 1)	\$ 1,000.00	
3	Current value of Change Directives	\$ -	
4	Value of <i>Contract Price</i> on last day of payment period (1+2+3)	\$11,000.00	
5	<i>Value Added Taxes</i> at 13%	\$ 1,430.00	
6	Total amount payable for the construction of the <i>Work</i> including <i>Value Added Taxes</i> (4+5)		\$12,430.00
Current Invoice Summary			
7	Current Total	\$5,000.00	
	Value of Change Orders included above (7)	\$500.00	
	Value of Change Directives included above (7)	\$0.00	
8	Total Holdback @ 10%	\$500.00	
9	Holdback Released	\$0.00	
10	Current Holdback (8-9)	\$500.00	
11	Amount (value of <i>Work</i> performed and <i>Products</i> delivered to the <i>Place of the Work</i> less holdback retained) (7-10)	\$4,500.00	
12	Less amount from previous invoice (include any holdback release)	\$0.00	
13	Amount of <i>Contract Price</i> payable current period (11-12)	\$4,500.00	
14	Value Added Taxes at 13%	\$585.00	
15	Amount payable this Invoice including <i>Value Added Taxes</i> (13+14)		\$5,085.00

Printed Name:

Signature:

Credentials:

Date Signed:

Proper Invoice Summary - Sample

Contractor Name										
Project Name										
Application Number										
Period: From:		To:								
CONTRACT										
Cat #	Category Name	Contract Value	Value to Date		Previously Billed		This Billing			Balance to Complete
		\$\$	%	\$\$	%	\$\$	%	\$\$		\$\$
1	Excavation & Backfill	\$ 100,000.00	10%	\$ 10,000.00	5%	\$ 5,000.00	5%	\$ 5,000.00		\$ 90,000.00
2	Sanitary Sewers	\$ 75,000.00	10%	\$ 7,500.00	5%	\$ 3,750.00	5%	\$ 3,750.00		\$ 67,500.00
↓	↓	↓	↓	↓	↓	↓	↓	↓		↓
	Subtotal	\$ 175,000.00		\$ 17,500.00		\$ 8,750.00		\$ 8,750.00		\$ 157,500.00
ADDITIONS TO CONTRACT										
Cat #	Category Name	Contract Value	Value To Date		Previously Billed		This Billing			Balance to Complete
		\$\$	%	\$\$	%	\$\$	%	\$\$		\$\$
101	C.O. 1 -	\$ 10,000.00	100%	\$ 10,000.00	5%	\$ 500.00	95%	\$ 9,500.00		\$ -
102	C.O. 2 - Dewatering	\$ 5,000.00	50%	\$ 2,500.00	25%	\$ 1,250.00	25%	\$ 1,250.00		\$ 2,500.00
↓	↓	↓	↓	↓	↓	↓	↓	↓		↓
	Subtotal	\$ 15,000.00		\$ 12,500.00		\$ 1,750.00		\$ 10,750.00		\$ 2,500.00
TOTALS		\$ 190,000.00		\$ 30,000.00		\$ 10,500.00		\$ 19,500.00		\$ 160,000.00

Attachments

- summary of Change Orders and Change Directives
- WSIB Certificate of Clearance
- Stat Dec 9A-2018
- substantiation for cash allowance expenditures, etc.
- evidence to support claims for Products delivered to the Place of the Work, but not yet incorporated into the Work
- updated construction schedule as required by General Condition 3.4 of Section 00 73 01
- updated cash flow forecast as required by General Condition 14.9 of Section 00 73 01

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 01 11 01 General Requirements.
- .2 Section 00 73 01 Supplementary Conditions.
- .3 Section 01 29 01 Changes payments and Certificates.
- .4 Refer to particular specification sections and drawings for detailed requirements of submissions relayed to particular products and process.
- .5 The requirements of this Section apply to all other Sections of the specifications.

1.2 Administrative

- .1 Submittals except for physical samples and mock-ups to be submitted electronically via the University's KAHUA construction project management software platform.
- .2 Submit list (schedule) of all submittals required, including mock-ups. List each submittal required, projected submission dates, date returned by architect/engineer, remarks, etc.
- .3 Submit to Consultant submittals listed for review. Submit with reasonable promptness and in an orderly sequence so as to not cause delay in the Work.
- .4 Work affected by submittal shall not proceed until review is complete.
- .5 Review submittals prior to submission to Consultant. This review represents the necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of the Work and Contract Documents.
- .6 Verify field measurements and affected adjacent Work are co-ordinated.
- .7 Engineered submittals:
 - .1 Submittals for items required to be sealed by professional engineer (engineered) shall be duly prepared, sealed, and signed under the direct control and supervision of a qualified professional engineer registered in the Place of the Work, having in force, professional liability insurance with minimum limit of liability of \$1,000,000 per claim.
 - .2 Include with engineered submittal, proof of insurance identifying insurer, policy number, policy term, and limit of liability, on duly signed letterhead and/or certificate of insurance.
 - .3 Design includes life safety, sizing of supports, anchors, framing, connections, spans, and as additionally required to meet or exceed requirements of applicable codes, standards, regulations, authorities having jurisdiction, and design requirements of the Contract Documents.
 - .4 Engineered submittals shall include design calculations, complete with references to codes and standards used in such calculations, supporting the proposed design represented by the submittal. Prepare calculations in a clear and comprehensive manner so that they can be properly reviewed.
 - .5 Professional engineer responsible for the preparation of engineered

submittals shall undertake periodic field review, including review of associated mock-ups where applicable, at locations wherever the work as described by the engineered submittal is in progress, during fabrication and installation of such work, and shall submit a field review report after each visit. Field review reports

shall be submitted to the Consultant, to authorities having jurisdiction as required, and in accordance with the building code.

.6 Field reviews shall be at intervals as necessary and appropriate to the progress of the work described by the submittal to allow the engineer to be familiar with the progress and quality of such work and to determine if the work

is proceeding in general conformity with the Contract Documents, including reviewed shop drawings and design calculations.

.7 Upon completion of the parts of the Work covered by the engineered submittal, the professional engineer responsible for the preparation of the engineered submittal and for undertaking the periodic field reviews described above, shall prepare and submit to the Consultant and authorities having jurisdiction, as required, a letter of general conformity for those parts of the Work, certifying that they have been Provided in accordance with the requirements both of the Contract Documents and of the authorities having jurisdiction over the Place of the Work.

.8 Costs for such field reviews and field review reports and letters of general conformity are included in the Contract Price.

1.3 Request for Information or Clarification

.1 Submit all requests for information or clarification relating to products or materials to Consultant before *[insert date]* to avoid delays in product/material delivery.

1.4 Proof of Purchase

.1 Submit proof of purchase for each material/product order.

.2 Acceptable proof of purchase: purchase order, or letter of confirmation from supplier.

.3 Proof of purchase to include a delivery date.

.4 Delay in shop drawing approval WILL NOT excuse delay in purchase orders.

.5 Provide letter of intent or purchase order prior to submission of shop drawings.

.6 Provide production confirmation within five (5) business days of shop drawing return.

1.5 Shop Drawings and Product Data

.1 Refer to also to CCDC 2 – 2020, GC 3.8.

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

.3 Adjustments made on shop drawings by Consultant are not intended to change Contract Price or Contract Time.

.4 Make changes in shop drawings as Consultant may require.

- .5 Submit **via KAHUA** an electronic pdf copy of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.
- .6 Submit **via KAHUA** an electronic pdf copy of product data sheets or brochures for requirements requested in specification Sections and as Consultant may reasonably request where shop drawings will not be prepared due to standardized manufacture of product.
- .7 Shop drawings shall be prepared specifically for projects and shall be fully dimensioned. Use of standard drawings or brochures is acceptable only if accompanied by drawing showing product in assembled form and showing its relation to adjacent work, methods of anchorage, and other relevant information. Catalogue pages alone are not acceptable. All shop drawings must be to scale.
- .8 Shop drawings including catalogue sheets, must identify features to be reviewed. Information, options and sizes not applicable to this project must be stricken out.
- .9 Each shop drawing submittal must include the University's project number at the top of each page and the total number of pages in the submission must also be indicated.
- .10 *Shop Drawings* provided by the *Contractor* to the *Consultant* shall indicate by stamp, date and signature of the person responsible for the review that the *Contractor* has reviewed each one of them.

1.6 Utility Locates

- .1 Submit, as a record, documented locations of all utilities and services at the Place of the Work.

1.7 Samples

- .1 Submit for review, samples in duplicate as requested in respective specification Sections.
- .2 Deliver samples prepaid to Consultant's business address.
- .3 Submit colour chips and finish samples in duplicate.
- .4 Keep all approved samples at the Place of the Work. Maintain in good order and available to the Consultant and his representatives for the duration of the Work.

1.8 Mock-Ups

- .1 Refer to Section 01 45 01 Quality Control.

1.9 Fire Watch Logs

- .1 At the completion of any fire watch, submit a copy of the completed Fire Watch Log to the Owner's representative.

1.10 Project Schedules

- .1 Within 7 days of award of a Contract for the project, submit a construction schedule **electronically via KAHUA**.
- .2 On a monthly basis, as required as a part of a "*proper invoice*", submit an updated construction schedule **electronically via KAHUA**.

1.11 Cash Flow Forecasts

- .1 Within 7 days of award of a Contract for the project, a project cash flow

forecast electronically via KAHUA.

.2 On a monthly basis, as required as a part of a “*proper invoice*”, submit an updated project cash flow forecast electronically via KAHUA.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART 1 - GENERAL

1.1 Related Sections

- .1 Section 01 11 01 General Requirements
- .2 Allowances: Section 01 21 01 Allowances
- .3 Section 01 61 01 Material and Equipment: Material and workmanship quality, reference standards.
- .4 The requirements of this Section apply to all other Sections of the specifications.

1.2 Cash Allowance

- .1 Include the cash allowance indicated in Section 01 21 01 Allowances to pay costs of miscellaneous testing and inspection as directed by the Consultant.

1.3 Inspection and Testing

- .1 Contractor is solely liable for ensuring work conforms to the Documents. Examine all work for conformance with the Documents and have all defective and deficient work corrected before calling for inspections or reviews.
- .2 Be responsible for inspection and testing as required by the Contract Documents, statutes, regulations, by-laws, standards or codes or any other jurisdictional authority. Give the Consultant or inspection agencies as applicable timely notice of the readiness for inspection, date and time for such inspection for attendance by the Consultant.

1.4 Site Review

- .1 In accordance with CCDC 2 - 2020, GC 2.3.
- .2 The Owner and the Consultant shall have access to the Work. If part of the Work is in preparation at locations other than the Place of the Work, access shall be given to such work whenever it is in progress.
- .3 Do not conceal work that is designated for review, inspection or testing without permitting Consultant adequate time for reviews. Adequate time shall be defined, for the purposes of this Section, as 3 full business days advance notice of readiness for review, inspection or testing.
- .4 The Consultant may order any part of the Work to be examined if the Work is suspected to be not in accordance with the Contract Documents. If, upon examination such work is found not in accordance with the Contract Documents, correct such work and pay the cost of examination and correction. If such Work is found in accordance with the Contract Documents, the Owner shall pay the cost of examination and replacement.

1.5 Independent Inspection Agencies

- .1 Independent Inspection/Testing Agencies may be appointed by the Consultant, and either paid for by the Contractor from the cash allowance established for purpose of inspecting and/or testing designated portions of Work, or directly by the Owner, as determined by the Consultant.
- .2 Except as described below, where the Contractor pays for inspection and testing, costs and payments for such testing and inspection shall be from the applicable cash allowances established in Section 01 21 01 Allowances and respective other Sections.

- .3 Particular requirements for inspection and testing to be carried out by the designated testing laboratory are specified in the various sections of the specifications.
- .4 Provide equipment required for executing inspection and testing by appointed agencies.
- .5 Coordinate inspections and testing with inspection and testing company. Uncover for examination any Work covered up prior to inspection or without approval of the Consultant. Make good such Work at no cost to the Owner.
- .6 Employment of inspection/testing agencies shall not relax responsibility to perform Work in accordance with the Contract Documents.
- .7 The following items are not included in cash allowances for testing and inspection and costs for same shall be included in the Contract Price:
 - .1 Inspection and testing required by laws, rules, regulations or orders of public authorities.
 - .2 Inspection and testing performed exclusively for Contractor's convenience.
 - .3 Selected testing, adjustment and balancing of mechanical and electrical equipment and systems.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by Contractor under the direction of the Consultant.
 - .6 Costs of retesting work found to be defective or deficient, after such work has been remedied.
- .8 Products and work may be inspected and tested during manufacture, fabrication, storage, shop testing, installation, construction and testing phases of the Contract, as directed by the Consultant. The Consultant will ascertain the quantity and quality of testing to be performed. Provide access, proper facilities and assistance irrespective of location of inspection and testing.

1.6 Access to Work

- .1 Allow inspection/testing agencies access to the Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.
- .3 Contractor's Responsibilities
 - .1 The Contractor shall:
 - .1 Provide equipment required for executing inspection and testing by appointed agencies. Facilitate inspections and tests.
 - .2 Co-ordinate with, and supply all materials for inspection and testing purposes as requested by the inspection and testing company.
 - .3 Make good work disturbed by inspection and testing.
 - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.

1.7 Procedures

- .1 Notify the appropriate agency and Consultant in advance of the requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested

in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in the Work.

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

1.8 Rejected Work

.1 Refer to CCDC 2 - 2020, GC 2.4.

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

1.9 Reports

.1 Submit inspection and test reports promptly to Consultant and Owner electronically via the University's KAHUA construction project management software platform.

.2 Submit one copy of inspection and test reports promptly to the local Building Department.

.3 Provide copies of inspection and test reports to Subcontractor of work being inspected/tested, and/or manufacturer/ fabricator of material being inspected/ tested.

1.10 Tests and Mix Designs

.1 Furnish test results and mix designs as may be requested.

.2 The cost of tests and mix designs beyond those called for in the Contract Documents or beyond those required by the law of the Place of Work shall be appraised by the Consultant and may be authorized as recoverable.

1.11 Mock-ups

.1 Erect mock-ups as specified in respective specification sections on site for Consultant's review. Include for work of all Sections required to provide mock-ups. Re-execute mock-ups until accepted by the Consultant. Unless otherwise indicated accepted mock-ups may be incorporated into the Work, and shall be the standard to which all subsequent work of the same type shall be performed.

.2 Construct in locations as specified in specific Section. Where location not specified, obtain direction from Consultant.

.3 Prepare mock-up for Consultant review with reasonable promptness and in an orderly sequence, so as not to cause any delay in the Work.

.4 Provide minimum 7 working days notice to Consultant of mock-up readiness for review.

.5 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.6 Where mock-ups are not incorporated into the Work, retain mock-ups on site until all work addressed by the mock-up has been completed and accepted, then remove from site.

1.12 Mill Tests

.1 Submit mill test certificates as may be requested.

1.13 Equipment and Systems

- .1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.
- .2 Refer to respective Sections for definitive requirements.

1.14 Manufacturer's Field Review

- .1 Where manufacturer's field review is specified, manufacturer's representative shall review the relevant parts of the work at the Place of the Work, or wherever such affected work is in progress, to ensure that work is being executed in accordance with manufacturer's written recommendations.
- .2 Manufacturer's field review is to ensure that the Products specified are being used in the Work and are being applied on surfaces prepared in accordance with their recommendations and the requirements of the Contract Documents.
- .3 Unless otherwise indicated, manufacturer's representative shall undertake a minimum of 1 field review, with additional reviews as deemed necessary by the manufacturer, to determine that the work of such sections is in accordance with the manufacturer's written recommendations.
- .4 Manufacturer's representative shall submit a type-written report on manufacturer's letterhead within 2 Working Days after each field review. Report shall document manufacturer's representative's field observations and recommendations.
- .5 Manufacturer's field review reports shall be prepared and distributed following the procedures specified for preparation and submittal of inspection and testing reports given above.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE - GENERAL

- 1.1 Related Sections**
- .1 Section 01 52 01 -Temporary Facilities
 - .2 Section 01 57 01 - 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 Use of existing sanitary facilities in building is acceptable where Contractor maintains same to Owner's existing sanitary standard. Owner reserves right to designate which facilities in buildings are available for Contractor's use.
 - .2 Maintain in clean condition.
 - .3 Owner reserves the right to revoke use of designated existing facilities during construction period at no change in Contract Price. Where directed, provide sanitary facilities in accordance with legislation.
- 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 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.
- .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 Owner 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, assume 110 volts, 15 amps, single phase available. Do not interrupt occupants' use of power when using power for construction purposes.

.2 Temporary power in excess of above is responsibility of Contractor unless otherwise agreed with Owner.

.3 Provide temporary connections to existing supply points, and pay all costs for installation, maintenance and removal. Make connections in accordance with Electrical Safety Code.

.4 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).

.5 Do not use electricity to provide temporary construction heating except with prior permission of Owner.

1.9 Temporary Telephone

.1 Provide and pay for temporary telephone services for own use. Cell phones with voicemail messaging acceptable.

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.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE - GENERAL**1.1 Related Sections**

- .1 Section 01 51 01 - Temporary Utilities.
- .2 Section 01 57 01 - Temporary Controls.
- .3 Section 01 74 01 - 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 is 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 Confine Construction Equipment, Temporary Work, storage of Products, waste products and debris, and operations of employees and Subcontractors to limits indicated by laws, ordinances, permits, or the Contract Documents and shall not unreasonably encumber the Place of the Work.
- .2 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.
- .3 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.
- .4 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.

.5 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.

.6 Determine with the Owner those locations that are suitable for receiving and storage of materials and equipment.

.7 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 Except as noted below, pay costs of parking. Owner's available parking is subject to charge. Obtain schedule of available parking locations, rate schedule and permits from Owner's Parking Services, Trent Lane.

.2 Parking costs will apply to office and/or storage trailers occupying parking spaces.

.3 Parking within construction hoarding is without charge. Owner reserves right to approve extent of hoarding. Owner's requirements take precedence over Contractor's use of site.

.4 Parking in posted fire routes will not be permitted. Vehicles found parked in a posted fire route will be towed without warning at vehicle owners' expense.

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.

.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. Where site offices use existing parking, pay parking fees required. Notwithstanding the above, but subject to applicable legislation, site offices are not required for Work with Contract Price of less than \$300,000.

.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.

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.
- .2 Locating garbage chutes, on-site debris collection and disposal equipment, and services needed to dispose of all debris in posted fire routes will not be permitted. Vehicles and equipment found located in a posted fire route will be towed or moved without warning at vehicle owners' or Contractors' expense.

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.

[Edit note: strike-out the paragraph that does not apply]

- .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, showing University's cornerstone logo; 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 1.13.2. with signs as 1.13.1 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*****

PART ONE - GENERAL

1.1 Related Sections

- .1 Section 01 14 01 Special Project Requirements.
- .2 Section 01 61 01 Material and Equipment.
- .3 Individual Product Sections: cutting and patching incidental to work of the Section. Advance notification to other Sections required.
- .4 The requirements of this Section apply to all other Sections of the specifications.

1.2 General

- .1 Perform the cutting and remedial work required to make the affected parts of the Work come together properly.
- .2 Coordinate the Work to ensure that the cutting and remedial work is kept to a minimum.
- .3 Should the Owner, Consultant, Other Contractors or anyone employed by them be responsible for ill-timed work necessitating cutting or remedial work to be performed, the cost of such cutting or remedial work shall be valued as provided in GC 6.1 – OWNER’S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE of Section 00 73 01.
- .4 Cutting and remedial work shall be performed by specialists familiar with the Products affected and shall be performed in a manner to neither damage nor endanger the Work. The Contractor and the specialist shall review all proposed procedures for cutting and remedial work with the Consultant prior to undertaking the cutting.

1.3 Submittals

- .1 Approvals
 - .1 Submit formal request in advance of cutting or alteration which affects:
 - .1 Structural integrity of any element of Project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of any operational element.
 - .4 Visual qualities of sight-exposed elements.
 - .5 Work of Owner or separate contractor.
- .2 Include in request:
 - .1 Identification of Project.
 - .2 Location and description of affected work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed work, and products to be used.
 - .5 Alternatives to cutting and patching.
 - .6 Effect on work of Owner or separate contractor.
 - .7 Written permission of affected separate contractor.
 - .8 Date and time work will be executed.

1.4 Materials

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section

01 61 01.

1.5 Preparation

.1 Inspection

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.

.2 Provide supports to assure structural integrity of surroundings. Provide devices and methods to protect other portions of project from damage.

Provide protection from elements for areas that may be exposed by uncovering work; maintain excavations free of water.

1.6 Special Procedures:
Concrete Cutting and Coring

.1 Prior to cutting or coring any concrete slab, suspended or on grade, or any concrete beam, investigate by telemetrically scanning the element for presence of embedded services (piping, cabling, conduit, etc.), and for locations of reinforcing steel in suspended concrete slabs and beams.

.2 Acceptable telemetric scanning systems include:

- .1 X-Ray scanning of suspended slabs and for concrete beams.
- .2 (Ground-penetrating) radar for slab on grade, for suspended slabs and for concrete beams.

.3 Magnetic radio scanners not acceptable for telemetric scanning.

.4 The term x-rays includes gamma ray methods, and procedures that use electrically generated x-rays.

.5 Where x-rays employed:

- .1 Provide Owner minimum 5 working days advance notice of scanning time in order to provide sufficient advance notice to occupants to evacuate building to extent required for protection required from radiation.
- .2 Post on all exterior doors of any building in which radiography will occur a completed "Construction X-Ray Advisory" form. Where the radiography occurs on an outdoor site, or affects outdoor areas, or is otherwise not in an occupied building, place a completed "Construction X-Ray Advisory" form on all faces of the hoarding, in the most visible locations, and on the exterior doors of any affected buildings. Where the area that is off-limits to persons extends outside hoarding, place signs on approaches at least 10'/3m outside the point where warning barricades will be erected.
- .3 Sign postings shall occur on or before the day on which the work will occur. Immediately prior to x-ray image exposure verify signs are in place, replace any missing signs. Remove upon completion of x-ray work.
- .4 At least 5 days prior to x-rays being completed, provide to the Owner the name(s) of the supervising radiographer and the personnel who will be posted as watchpersons at the barricades. Provide details of where each watchperson will be located and confirm full coverage to prevent inadvertent exposure of occupants to radiation.
- .5 The radiographer supervising the x-ray work shall have a cell phone on his/her person during the work and it shall remain 'on' at all times during x-ray work. Provide the supervising radiographer's cell phone number to the Owner.

- .6 Provide barriers and watch persons at each barrier during x-ray image exposures. Minimum acceptable barrier is pre-printed plastic tape. Continuous sawhorse barricades, hoarding, fencing (where equipped with signage required by regulations) also acceptable.
 - .7 Post all required safety and warning notices in advance of scanning and remove same immediately upon completion of scanning.
 - .8 On request provide copies of all exposure records or exposure logs to Owner. Provide material within 72 hours of request.
-
- .6 Provide Owner and Consultant with inspection agency's written report, summarizing investigations and conclusions.
 - .7 Obtain Consultant's direction where investigations reveal that cutting or coring required in Contract would cut or damage embedded services, or cut or damage reinforcing steel in suspended concrete slabs or beams.
 - .8 Execute cutting and coring to prevent damage to all embedded services. Make good all damage arising from cutting embedded services.
 - .9 Execute cutting and coring to prevent damage (cutting in whole or in part) reinforcing steel in suspended concrete slabs without Consultant's prior authorization.
 - .10 Make good all damage arising from cutting reinforcing steel in suspended concrete slabs and beams.

1.7 Execution

- .1 Perform cutting, fitting, and patching including excavation and fill, to complete the Work. Perform work to avoid damage to other work.
- .2 Fit the several parts together, to integrate with other work.
- .3 Uncover work to install ill-timed work.
- .4 Remove and replace defective and non-conforming work.
- .5 Remove samples of installed work for testing.
- .6 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical work.
- .7 Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
- .8 Employ original installer to perform cutting and patching for new weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .9 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior acceptance of Consultant.
- .10 Restore work with new products in accordance with requirements of Contract Documents.

.11 Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

.12 At penetration of fire rated wall, ceiling, or floor construction, completely fire stop, seal voids and penetrations as specified elsewhere, full thickness of the construction element.

.13 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 00 73 01 Supplementary Conditions.
- .2 Section 01 11 01 General Requirements.

1.2 Site

- .1 Lines, Levels, and Locations for Building as per Site Plan.
- .2 Lay out Work with reference to building and as shown on Drawings.
- .3 Verify grades, lines, levels and dimensions indicated and report any errors or inconsistencies to Consultant before commencing work. Confirm job dimensions at once to allow prompt checking of Shop and Other Drawings.
- .4 Locate and fix locations of walls, partitions, shafts and all parts of the construction, as work proceeds.

1.3 Building Dimensions

- .1 Prior to undertaking construction, the Contractor shall be responsible for determining from measurements taken at the Place of the Work the exactness of unconfirmed dimensions. If required, the Contractor shall obtain and pay for the services of a licensed Ontario Land Surveyor to ascertain and determine unconfirmed dimensions. Once established, the Contractor shall provide the Consultant with the results. Also, in consultation with the Consultant, the Contractor shall determine if adjacent dimensions are affected. If they are, the Consultant shall adjust same to comply with dimensions obtained at the Place of the Work. Such determinations shall not affect the Contract Price.
- .2 Ensure necessary job dimensions are taken and trades are coordinated for accuracy and completeness of such dimensions and for coordination.
- .3 Verify that Work as it proceeds, is executed in accordance with dimensions and positions indicated which maintain levels and clearances to adjacent Work, as set out by requirements of the Drawings, and ensure that Work installed in error is rectified before construction continues.
- .4 Check and verify dimensions referring to Work and interfacing of services. Dimensions, when pertaining to the Work of other Trades, shall be verified with the Trade concerned. Ensure that Subcontractors from various Trades cooperate for the proper performance of the Work.
- .5 Do not scale directly from drawings. If there is ambiguity or lack of information, immediately inform Consultant. Any change through disregarding of this clause to be the responsibility of Subcontractor concerned.
- .6 All dimensional changes resulting from the above shall be noted on the Contractor's as-built drawings.
- .7 All details and measurements of any Work which is to fit or to conform to Work installed shall be taken at the Site.
- .8 Where verified and determined dimensions from the Place of the Work are required in the preparation of Shop Drawings, the Contractor shall determine the exactness of the dimensions prior to the preparation of these drawings.

1.4 Layout and Survey

Lines, Levels, and Locations for Building

- .1 Existing grades, lines, and site conditions shown on Drawings were taken from survey information established by persons engaged directly by Owner. The accuracy of survey information is not the Owner's responsibility.
- .2 The Contractor will establish location of property lines. The Contractor shall establish necessary lines and levels, and provide batter boards and other means to control the accurate positioning of all building elements.
- .3 Employ an Ontario Land Surveyor to:
 - .1 Lay out building on site.
 - .2 Verify elevations of floor levels as construction proceeds, and relate to bench-mark datum.
 - .3 Verify that present, or known future restrictions, are not violated by construction on the site or lines of traverse to all public utilities.
 - .4 Correlate geodetic elevation of bench-mark datum with elevations in use by public utilities adjacent to Project.
 - .5 Provide a survey to verify location of building on site.
- .4 Survey Requirements: Where the work consists of an addition or extension of an existing building, or a new building, provide a survey, undertaken by an Ontario Land Surveyor, referencing the foundation and exterior walls to adjacent site features, including: existing buildings, roads, walks, trees, hydrants, and light fixtures. Submit 3 hard copies of plan of survey and 1 digital copy in AutoCAD format.
- .5 Preserve permanent reference points during construction. Report to Consultant when a reference point is lost or destroyed, or requires relocation due to necessary changes in grade or location.
- .6 Establish lines and levels, locates and lay out by instrumentation.

1.5 Utility and Site Services Locates

- .1 Employ an Ontario Land Surveyor to:
 - .1 Locate by whatever means necessary, all existing services and utilities that cross or enter the Place of the Work.
 - .2 Lay out all existing services and utilities on site with stakes, flags and paint.
 - .3 Verify elevations of levels all existing services and utilities and relate to bench-mark datum.
 - .4 Verify that present, or known future restrictions, are not violated by construction on the site or lines of traverse to all public utilities.
 - .5 Correlate geodetic elevation of bench-mark datum with elevations in use by public utilities adjacent to Project.
 - .6 Document, clearly on a copy of the site plan, the locations and elevations of all existing services and utilities and provide a copy of the documentation with other as-built documentation.

1.6 Drainage

- .1 Ensure that positive drainage is provided to roof, floor, and site drains and catch basins, as set in their final positions. Provide constant slopes for drained surfaces to drains and drainage courses.
- .2 Ensure that allowable construction tolerances and structural tolerances do not permit ponding of water.

.3 Verify the extent of each area served by a drain, or drainage course, to eliminate possible undrained surfaces. Coordinate the work of involved trades before each proceeds.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE - GENERAL

1.1 Related Sections

- .1 Section 01 51 01 Temporary Utilities
- .2 Section 01 52 01 Temporary Facilities
- .3 The requirements of this Section apply to all other Sections of the specifications.

1.2 Installation and Removal

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

1.3 Guards and Hoarding

- .1 Comply with stricter of applicable legislation or the following.
- .2 Erect guards and other barricades to protect all persons, public and private property from injury or damage.
- .3 Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to building.
- .4 Provide barriers around trees and plants designated to remain. Protect from damage.
- .5 Erect signs to prohibit entry of unauthorized personnel into work areas, particularly when building remains occupied by the Owner.
- .6 Erect walkways, hoarding, guards, or other protective measures and directional devices required to provide persons with safe access to the building. Temporary accesses shall permit persons to have access to the buildings over excavated areas by means of duckboards or other suitable measures to keep persons free of mud or other tracking and soiling substances. Temporary lighting to a minimum level of 20 footcandles shall be provided for lighting of the walkways at all times.
- .7 Provide hoarding at all exterior work areas, including but not limited to outdoor storage areas, garbage bins, below all exterior work operations above grade, and at other hazardous exterior work areas, and as may be indicated. Unless otherwise indicated, or as otherwise agreed with the Owner and as may be required by legislation, acceptable exterior hoarding shall be minimum 6' high, and be galvanized steel fence, or plywood on wood framing. "Insta-Fence" portable fencing will be accepted as galvanized fencing in place of fixed galvanized fencing. Panels must be provided with T base suitable for pinning and shall be clipped together at top corners. Contractor remains solely responsible for site security and safety and shall supplement these requirements as necessary. Erect hoarding as required to protect all persons, and all public and private property from injury and damage. Ensure conformance with all requirements of authorities having jurisdiction.

.8 Provide hoarding at interior work areas as indicated or required. Unless otherwise indicated, or as otherwise agreed with the Owner and as may be required by legislation, acceptable interior hoarding shall be vinyl-clad gypsum board screwed to steel studs or other acceptable framing/supports.

.9 Where required, provide lockable gates/doors within hoarding for access. Ensure that requirements for exiting /egress from the area are maintained and provide panic hardware as required.

.10 Assume full responsibility for any damage or injury caused due to failure to comply with provisions of the Contract Documents.

1.4 Guard Rails, Barricades and Warning Notices

.1 Provide and maintain all required signage, construction barriers, dust screens etc. to adequately restrict and protect the public from the work site and the work being undertaken.

.2 Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs, and as otherwise required by governing authorities.

.3 Wherever the Contractor's work may expose persons to danger, provide all necessary protection to prevent injury and post notices advising of the hazard.

1.5 Security and Weather Enclosures

.1 In addition to the requirements of other Sections, provide weathertight closures to unfinished door and window openings, tops of shafts and other openings in floors, walls, and roofs.

.2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work area for temporary heat. Weather enclosures shall be sufficient to maintain Owner's customary interior environment.

.3 Where the existing building envelope is opened, breached, or otherwise compromised by work of this Contract, possibly permitting entry of wind or precipitation into the building, or possibly adversely affecting usual interior temperatures and humidity, provide temporary weathertight and dust-tight enclosures and protection for exterior openings made until permanently enclosed.

.4 Where the existing building envelope is opened, breached, or otherwise compromised by work of this Contract, reducing or adversely affecting the Owner's normal level of security, install temporary closures to prevent unauthorized entry and maintain Owner's usual level of security until the exterior openings permanently enclosed.

.5 Where existing interior partitions that afford security to the Owner's personnel and chattels are opened, breached, or otherwise compromised by work of this Contract, reducing or adversely affecting the Owner's normal level of security, install temporary closures to prevent unauthorized entry and maintain Owner's usual level of security until the openings permanently enclosed.

1.6 Dust Tight Screens

.1 In addition to the requirements of other Sections, provide dust tight screens or partitions to localize dust-generating activities, and for protection of workers, finished areas of Work, Owner, building occupants, and public. Prevent migration of dust to adjacent areas of the building, especially occupied areas, and into other

buildings. Construct dust barriers prior to starting any demolition or construction work.

.2 Provide dust screens, covers, cloths, or other appropriate dust protection to keep surfaces, furnishings, equipment, fittings, and occupants' personal effects remaining in work spaces during work, completely free from dust and debris arising from the Work. Dust barriers shall be full height and be sealed to floors, ceilings and walls. Maintain protection for the full extent of the renovation work.

.3 Install temporary filters to existing mechanical grilles, louvers, exhausts, etc., unless the Owner has consented to disconnect the equipment involved in which case seal off with temporary plastic sheet dust barriers.

.4 Use fans to maintain appropriate positive/negative pressure to limit migration of dust outside barriers.

.5 Maintain and relocate protection until such Work is complete. Remove upon completion of dust-generating work, and make clean areas affected.

1.7 Fire Separations

.1 Where required by the drawings, erect specified and detailed fire separations for any temporary alternative exits from the building including any exit doors and exit corridors and including signage and lighting.

.2 Maintain all components for the temporary alternative exit during construction.

1.8 Odour Control

.1 Where work, such as painting, asphaltting or roofing, will generate odours, take all necessary measures to limit migration of odours outside immediate work area and limit effect on Owner's operations.

.2 Acceptable measures include working outside normal working hours to permit smells to dissipate by the time Owner's personnel return to work, extending ductwork. Only as a last resort, and the absence of any other acceptable measure, arrange shutdown of Owner's air handling equipment, and/or Owner's operations.

1.9 Noise Control

.1 Take all efforts to limit adverse impact of noise generating operations on Owner's ongoing use of building and adjacent areas.

.2 Be advised that low frequency vibrations, in particular, such as those from coring and drilling, transmit throughout structures.

.3 Execute work that creates noise unacceptable to the Owner outside Owner's normal working hours, and such work shall be included in Contract Price.

1.10 Access to Site

.1 Use existing driveways, roads, parking areas, and sidewalk crossings as may be required for access to the work.

.2 Maintain reasonable access at all times to all buildings, roads, walkways, service roads and adjacent parking areas.

.3 Arrange with the Owner for use of building loading docks, where applicable.

.4 Protect existing driveways, roads, parking areas and sidewalk crossings from

damage, and make good damage arising.

.5 Keep public roads clean of soiling. Clean as required.

1.11 Public Traffic Flow

.1 Provide and maintain notices, flagpersons, traffic signals, barricades and flares, lights, or lanterns as required to perform the work and protect the public.

.2 Parking in posted fire routes will not be permitted. Vehicles found parked in a posted fire route will be towed without warning at vehicle owners' expense.

.3 Conform to approved plans related to any construction in or along posted fire routes.

.4 Where deliveries or pickups of large equipment are expected or the placement of large construction is required in or along a posted fire route, planning prior to any placement is required and is to include dates, duration of time, provision for alternative fire route access and acknowledgement that the delivery person or driver will be present at all times. Approval via the Owner's construction personnel is required.

1.12 Protection for Off-Site and Public Property

.1 Protect surrounding private and public property from damage during performance work.

.2 Be responsible for damage incurred.

1.13 Protection of Building Finishes and Equipment

.1 Provide protection for finished and partially finished building finishes, furniture and equipment during performance of work.

.2 Provide necessary screens, covers, and hoardings as required.

.3 Be responsible for damage incurred due to lack of or improper protection.

.4 Furnishings and Equipment Relocation and Protection:

.1 Unless otherwise indicated, the Owner will not remove portable furnishings and equipment from the work area to suit work of this Contract. Protect and keep safe all chattels remaining in place.

.2 Subject to the Owner's approval, furnishings and equipment may be relocated by the Contractor to other areas of the facility in which work occurs. Contractor to protect and relocate these furnishings and equipment to suit work. Return furnishings and equipment to original location when location ready to receive furnishings.

.3 Protect all finishes, furnishings, fittings, equipment, occupants' effects, etc. from damage and soiling. Protect building, equipment, furnishings and remaining in or adjacent to any area in which work is occurring as required, and as specified elsewhere. Make good all damage to the satisfaction of the Owner. Erect dust protection as needed to maintain existing building clean of all disruption and debris from work of this Contract.

.5 Provide 6 mil polyethylene coverings to prevent soiling of complex surfaces and compartments. Tape polyethylene in place. Provide additional protection to prevent other damage where required. This includes but is not limited to using plywood or OSB sheets to prevent impact damage. Fastening shall not damage

elements being protected.

.6 At wall murals, plaques, display cabinets, and other elements of significance in rooms in which work will occur, provide temporary protection consisting of 6 mil polyethylene dust protection and minimum 1/2" OSB impact protection, secured to wood framing and blocking. Fastening shall not damage elements being protected. Protection shall remain in place until all adjacent work is complete.

.7 Provide all necessary protection to furnishings and chattels that remain in place during the Work. Use 6 mil polyethylene coverings, movers' quilts, OSB, etc., as required. Prevent all damage.

1.14 Garbage Chutes

.1 Debris shall not be allowed to free-fall from openings in the building's exterior walls. Provide garbage chutes in compliance with applicable legislation where debris from upper floors is dropped from the building. Existing windows may be removed and re-installed to suit this requirement, subject to maintaining weather and security protection.

1.15 Lockout Procedures

.1 All work to be done on systems or machinery, where the unexpected switching on or off of the system or machinery could result in personal injury, shall be done in accordance with the Contractor's standard lockout procedure. The Contractor shall provide his/her own locks for the above procedure. At a minimum, lock out procedures shall consist of switches padlocked in off position, and tagged to advise of inadvertent operation.

.2 Where there is risk of injury to both the Owner's and the Contractor's personnel due to equipment re-activation, double lockout procedures shall be employed, with each of the Contractor and the Owner providing separately keyed locks and tags to the switches. Do not remove locks and tags until each party's responsible has:

- .1 independently ascertained that no injury will be caused to personnel by re-activating the equipment;
- .2 verified to the other party that no injury will be caused to personnel by re-activating the equipment.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE – GENERAL

1.1 Related Sections

- .1 General requirements: Section 01 11 01 General Requirements.
- .2 Cleaning: Section 01 74 01 Cleaning
- .3 The requirements of this Section apply to all other Sections of the specifications.

1.2 Fires

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

1.3 Disposal of Wastes

- .1 Do not bury rubbish and waste materials on site. Dispose of waste materials in accordance with Section 01 74 01 Cleaning and Section 01 52 01 Temporary Facilities.
- .2 Do not dispose of hazardous waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers. Dispose of hazardous waste or volatile materials in accordance with Article 1.28 of Section 01 11 01 General Requirements

1.4 Drainage

- .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .2 Do not pump or permit water containing suspended materials into waterways, sewer or drainage systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.5 Plant Protection

- .1 Protect trees and plants on site and adjacent properties.
- .2 Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 6'-6" (2 m).
- .3 Protect roots of designated trees to dripline during work to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.

1.6 Pollution Control

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant to local authorities emission requirements.
- .3 Prevent material from sandblasting, chipping, grinding and other similar operations from contaminating air beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for all operations relating to work of this contract.

1.7 Environmental Spills

.1 Contractors and their sub-trades must be knowledgeable in the avoidance and handling of spills. If a spill does occur, the contractor shall safely contain it and immediately inform the Owner's representative of its existence. The Owner's representative will in turn inform the University's Environmental Health & Safety Department, as they may need to provide direction on how best the spill is cleaned up and reported. The contractor is fully responsible for the clean-up, consequences and costs associated with a spill.

1.8 Indoor Air Quality
Management During
Construction

- .1 HVAC Protection
 - .1 Prevent dust from settling into HVAC system. Seal off any duct work during construction and then keep ducts sealed in plastic to prevent dust from getting into them.
 - .2 Do not use HVAC system during construction.
 - .3 Do not store construction or waste materials in mechanical rooms.
 - .4 Seal diffusers and grilles with plastic.
 - .5 Inspect and clean all ducts, diffusers and grilles at completion of the Work.
- .2 Source Control
 - .1 Prohibit the idling of motors and internal combustion engines on site during construction.
 - .2 Use bottled gases for equipment rather than diesel.
 - .3 Switch to electrical equipment rather than fossil fuel equipment wherever possible.
 - .4 Ensure any exhaust is emitted directly to the exterior and well away from any intakes or door or window openings.
 - .5 Use enclosed tankers rather than open kettles for roofing operations.
- .3 Work Area Separation
 - .1 Use dust curtains, continuous heavy duty sheet plastic seals to separate work areas containing any dust and dirt particulates from other cleaner areas.
- .4 Housekeeping
 - .1 Minimize dust with wetting agents or sweeping compounds.
 - .2 Remove spills quickly when dealing with odorous or noxious materials.
 - .3 Remove any accumulated water. Keep all work areas dry and dehumidify when and where necessary.
 - .4 Vacuum with HEPA filtered vacuums to reduce airborne dust particles.
 - .5 Keep porous materials dry. Do not allow any insulation to become wet.
 - .6 Clean site daily.
- .5 Scheduling
 - .1 If the building is occupied after substantial completion, on-going
 - .2 Wherever possible, work, where off-gassing occurs is to be scheduled during off-hours.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE – GENERAL1.1 Section Includes

- .1 Product quality, availability, storage, handling, protection, and transportation.
- .2 Manufacturer's instructions.
- .3 Quality of Work, coordination and fastenings.
- .4 Existing facilities.

1.2 Reference Standards

- .1 Within the text of each specifications section, reference may be made to reference standards. List of standards reference writing organizations is contained in Section 01 42 00 - References.
- .2 Conform to these reference standards, in whole or in part as specifically required in specifications.
- .3 If there is question as to whether any product or system is in conformance with applicable standards, Consultant reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be borne by Consultant in event of conformance with Contract Documents or by Contractor in the event of non-conformance.
- .5 Conform to latest date of issue of referenced standards in effect on date of submission of Tenders, except where specific date or issue is specifically noted.

1.3 Quality

- .1 The Contractor shall ensure all materials are delivered to the site in original containers and packages with labels and seals intact and that they are protected from the elements.
- .2 The Contractor shall use all products in strict accordance with the manufacturers' directions unless specifically directed otherwise by the Consultant. Whenever reference to manufacturers' directions or instructions is included in the Specifications, the Contractor shall submit copies of such instructions or directions for review by the Consultant before commencing the relevant Work.
- .3 When requesting approval for the use of substitutions, the Contractor shall clearly identify any effect(s) that the proposed substitution may have on the Contract Price and Contract Time.
- .4 Products which are specified by their proprietary names, or by part or catalogue number, shall form the basis for the Contract and Specifications. No substitutions for these products may be used without the Consultant's prior written approval. Substitutions will be considered for approval ONLY under the following circumstances:
 - .1 when documentation is submitted to permit sufficient time for adequate review by the Consultant and
 - .2 it can be demonstrated to the Consultant's satisfaction that the substitution is equal to the specified product and
 - .3 the request for substitution is accompanied by a detailed list of properties of both the specified product and the proposed substitute for comparison.

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

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

.6 Should any dispute arise as to quality or fitness of products, decision rests strictly

.7 Unless otherwise indicated in specifications, maintains uniformity of manufacture

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

.5 No person shall apply or install or cause to be applied or installed, any material containing 0.1 per cent or more asbestos by dry weight that can become friable.

1.4 Availability

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

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

1.5 Storage Handling and Protection

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

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

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

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

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

.6 Store sheet materials, and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.

.7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.

- .8 Remove and replace damaged products at own expense and to satisfaction of Consultant.
- .9 Touch-up damaged factory finished surfaces to Consultant's satisfaction. Use touch-up materials to match original. Do not paint over nameplates.

1.6 Transportation

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Transportation cost of products supplied by Owner will be paid for by Owner. Unload, handle and store such products.

1.7 Manufacturers' Instructions

- .1 Unless otherwise indicated in specifications install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Consultant in writing, of conflicts between specifications and manufacturer's instructions, so that Consultant may establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Consultant to require removal and reinstallation at no increase in Contract Price or Contract Time.

1.8 Quality of Work

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Consultant if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Consultant reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Consultant, whose decision is final.

1.9 Co-ordination

- .1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.10 Concealment

- .1 In finished areas, conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
- .2 Before installation, inform Consultant if there is interference. Install as directed by Consultant.

1.11 Remedial Work

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable.
- .2 Coordinate adjacent affected Work as required. Perform remedial work by specialists familiar with Materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.12 Location of Fixtures

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Consultant of conflicting installation. Install as directed.

1.13 Fastenings

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metal and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.14 Fastenings -
Equipment

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No.304 stainless steel for exterior areas.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.15 Protection of
Work in Progress

- .1 Prevent overloading of any part of building. Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated without written approval of Consultant.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE - GENERAL

1.1 Related Sections

- .1 Section 01 11 01 General Requirements
- .2 Section 01 45 01 - Quality Control: Quality control and inspection of Work.
- .3 The requirements of this Section apply to all other Sections of the specifications.

1.2 Reference Standards

- .1 Within the text of the specifications, reference may be made to the following standards:

.1	ACI	American Concrete Institute
.2	AISC	American Institute of Steel Construction
.3	ANSI	American National Standards Institute
.4	ASTM	American Society of Testing and Materials
.5	CEC	Canadian Electrical Code (published by CSA)
.6	CEMA	Canadian Electrical Manufacturer's Association
.7	CGSB	Canadian General Standards Board
.8	CISC	Canadian Institute of Steel Construction
.9	CLA	Canadian Lumberman's Association
.10	CPCA	Canadian Painting Contractors' Association
.11	CSA	Canadian Standards Association
.12	FM	Factory Mutual Engineering Corporation
.13	IEEE	Institute of Electrical and Electronic Engineers
.14	IPCEA	Insulated Power Cable Engineers Association
.15	OBC	Ontario Building Code
.16	OESC	Ontario Electrical Safety Code
.17	ESA	Electrical Safety Authority
.18	NEMA	National Electrical Manufacturers' Association
.19	ULC	Underwriters' Laboratories of Canada
.20	TSSA	Technical Standards and Safety Authority

- .2 Conform to these standards, in whole or in part as specifically requested in the specifications.
- .3 If there is question as to whether any product or system is in conformance with applicable standards, the Consultant reserves the right to have such products or systems tested to prove or disprove conformance.
- .4 The cost for such testing will be borne by the Owner in the event of conformance with Contract Documents or by the Contractor in the event of non-conformance.
- .5 Conform to latest date of issue of referenced standards in effect on date of submission of bids, except where a specific date or issue is specifically noted.

1.3 Quality

- .1 In accordance with CCDC 2 - 2008, GC 3.8.
- .2 No person shall apply or install or cause to be applied or installed, any material containing 0.1 per cent or more asbestos by dry weight that can become friable.
- .3 If requested, furnish evidence as to type, source and quality of Products provided.

.4 Defective Products, whenever identified prior to the completion of Work, will be rejected, regardless of previous inspections or reviews. Review by the Consultant or inspection by designated testing and inspection agencies does not relieve Contractor of responsibility for execution of the Work, but is a precaution against oversight or error. Remove and replace defective Products at own expense and be responsible for delays and expenses caused by rejection.

.5 Should any dispute arise as to the quality or fitness of Products, the decision rests strictly with the Consultant based upon the requirements of the Contract Documents.

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

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

.8 Products, which are specified by their proprietary names, or by parts or catalogue number, shall form the basis for the specifications and the Contract. No substitutes for these products may be used without the Consultant's approval in writing. Substitutes will be considered only when submitted in sufficient time to permit proper investigation by the Consultant.

.9 In applying for permission to use substitutes, the Contractor shall prove to the Consultant's satisfaction that the substitute meets or exceeds the characteristics of the specified product. Each application shall be accompanied by a list of properties of the specified product and the proposed substitute. When requesting approval for the use of substitutes, the Contractor shall include in his submission any effect that the substitution may have on the Contract Price and Contract Time. No application to use substitutes will be considered unless made in this way.

.10 Whenever more than one product is specified for use, the Contractor may use any of the products so specified unless the drawings or specifications indicate otherwise.

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

1.4 Availability

.1 In submitting Bid, Contractor warrants that all materials are available in suitable time to meet Contract dates.

.2 Subject to sentence .3 below, where the Contractor advises that the Contractor cannot supply materials in suitable time to meet Contract dates, and should it subsequently appear that Work may be delayed for such reason, the Consultant reserves the right to substitute more readily available products of similar character, even if more costly to the Contractor, at no increase in Contract Price.

.3 Where the Contractor can show that the Contractor promptly ordered the originally specified materials the Owner will pay the differential in cost between the originally specified material and the substitute material with out any mark-ups applicable by the Contractor, subcontractors, subsubcontractors or suppliers. For greater certainty, the Contractor's failure to submit shop drawings or other submittals or seek direction in those instances where the Contract Documents so require in sufficient time to permit ordering materials is not cause for the Owner to pay the cost differential in sentence .2 above.

1.5 Storage, Handling and Protection

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

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

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

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

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

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

.7 Store and mix paints in a heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.

.8 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site. Remove and replace damaged Products at own expense and to the satisfaction of the Consultant.

.9 Touch-up damaged factory finished surfaces to Consultant's satisfaction. Use primer or enamel to match original. Do not paint over nameplates.

1.6 Transportation

.1 Pay costs of transportation of Products required in the performance of Work.

.2 The Owner will pay for transportation cost of Products supplied by the Owner. Unload, handle and store such Products.

1.7 Manufacturer's Instructions

.1 Unless otherwise indicated in the specifications, install or erect Products in accordance with manufacturer's instructions. Do not rely on labels or enclosures

provided with Products. Obtain written instructions directly from manufacturers.

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

.3 Improper installation or erection of Products, due to failure in complying with these requirements, authorizes the Consultant to require removal and re-installation at no change in Contract Price or Contract Time.

1.8 Workmanship

.1 Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Consultant if required Work is such as to make it impractical to produce required results.

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

.3 Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with the Consultant, whose decision is final.

1.9 Co-Ordination

.1 Insure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.

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

1.10 Concealment

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

.2 Before installation, inform the Consultant if there is a contradictory situation or uncertainty regarding means of concealment. Install as directed by Consultant.

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

.4 Before installation, inform the Consultant if there is a contradictory situation. Install as directed by Consultant

1.11 Remedial Work

.1 Refer to CCDC 2 - 2008, GC 3.12

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

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

.4 Where factory finishes are marred or scratched, and with Consultant's acceptance, touch up scratched factory finishes with manufacturer's recommended paint system or repair technology.

1.12 Location of Fixtures

- .1 Consider the location of fixtures, outlets, and mechanical and electrical items indicated or specified as approximate.
- .2 Inform the Consultant of a conflicting installation. Install as directed.
- .3 Submit field drawings to indicate relative position of various services and equipment when required by Consultant.
- .4 Review with Consultant and Owner locations of related installations such as trenches, drains, equipment bases, etc., prior to installation.
- .5 Where job conditions require reasonably changes in indicated locations and arrangements, make changes at no change to the Contract Price. Similarly, where existing conditions interfere with new installation and require relocation, include such relocation in the work of this Contract. Install and arrange fixtures and equipment to maintain maximum headroom and space.

1.13 Fastenings

- .1 Provide permanent fastenings, anchors, adhesives and accessories required for performance of the work in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Provide exposed metal fastenings and accessories of same texture, colour and finish as base metal in which they occur, unless otherwise indicated.
- .3 Prevent electrolytic action between dissimilar metals.
- .4 Use noncorrosive fastenings, anchors and spacers for securement of exterior work or forming part of concealed work, which may be subject to corrosion. Use stainless steel or other material as specified in particular specification Sections.
- .5 Fastenings, anchors, accessories and adhesive shall be of appropriate type and of sufficient quantity and in such a manner as to provide positive permanent anchorage of the unit to be anchored in position. Install anchors at spacing within limits of load bearing and shear capacity to accommodate applied loads so that the secured unit cannot work loose, fall, or shift out of position. Ensure fastenings, anchors, accessories and adhesives provide positive permanent anchorage.
- .6 Keep exposed fastenings to a minimum, evenly spaced and neatly laid out. Conceal fasteners where indicated.
- .7 Use of wood or other organic plugs prohibited.
- .8 Fasteners which cause spalling or cracking of material to which anchorage is being made are prohibited.
- .9 For equipment fastening, use fasteners of standard commercial sizes and patterns with material and finish suitable for service. Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.14 Protection of Work in Progress

- .1 Adequately protect Work completed or in progress. Work damaged or defaced due to failure in providing such protection is to be removed and replaced, or repaired, as directed by the Consultant, at no increase in Contract Price.
- .2 Prevent overloading of any part of the building. Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated, without written approval of Consultant.

1.15 Existing Services and Utilities

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities and Owner, with a minimum of disturbance to Work, building occupants and pedestrian and vehicular traffic.
- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in a manner approved by authority having jurisdiction, stake and record location of capped service.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE – GENERAL

1.1 Related Sections

- .1 Section 01 11 01 General Requirements.
- .2 Section 01 57 01 Temporary Controls.
- .3 The requirements of this Section apply to all other Sections of the specifications.

1.2 General

- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .2 Hire a professional cleaning company for the final cleaning of the building interior.
- .3 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .4 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .5 Prevent accumulation of wastes that may create hazardous conditions.
- .6 In the event of any dispute regarding the removal of waste products, debris, tools, equipment, etc. the Owner may remove the waste product and debris and charge the cost to the Contractor, by means of deduction from monies owing the Contractor, to the extent that the Consultant shall determine to be just.
- .7 Undertake the implementation of a schedule of procedures and practices to ensure that the Place of the Work is kept in a safe, tidy and clean condition.

1.3 Project Cleanliness and Progressive Cleaning

- .1 Maintain the Work in tidy condition, free from accumulation of waste products and debris, other than that caused by the Owner or Other Contractors or their employees. Clean areas where work is being performed on a daily basis.
- .2 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .3 Remove waste material and debris from the site and deposit in waste container at the end of each working day.
- .4 Clean work area(s) upon completion of each day's work, and maintain areas free of dust and other contaminants during finishing operations. On a daily basis maintain project site and public properties free from debris and waste material.
- .5 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.

- .6 Remove waste materials and rubbish from site and dispose of at legal dumping areas. Pay all disposal costs.
- .7 Clean interior areas prior to finish work, furniture move-in and final clean prior to occupancy, maintain areas free of dust and other contaminants during finishing operations.
- .8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer, and as compatible with Owner's cleaning systems for existing surfaces.
- .9 Vacuum clean with commercial type vacuum interior building areas when ready to receive flooring and finish painting. Continue vacuum cleaning on an as-needed basis until work is complete.
- .10 Schedule cleaning operations so that resulting dust and other contaminants will not fall on wet, newly painted surfaces.
- .11 On a daily basis clean all areas dirtied by Work of this Contract to suit the Owner's continuing use and occupancy during construction.
- .12 Where walks and roads are soiled by work of this Contract:
 - .1 At a minimum, weekly sweep and wash Owner's roads and walks soiled by work of this Contract. Sweep and wash roads and walks more frequently where soiling may be tracked into adjacent buildings. Sweep and wash public roads and walks weekly, at a minimum, and more frequently as required by local municipality.

1.4 Cleaning

- .1 Where work is sequenced or phased, and upon completion of work in each floor, or part of each floor area, clean rooms or spaces affected by work of this Contract.

1.5 Final Cleaning

- .1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining Work.
- .2 Remove waste products and debris other than that caused by the Owner, Other Contractors or their employees, and leave the Work clean and suitable for the occupancy by Owner.
- .3 Prior to application for final payment, remove surplus products, tools, construction machinery and equipment. Remove waste products and debris other than that caused by the Owner or Other Contractors.
- .4 Remove waste materials and the site at regularly scheduled times or dispose of as directed by the Consultant. Do not burn waste materials on site.
- .5 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .6 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome,

porcelain enamel, baked enamel, plastic laminate, mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.

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

.8 Vacuum clean and dust building interiors, behind grilles, louvers and screens. Wet mop hard floors to remove all dust.

.9 Clean hard floor finishes, as recommended by the floor and cleaner manufacturer, and as compatible with Owner's floor maintenance products. Apply minimum 2 coats sealer followed by 2 coats of floor finish. Owner will supply materials for these treatments.

.10 Where work of this Contract damages existing sheet or tile floor finishes, repair floor, then clean seal and finish floor, as recommended by the floor and cleaner manufacturer, and as compatible with Owner's floor maintenance products. Owner will supply materials for these treatments.

.11 Inspect finishes, fitments and equipment and ensure specified workmanship and operation. Correct deficiencies.

.12 Broom clean and wash exterior walks and steps and similar surfaces; rake clean other surfaces of grounds.

.13 Remove dirt and other disfiguration from exterior surfaces.

.14 Clean and sweep roofs, gutters, downspouts, and drainage systems, areaways, sunken wells.

.15 Sweep and wash clean paved areas.

.16 Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE – GENERAL

1.1 Related Sections – Section Includes

.1 Text, schedules and procedures for systematic Waste Management Program for construction, deconstruction, demolition, and renovation projects, including:

- .1 Diversion of Materials.
- .2 Canadian Governmental Responsibility for the Environment Resources Schedule C.

.2 Section ## ## ## LEED Certification Requirements *[Note: delete or edit accordingly]*

1.2 Definitions

.1 Recyclable: Ability of product or material to be recovered at end of its life cycle and remanufactured into new product for reuse by others,

.2 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.

.3 Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using unaltered form. Recycling does not include burning, incinerating, or thermally destroying waste.

.4 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:

.1 Salvaging reusable materials from remodelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.

.2 Returning reusable items including pallets or unused products to vendors.

.3 Salvage: Removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.

.4 Separate Condition: Refers to waste sorted into individual types.

.5 Source Separation: Act of keeping different types of waste materials separate beginning from first time they become waste.

1.3 Waste Processing Plants

.1 Contact Ontario Ministry of Environment and Energy at 1(800)565-4923 to identify suitable waste processing sites.

1.4 Storage Handling and Protection

.1 Store, materials to be reused, recycled and salvaged in locations as directed by General Contractor.

.2 Unless specified otherwise, materials for removal do not become Contractor's property.

.3 Protect, stockpile, store and catalogue salvaged items.

.4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.

- .5 Protect surface drainage, mechanical and electrical from damage and blockage.
- .6 Separate and store materials produced during dismantling of structures in designated areas.
- .7 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On site source separation is recommended.
 - .2 Remove comingled materials to off-site processing facility for separation:
 - .3 Provide way bills for separated materials.

1.5 Disposal of Waste

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil; or paint thinner into waterways, storm, or sanitary sewers.

1.6 Waste Tracking

- 1. Submit a project waste summary which tracks two streams; tonnage of waste landfilled, and tonnage of materials recycled. Waste summary to include weigh bills for both categories.

[Note: If the project involves formal LEED Certification, waste tracking requirements are much more stringent. Ask your LEED Consultant to edit this section accordingly &/or refer to the applicable LEED specification section requirements.]

1.7 Scheduling

- .1 Coordinate Work with other activities at site to ensure timely and orderly progress of Work.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION

3.1 Application

- .1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.
- .2 Suspected termite infested material to be stored in bags or enclosed dumpsters and delivered to a designated facility certified for proper waste management of termites.

3.2 Cleaning

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean up work area as work progresses.
- .3 Source separate materials to be reused/recycled into specified sort areas.

3.3 Diversion of Materials

- .1 Separate recyclable materials from general waste stream and stockpile in separate piles or containers, as reviewed by Consultant, and consistent with applicable fire regulations.
 - .1 Mark containers or stockpile areas.

.2 Provide instructions on disposal practices.

.3 On site sale of reusable or recyclable materials is not permitted.

3.4 Canadian Government
Departments Chief
Responsibility for the
Environment

.1 Schedule C - Government Chief Responsibility for the Environment

Province	Address	General Inquiries	Fax
Ontario	Ministry of Environment and Energy, 135 St. Clair Avenue West, Toronto, ON M4V 1P5	(416) 323-4321 (800) 565-4923	(416) 323-4682
	Environment Canada Toronto	(416) 734-4494	

*****END*****

PART ONE – GENERAL1.1 Related Sections

- .1 Section 01 29 01 Changes, Payments and Certificates
- .2 Section 01 74 01 Cleaning
- .3 Section 01 54 03 Field Engineering
- .4 Section 00 73 01 Supplementary Conditions
- .5 The requirements of this Section apply to all other Sections of the specifications.

1.2 Progressive Cleaning

- .1 Refer to Section 01 74 01 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 applying for Ready-for-Takeover.
- .3 Refer also to Section 01 29 01 Payments for requirements related to applications for certificates and for applications for payment.

1.4 Project Closeout

- .1 Final Cleaning
 - .1 Refer to Section 01 74 01 Cleaning.
- .2 Training Session / 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.
 - .4 Training sessions and/or systems demonstrations to be video recorded.

Video recordings to be saved on a USB flash-drive and submitted with the Operating and Maintenance Manuals. Additionally, video recordings to be uploaded to the University's KAHUA construction project management software platform.

.3 Operating and Maintenance Manuals

.1 Collect reviewed submittals and assemble documents executed by Subcontractors, suppliers, and manufacturers including red-lined as-builts.

.2 Minimum two weeks prior to Ready-for-Takeover, submit to Consultant, one (1) hardcopy copy and (1) electronic copy of all operating and maintenance manuals.

.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.
- a letter on company letterhead clearly stating and verifying that no materials or products containing more than 0.1 per cent asbestos by dry weight has been applied or installed on the project.

.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 27 as applicable for particular requirements relevant to respective Division.

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

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

.8 Create electronic copies of manuals, in their entirety in a searchable PDF file format saved to USB flash-drive. Additionally, manuals to be uploaded to the University's KAHUA construction project management software platform.

.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 receipt from Owner upon delivery of materials.

.5 Project Record Documents

.1 After award of Contract, the Contractor will be provided with electronic copies of the Contract Documents. Contractor will use these to maintain current as-built drawings and specifications by recording deviations caused by site conditions and changes ordered by the Consultant and/or the Owner.

.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 Record changes on prints using a different colour of felt tip pen markers for each major system.
 - .4 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.
 - .5 Photos of concealed components must be taken and tagged to their locations labelled on the record drawings. Save photos to a USB flash-drive and submit with Contract close-out package. Additionally, upload photos to the University's KAHUA construction project management software platform.
 - .6 Provide paper and electronic copies of the survey for the foundations and the documentation related to existing utilities and site services as required by Section 01 54 03.
 - .7 Identify all copies of the drawings and specifications as "Project Record Copy". Maintain in new condition and make available for review on site by Consultant/Owner. At construction completion, neatly and accurately transfer notations to a second set of hardcopy drawings and specifications. Once completed, create electronic copies of both. Record drawings to be generated in AutoCAD and PDF file formats. Record specifications to be generated in PDF file format.
 - .8 Minimum 2 weeks prior to application for final payment, submit one (1) hardcopy copy and (1) electronic copy of the Project Record Documents to Owner via the Consultant. Additionally, upload final copies to the University's KAHUA construction project management software platform.
- .6 Electronic Documents
- .1 Any electronic documentation submitted must be in the formats described above.
 - .2 Any electronic documentation submitted must be able to be read by our computers or the documentation will be returned for re-submission.
 - .3 To ensure that the documents are able to be read on a computer different than yours, please enable the "close the disc upon completion" option in your disc authorizing application.
- .7 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.
- .8 The *Contractor* shall allocate an amount of the *Contract Price* in the schedule

of values referred to in paragraph 5.2.4 and 5.2.5 of GC 5.2 – APPLICATIONS FOR PAYMENT to the achievement of *Ready-for-Takeover*, including the delivery of all closeout documents and materials referenced in this Section 01 77 01 of the *Specifications* and paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER, by the date set out in Article A-1, as security for the performance of those obligations. Such amount shall be equal to at least 1% of the *Contract Price*, but in no event less than \$15,000. For clarity, the *Contractor* shall not be entitled to payment of this amount until completion of the requirements under GC 12.1 and this Section 01 77 01.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

*****END*****

PART ONE - GENERAL

1.1 Related Sections

- .1 Section 01 11 01 General Requirements
- .2 Section 01 33 01 Submittals
- .3 Section 01 45 01 Quality Control
- .4 Section 01 61 01 Material and Equipment
- .5 Section 01 77 01 Contract Close-Out
- .6 Division 15 – Mechanical
- .7 Division 16 – Electrical
- .8 Division 17 – Communications

1.2 Definitions

- .1 Commissioning Authority (CxA) – Owner’s appointed representative – retained by the University of Guelph.
- .2 Consultant Team – consists of those professionals who are responsible for the design and performance objectives and are listed in Section 00 00 03.
- .3 Commissioning Team - consists of various participants involved in the commissioning process. The commissioning documentation and tasks of each team member will be coordinated through the CxA.

1.3 Consultant Team

- .1 The Consultant Team for the Project is responsible for developing a set of performance objectives and providing a design that meets those objectives. The Consultant Team will be required to assist with developing and witnessing the system tests. Consultants are to advise the Contractor as to which tests require witnessing.

1.4 Commissioning Team

- .1 Members of the team shall include the following as a minimum:
 - Owner:
 - Owner's Representative
 - Owner's Facility Management Representative
 - Owner's Commissioning Authority (CxA)

Consultant Team

- Architect
- Mechanical Consultant
- Electrical Consultant

Contractors

- General Contractor (GC/CM):
- Mechanical Sub-contractor:
- Electrical Sub-contractor:
- Testing and Balancing Agent:
- Controls Sub-Contractor:
- Other Sub-Contractors (as applicable)

Other key players in the commissioning process include:

- Manufacturer's Representatives (as applicable)
- Inspectors and Testing Agencies:
 - Building Inspection
 - Hydro

1.5 Description

.1 Commissioning is a systematic process of ensuring that all building systems installed in accordance with the drawings and specifications, manufacturer's requirements and good industry practice. Commissioning also ensures that equipment operates and performs, in and of itself as well as in the system, as was intended by the designers in response to the owner's requirements. Finally commissioning ensures the owner has the documentation and training required to operate the equipment and systems in a safe, efficient and long lasting manner.

.1 During the construction phase, commissioning will include the following specific activities:

.1 Review of shop drawings for commissionable mechanical and electrical equipment and systems at the same time as the design engineers. Comments from the CxA will be given to the design engineers to incorporate into their review as appropriate. Contractors will respond to the comments from the engineer of record.

.2 Integration of commissioning activities into the project schedule. The CxA will provide a list of milestone activities complete with expected durations and due dates for inclusion in construction schedule. Progress will be monitored against these dates during commissioning inspections.

.3 Verify equipment is installed in accordance with the manufacturer's recommendations and industry accepted standards including review of completed manufacturers' start-up sheets, supplemented where required with commissioning pre-functional checklists provided by the CxA. Contractor shall complete check sheets as required by the CxA.

.4 Verify equipment is set-up, adjusted and balanced to perform as specified. This will include review of Testing, Adjusting, and Balancing (TAB) procedures, review of TAB reports and spot checking measurements on site. The TAB contractor shall cooperate with the CxA providing information requested and tools and manpower for spot checking measurements as required by the CxA.

.5 Functional Performance Testing (FPT) of mechanical and electrical equipment and systems to ensure proper, complete and efficient operation under the range of conditions they are expected to encounter. Contractors shall provide manpower, tools and other services as required by the CxA to perform the FPT.

.6 Provide a review of the construction draws from a commissioning perspective and provide recommendations to the Prime Consultant and the University.

.7 CxA will review O&M documentation provided to the owner to ensure it

is complete and acceptable for ongoing operation and maintenance of the equipment. The review shall be sent to the consultant for incorporation with his comments. The Contractors shall provide changes as required by the Engineer.

.8 The CxA will witness the Owner's operating personnel training to verify it was adequate and complete to ensure they fully understand the requirements of operating and maintaining the equipment. Contractors shall ensure training meets the approval of the CxA and provide additional training if requested.

.2 Commissioning does not take away from, reduce responsibility of or in any way diminish the requirement for the consultant team and installing contractors to provide a complete, finished and fully functioning product.

1.6 Owner Responsibilities

.1 Responsibilities of the owner are as follows:

- .1 Retain the services of the Commissioning Authority.
- .2 Work with the CxA to define the design intent of the building and system by developing the Owner's project Requirements. Provide a copy of the document to the commissioning team.
- .3 To provide operating personnel to attend training and instruction regarding specific components, equipment and systems.
- .4 To observe on-site installation, start-up and testing equipment and systems.
- .5 To provide assistance to resolve issues identified by the CxA including scheduling concerns.

1.7 Consultant Team Responsibilities

.1 Responsibilities of Consultant are as follows:

- .1 Define the Basis of Design to meet the Owner's Project Requirements.
- .2 Prepare the design documents outlining the project requirements.
- .3 Review contractor's shop drawings submission to ensure that the equipment proposed comply with specifications requirements.
- .4 Review contractor's submittals to ensure compliance with the specifications requirements.
- .5 Monitor, check, inspect and report on the installation throughout the construction stages to ensure the equipment installation is as approved and the installation method, workmanship, procedures will follow the approved submission and method statement.
- .6 Inspect the systems installation and issue deficiencies reports. Ensure deficiencies are corrected and certify installation of systems.

- .7 Review operating and maintenance manuals, balancing and test reports and as-built for accuracy.
- .8 Witness tests, note any deficiencies and provide progress report.
- .9 Review contractor's progress draws against actual construction progress on site and incorporate CxA comments as part of the payment certification process.

1.8 Commissioning Authority Responsibilities

- .1 Construction Phase:
 - .1 Coordinate and direct the commissioning activities in a logical, sequential and efficient manner using consistent protocols and forms, centralized documentation, clear and regular communication and consultations with all necessary parties, update timelines and schedules.
 - .2 Develop and maintain the commissioning plan.
 - .3 Review contractor's shop drawing submission for commissioning related issues.
 - .4 Prepare commissioning plan based on the contractor's schedule and installation method statement. Provide all required pre-functional, start-up and functional performance checklists.
 - .5 Monitor, check and inspect the installation throughout the construction stages.
 - .6 Co-ordinate with the GC/CM to have commissioning activities integrated into the project schedule. Include durations and dates for key milestone commissioning activities to be completed.
 - .7 Issue deficiencies reports noting any issues that may have an impact on the commissioning of the equipment or system. Maintain an ongoing commissioning issues log. Issues log is to include any concerns with meeting the milestone commissioning dates.
 - .8 Attend construction site meetings as required to discuss commissioning related items and any impact on project schedule.
 - .9 Set-up and chair commissioning meetings.
 - .10 Perform review of pre-functional checklists.
 - .11 Witness and validate tests and note deficiencies.
 - .12 Work with the commissioning team to expeditiously resolve any problems that may arise due to site conditions, or commissioning deficiencies.
 - .13 Prepare Systems Manual.
 - .14 Direct functional verification testing. Record all testing results. Contractor shall operate the equipment during functional performance testing.

- .15 Direct integrated system testing as required.
- .16 Assist the GC/CM in the co-ordination of owner training. Participate in training sessions as required to verify that information has been adequately provided to the owner.
- .17 Provide a review of the construction draws from a commissioning perspective and provide recommendations to the Prime Consultant and the University. The chart below will be utilized by the CxA to evaluate the construction draws. Refer also to specification section 01 29 01 for further details.

Carry 1% of overall contract value for <u>cx'ing paperwork only</u> . Validation of the cx'ing process is tied to progress draws and in particular Schedule of Values using the following chart. For example, fans cannot invoice more than 75%, if the pre-functional verifications are not complete, or more than 95% if the equipment start-up checklists & execution and functional performance testing is not complete.						
	Schedule of Values % Complete					
	10%	25%	75%	95%	97%	99%
Cx'ing Tasks to be Completed by these Milestone Percentages	* Cx'ing Kick Off Meeting Held	* Shop Drawing Submittal Review Process Complete	* Pre-functional Verifications Complete	* Equipment Start-up Checklists & Execution Complete	* As-built Drawings and O&M Manuals Submitted	* All Items on the Cx'ing Issues Log have been Addressed
	* Contractors Name Their Cx Agent (Designated Representative)	* Project Schedule has Incorporated Cx'ing Tasks		* Functional Performance Testing Complete	* Owner Training Complete	

.2 Post-Construction Phase:

- .1 Prepare final report on commissioning, identifying any deficiencies that may be outstanding.
- .2 Direct deferred functional verification testing.
- .3 Review commissioning issues with the commissioning team prior to the end of warranty.

1.9 Contractor Responsibilities .1 General Contractor:

- .1 Provide a designated representative to attend commissioning meetings.
- .2 Provide a copy of the project schedule to the CxA. Work with the CxA to coordinate commissioning activities and integrate them into the overall project schedule.
- .3 Coordinate the resolution of deficiencies identified through the commissioning process with the sub-trades.
- .4 Coordinate scheduling of owner training with the sub-trades.
- .5 Return to site approximately 10 months after the start of the warrantee period to review system operation and to address operational issues.
- .6 Include the CxA in the distribution of construction draws for their review.

.2 Mechanical Contractor:

- .1 Attend initial commissioning coordination meeting.
- .2 Provide a complete set of all submittals for mechanical equipment for the CxA.
- .3 Provide complete equipment and systems start-up including personnel and tools, as required for safe, proper and complete start-up of all mechanical equipment.
- .4 Perform pre-functional, start-up and complete required documentation as directed by CxA.
- .5 Correct all deficiencies found during pre-functional, start-up and TAB to ensure that all equipment and systems are fully functional and ready for functional performance testing.
- .6 Prepare O&M manuals and supplementary information on all equipment as directed by CxA and assemble in binders tabbed and indexed. Supplementary information may include, but is not limited to, such items as power/control field wiring diagrams, equipment maintenance schedule, vendor and maintenance contact lists. Submit to CxA when requested.
- .7 Prepare preliminary schedule for O&M manuals submission, owner training, pipe and duct system testing, flushing and cleaning, equipment start-up, and TAB for use by the CxA. Update schedule throughout the construction period.
- .8 Notify CxA a minimum of two weeks in advance of equipment and system start-up and/or pre-functional testing.
- .9 Set-up and schedule vendors and contractors required to participate in the owner training sessions for all equipment and systems.
- .10 Provide a complete set of as-built record drawings and schematics, include a copy to the CxA.
- .11 Return to site with the GC/CM, owner and CxA approximately 10 months after the start of the warranty period to review system operation and to address operational issues.
- .12 Provide a designated representative to attend commissioning meetings and coordinate the completion of commissioning deliverables according to this specification.

.3 TAB Contractor(s)

- .1 Attend commissioning coordination meetings.
- .2 Submit TAB procedures to CxA and consultant team for review and acceptance.

- .3 Provide a preliminary TAB report showing that the system is complete and capable of being balanced. Provide an additional copy of the preliminary report labelled "For CxA".
 - .4 Attend TAB review meeting scheduled by the CxA. Be prepared to discuss procedures that shall be followed in TAB and findings of preliminary TAB.
 - .5 Submittal of final TAB report showing all flows, pressures, motor speeds, voltages and amperages etc., as required for a full and complete balancing report on all systems. Provide an additional copy of the TAB final report labelled "For CxA", and include as-built distribution systems schematics.
 - .6 Participate in verification of the TAB report, which includes of repeating selected measurement contained in the TAB report where required by the CxA for verification or diagnostic purposes.
 - .7 Provide a designated representative to attend commissioning meetings and coordinate the completion of commissioning deliverables according to this specification.
- .4 Building Controls and Automation System Contractor(s)
- .1 Attend initial commissioning coordination meeting.
 - .2 Attend Sequence of Operation and Graphics review meeting scheduled by the CxA. Be prepared to discuss all sequences including all changes, and provide a schematic for each proposed graphic.
 - .3 Provide the following submittals to the CxA at time of FPT. (Note: The following shall be updated to as-built conditions).
 - .1 Hardware and software submittals and shop drawings.
 - .2 Narrative description of each control sequence for each piece of equipment or system controlled.
 - .3 Point-to-point and sensor calibration verification checklists
 - .4 As-built diagrams showing all control points, sensor locations, point names, actuators, controllers and, where necessary, points of access, superimposed on diagrams of the physical equipment.
 - .5 Printout of panel layouts including all analog input, analog output, digital input, and digital output connections. Provide a separate list for each stand-alone control unit.
 - .6 Printout of final control programming algorithms, include current values of all parameters for each system point.
 - .7 Owners operation and maintenance manuals.

- .4 Provide complete training to operating personnel on hardware, operation and programming, and the application program for the system.
 - .5 Demonstrate system performance to CxA. including all modes of system operation. (e.g. normal, abnormal, emergency).
 - .6 Provide control system technician to operate systems as required by and under the direction of the CxA during system verification and functional performance testing.
 - .7 Provide support and coordination with TAB contractor on all interfaces between their scopes of work. Provide all devices, such as portable operators' terminals, for TAB use in completing TAB procedures.
 - .8 Provide any trend logs as may be required by the CxA.
 - .9 Return to site with the GC/CM, owner and CxA approximately 10 months after the start of the warranty period to review system operation and to address operational issues.
 - .10 Provide a designated representative to attend commissioning meetings and coordinate the completion of commissioning deliverables according to this specification.
- .5 Electrical Contractor
- .1 Attend commissioning meetings scheduled by the CxA.
 - .2 Provide a complete set of all submittals for electrical equipment to the CxA
 - .3 Provide a copy of the electrical Coordination Study.
 - .4 Correct all deficiencies found during Pre-functional inspection, start-up, TAB and FPT to ensure all equipment and systems are fully functional and in complete and proper working order.
 - .5 Prior to occupancy, but following the completion of all changes, certify that all protection devices have been checked and reset to conform to the Coordination Study settings.
 - .6 Participate in the verification of all protective device settings.
 - .7 Prepare O&M manuals and supplementary information on all equipment as directed by CxA and assemble in binders tabbed and indexed. Supplementary information may include, but is not limited to, such items as power/control field wiring diagrams, equipment maintenance schedule, vendor and maintenance contact lists. Submit to CxA when requested.
 - .8 Provide electrical system technicians to assist during system verification and functional performance testing as required by the CxA.

- .9 Provide a complete set of as-built record drawings and schematics with a copy to the CxA.
- .10 Return to site with the GC and CxA approximately 10 months after the start of the warranty period to review system operation and to address operational issues.
- .11 Provide a designated representative to attend commissioning meetings and coordinate the completion of commissioning deliverables according to this specification.

.6 Emergency Power Distribution System Components Contractors

[Edit Note: Section to be removed if not applicable to project]

- .1 Systems include, but are not limited to:
 - .1 Fuel Oil Handling system
 - .2 Transfer Switch(es)
 - .3 Generator Set (s)
 - .4 Instrumentation
 - .5 Controls
- .2 Submit testing procedures to the CxA and Electrical Consultant for review and acceptance, complete with pre-testing and coordinated testing of all emergency power distribution system components.
- .3 Coordinate with the CxA and Electrical Consultant in order that they may witness the coordinated testing.
- .4 Attend testing review meeting scheduled by the CxA. Be prepared to discuss testing procedures.
- .5 Submit all documents related to each component's testing. Provide additional copies to the CxA.

1.10 Equipment/Systems to be Commissioned

[Edit Note: Revise this section as required for the specific project]

- .1 The following systems will be commissioned:
 - .1 Architectural Systems
 - 1. Doors and Windows
 - a. Hardware
 - b. Operators and Operation
 - 2. Entrances and Storefronts
 - a. Operators and Operation
 - 3. Louvers and Vents
 - a. Operators and Operation
 - 4. Sliding Coiling Roll-up Doors and Grilles
 - a. Operators and Operation
 - 5. Information Specialties – including visual display surfaces (boards, screens)
 - a. Operators and Operation
 - 6. Interior Specialties – including movable partitions and components, toilet and bath accessories, storage units
 - a. Operators and Operation

- 7. Exterior Specialties – including flag poles, grilles
 - a. Operators and Operation
- 8. Equipment – including any food service , healthcare, materials handling, disposal, parking
 - a. Operators and Operation
- 9. Furnishings – including blinds and drapes
 - a. Operators and Operation

. 2 Mechanical Systems

- 1. Fire Protection Systems
 - a. Wall Hydrants
 - b. Fire Dampers
 - c. Fire Extinguisher Cabinets
 - d. Automatic Sprinkler System
 - e. Backflow Preventer
- 2. Ventilation Systems
 - a. Fans
 - b. Motor Operated Dampers
 - c. Roof Hoods
 - d. Variable Air Volume Boxes
 - e. Silencers
 - f. Fan Powered Variable Air Volume Boxes
 - g. Grilles, Registers, and Diffusers
 - h. In-line Disposable Filters
 - i. Airflow Measurement Systems
 - j. Manhole Cover
- 3. Domestic Water System
 - a. Pumps:
 - b. Variable Frequency Drives
 - c. Circulators:
 - d. Piping
 - e. Domestic Hot Water Heater
 - f. Mixing Valve for DHWH
 - g. Pressure Reducing Valves – listing location, number and type
 - h. Control Valves
 - i. Controls
 - j. Meters - monitored
 - k. Air Separators
 - l. Backflow Preventer
- 4. Heating System
 - a. Energy Recovery Unit:
 - b. Pumps
 - c. Variable Frequency Drives
 - d. Piping
 - e. Air Separators
 - f. Control Valves
 - g. Air Handling Units
 - h. Centrifugal Fans
 - i. Silencers
 - j. Thermostats
 - k. Controls
 - l. Meters - monitored
 - m. Chemical Treatment

- n. Free Cooling Loop
- o. Backflow Preventer
- 5. Steam Systems
 - a. Steam Strainers
 - b. Expansion Joints for Steam & Condensate Lines
 - c. Expansion Tanks
 - d. Backflow Preventers
 - e. Steam Meter - monitored
 - f. Steam Traps
 - g. Steam Pressure Reducing Valves - listing location, number and type
 - h. Flash Tank
 - i. Safety Relief Valves
 - J. Condensate Receiver and Pumps
 - k. Steam Heat Exchanges Skid Packages
 - l. Heat Exchangers:
 - m. Humidifiers
- 6. Hydronic System
 - a. Radiant Panels
 - b. Wall Fin Convectors:
 - c. Radiant Unit Heaters
 - d. Fan Coils
 - e. Glycol Feeder
 - f. Pumps
 - g. Variable Frequency Drives
 - h. Piping
 - i. Control Valves
 - j. Air Separators
 - k. Backflow Preventer
- 7. Plumbing System
 - a. Roof Drains
 - b. Floor Drains
 - c. Cleanouts
 - d. Plumbing Fixtures
 - e. Fixture Carriers
 - f. Solids Interceptor
 - g. Dual Flush Valves
 - h. Mixing Valve for Hose Reels
 - i. Pipe Filters
 - j. Pot Feeder
 - k. Primed Traps
 - l. Backflow Preventer
- 8. Packaged Units
 - a. Radiant Unit Heaters
 - b. Horizontal Unit Heaters
 - c. Fan Coil Units
 - d. Glycol Feeder
 - e. Packaged Dehumidifiers
- 9. Medical Gas System Vacuum & Anesthetic Gas Scavenging System and Accessories
- 10. Fire and Smoke Dampers
- 11. Equipment Sound Control
 - a. Acoustic Plenums
 - b. Vibration Isolation - Isolation Pads

12. Testing, Adjusting and Balancing Work

.2 Integrated Automation

1. Central Building Automation System,
 - a. Controllers
 - b. Field Devices
 - c. Sequences
 - d. Network
 - e. Operator Workstation
 - f. Operator Interface

.3 Electrical Systems

1. Lighting
 - a. Light Fixtures
 - b. Emergency/Normal Power
 - c. Addressable Ballasts'
 - d. Daylight Sensors
 - e. Occupancy Sensors
 - f. Lighting Control System
 - e. Sequences
 - f. Schedules
 - g. Interface
 - h. Meters - monitored
2. Normal Power Distribution System
 - a. Meters - monitored
 - b. Transformers:
 - c. Electrical Switchboards and Panelboards
 - d. Splitters (SPI & SPXI)
 - e. Motor Control Centres
 - f. Power Factor Correction
 - g. Power Quality
 - h. Ladder Type Cable Tray
 - i. Wire Basket Type Cable Tray
 - j. Cables
 - k. Surge Suppressors
 - l. Low Voltage Control Equipment
3. Emergency Power System
 - a. Emergency Generator
 - b. Automatic Transfer Switch
 - c. Meters - monitored
 - d. Transformers - Dry Type
 - e. Electrical Switchboards and Panelboards
 - f. Motor Control Centres
 - g. Power Factor Correction
 - h. Power Quality
4. Grounding System
 - a. Grounding Rods
 - b. Grounding Wire
 - c. Terminations
5. Fire Alarm System
 - a. Devices – set up in a listing
 - b. Fire Panels
 - c. Network

- 6. Telecommunications Systems
 - a. Devices
 - b. Network
- 7. Intercom (paging) Systems
 - a. Devices
 - b. Network
- 8. Data System
 - a. Devices
 - b. Network
- 9. Security System
 - a. Devices
 - b. Network

.4 Integrated Systems

1. Verification of integrated systems is to be included in the commissioning. This would include integrated black-out testing and integrated fire alarm testing as well as additional integrated systems as required.

1.11 Coordination

.1 Management: Contractors shall cooperate fully with the CxA who will be the Owner's representative for commissioning during all commissioning activities. Contractors shall work together and with the other members of the commissioning team as required to fulfil their contracted responsibilities and meet the objectives of commissioning.

.2 Scheduling: The GC/CM will work with the CxA to schedule the commissioning activities required of contractors and subcontractors. All parties will address scheduling problems and make necessary notifications in a timely manner in order to expedite the commissioning process.

The CxA will provide the initial schedule of milestone commissioning activities and proposed durations and dates at the commissioning scoping meeting. As construction progresses more detailed schedules may be developed by the GC/CM. The GC/CM is responsible for incorporating these activities into the project schedule and ensuring that work is complete on time to meet the milestone dates.

The GC/CM shall be responsible for ensuring that the mechanical, electrical, and controls sub-contractors will return to the building approximately 10 months after the start of the warrantee period to review system operation and to address operational issues.

PART 2 - PRODUCTS

2.1 Test Equipment

.1 All standard testing equipment required to perform start-up and pre-functional and required functional performance testing shall be provided by the division contractor for the equipment being tested.

.2 Special test equipment, tools or instruments required by the contract documents shall be provided for commissioning and shall be left on site.

.3 All testing equipment shall have had a certified calibration, traceable to a national standard, performed within the past year. If not otherwise noted, temperature sensors

and digital thermometers shall have an accuracy of $\pm 0.1^{\circ}\text{F}$, pressure sensors shall have an accuracy of $\pm 1.0\%$ for each range available on the instrument (not the full range of the meter). All equipment shall be re-calibrated when dropped or damaged.

PART 3 - EXECUTION

3.1 Meetings

.1 Commissioning Meetings: Soon after construction commences, the CxA will conduct an initial commissioning scope meeting with the entire commissioning team in attendance. Commissioning requirements, procedures, responsibilities and schedule will be reviewed. Other commissioning meetings will be conducted as required throughout construction. These meetings will cover coordination, deficiency resolution and planning issues with particular Contractors and Subs.

3.2 Submittals

.1 Mechanical and Electrical Contractors shall supply one (1) copy of all shop drawings marked "for CxA" to the CxA at the same time as provided to other designers for review, including all controls and shop drawings and narrative description of each control sequence for each piece of equipment or system controlled (Refer to section 01 33 01).

.2 Contractors and Subs shall comply with specific requests for submittal documentation from the CxA in a timely fashion to ensure commissioning work continues as scheduled. At a minimum, the request will include the manufacturer's printed installation and start-up procedures, O&M data and manuals, final shop drawings, power and control field wiring drawings, sequences of operation, and results of required tests.

.3 Final completion of the O&M manuals including all required submittals is the responsibility of the Contractor. The CxA will review and forward comments to the engineer of record for follow-up. Refer to Section 01 77 01.

.4 TAB contractor shall supply an extra copy of the preliminary and the final TAB report marked "for CxA" for review. The CxA will review and forward comments to the engineer of record for follow-up.

.5 Contractor shall provide an extra set of O&M manuals, as built drawings and field power wiring diagrams to the CxA. The CxA will review and forward comments to the engineer of record for follow-up. Refer to section 01 77 01.

3.3 Start-Up and Pre-functional Checks

.1 The installing contractor or sub-contractor shall be responsible for performing and documenting start-up based on manufacturer's requirements and/or good industry practice. They shall perform all required procedures and checks and document the results. Start-up documents as requested by the CxA shall be provided.

.2 Controls and sensor point-to-point checks. Control system point-to-point checks and calibration checks for all sensors shall be included as part of pre-functional. The results shall be documented and provided to CxA.

.3 Execution of Start-up and Pre-functional checklists

.1 Pre-functional and start-up checklists shall be developed and provided by CxA. Where appropriate manufacturers checklists and procedures shall be combined or accepted in lieu of CXAs checklists.

.2 The contractor, sub-contractor, manufacturer's rep or supplier shall perform pre-functional and start-up checks. They shall complete the checklist on each piece of equipment. Checklists shall be successfully completed prior to any functional performance testing (FPT).

.3 At his sole discretion the CxA shall observe, recheck or verify the pre-functional and start-up documentation of any or all equipment. The contractor shall cooperate with and provide support to the CxA as requested.

.4 Only individuals with direct knowledge of and who personally witnessed any pre-functional or start-up activity shall sign off the checklists.

.5 It will be the responsibility of the contractor to remedy all deficiencies found. Retesting by the contractor may be required to demonstrate corrections have been made.

.4 Deficiencies, non-conformance and approval of pre-functional and start-up checklists.

.1 Dates for remedy of deficiencies shall be provided to the CxA with the initial pre-functional and start-up documents.

.2 The CxA will work with all parties as required to affect proper corrective measures, correct and retest deficiencies or uncompleted items. The GC/CM shall coordinate the correction of deficiencies.

.3 Items left incomplete or not properly corrected, causing delays or multiple call-backs for retest may result in back-charges to the party at fault.

3.4 Testing, Adjusting and Balancing (TAB)

.1 A preliminary TAB balancing shall be done prior to final balancing. System deficiencies requiring correction prior to final TAB shall be documented.

.2 All deficiencies shall be corrected by the contractor prior to final balancing.

.3 Participate in repeating selected measurement as required by the CxA for verification or diagnostic purposes.

3.5 Functional Performance Testing (FPT)

.1 In general, functional performance testing is conducted after pre-functional and start-up checks have been satisfactorily completed, the control system is fully operational, and TAB is complete.

.2 The installing contractor or sub-contractor, under the direction of the CxA, shall execute all FPT and shall maintain responsibility for all equipment tested.

.3 In general, each system shall be operated through all modes of operation (seasonal, occupied, unoccupied, warm-up, cool-down, part-load, full-load). Proper responses to such modes and emergency conditions (e.g., power failure, freeze condition, no flow, equipment failure, etc.) shall be verified.

.4 FPT verification may be achieved by manual testing (persons manipulate the equipment and observe performance) or by monitoring the performance and analyzing the results using the control system's trend log capabilities or by stand-alone data loggers. The CxA will determine which method is most appropriate.

- .5 The CxA will schedule FPTs through the GC/CM and affected Contractors and Subs.
- .6 Corrections of minor deficiencies identified during FPT may be made by the Contractor or Sub during the tests.
- .7 Where a deficiency cannot be corrected immediately, the contractor or sub-contractor shall provide a reasonable timeline for correction. The CxA shall document the deficiency and reschedule the FPT.
- .8 Where there is a dispute regarding whether a problem is a deficiency or who is responsible, the deficiency shall be documented and resolution attempted by parties in attendance. Final acceptance of proposed resolution lies with the Owner or designated representative.
- .9 The burden of responsibility to solve and correct deficiencies lies with the design consultants, manufacturers, vendors, GC/CM, contractors, and sub-contractors. The CxA may recommend solutions to problems in consultation with these parties. Ultimately, the GC/CM shall coordinate the successful resolution of deficiencies.
- .10 Cost of Retesting:
 - .1 If the contractor or sub-contractor is responsible for a deficiency then they shall carry the cost to rework the deficiency and complete the FPT.
 - .2 The CxA will direct the first retesting of the equipment at no charge.
 - .3 If corrections of deficiencies have been reported to be successfully completed but are determined during testing to be faulty or otherwise incomplete, the time for the CxA to direct second or subsequent retests will be charged back.

3.6 Training of Owner Personnel

- .1 The contractor supplying each piece of equipment shall be responsible for providing complete and satisfactory training on that piece of equipment. Training may be performed by the contractor, supplier, manufacturer or others as the contractor may decide best able to provide that training.
- .2 Owner personnel shall be provided with completed O&M Manuals at least 1 week prior to training. In addition, one hardcopy and one electronic copy (searchable PDF file format) of the related maintenance booklet and wiring as-builts shall be provided to owner personnel for the purpose of training.
- .3 The GC shall be responsible for training coordination and scheduling and ultimately for ensuring that training is completed. The CxA shall be responsible for overseeing and approving the content and adequacy of training for all commissioned equipment of training.
- .4 The GC shall video record all training sessions &/or systems demonstrations. Video recording to be saved on a USB flash-drive and submitted with the Operating and Maintenance Manuals.
- .5 Basic training for each piece of equipment shall include the following items at a minimum:

- .1 General description of the system and its operation (Design Intent)
- .2 Detailed itemization and identification of major components and access to same
- .3 Detailed itemization and identification of operating controls and safeties including normal and abnormal sensor readings
- .4 Review of the O&M manuals for identification of service requirements, procedures, wiring diagrams, parts identification, safety procedures, etc.
- .5 Review of system drawings and schematics
- .6 Review of control drawings and schematics
- .7 Operational review for
 - .1 Start-up
 - .2 Normal operation
 - .3 Shut down
 - .4 Unoccupied operation
 - .5 Seasonal changeover
 - .6 Manual operation
 - .7 Controls set-up and programming
 - .8 Troubleshooting and alarms
- .6 Interactions with other systems
- .7 Adjustments and optimizing methods for energy conservation
- .8 Health and safety issues
- .9 Regular maintenance requirements including frequency, parts and equipment, and tools needed, replacement parts sources
- .10 Special maintenance needs
- .11 Tenant interaction issues
- .12 Discussion of environmentally responsible system features
- .13 Identification of contacts for service support and maintenance parts

3.7 Deferred Testing

- .1 If any check or test cannot be completed due to weather conditions, the building structure, required occupancy condition or other deficiency, execution of pre-functional checks and/or FPT may be delayed upon approval of the owner.

3.8 Post-Occupancy Review

- .1 The CxA, GC/CM, mechanical, electrical, and controls sub-contractors shall return to the building approximately 10 months after the start of the warranty period to review system operation, owner concerns, unresolved deficiencies or warranty issues and to address any outstanding operational issues.
- .2 The exact date and time of this meeting is to be coordinated by the CxA.
- .3 CxA will provide site report to the consultants and owner for review, acceptance and formal issue to the appropriate parties.

*****END*****

PART ONE - GENERAL

1.1 Related Sections

- .1 Comply with Division One as applicable.
- .2 Restrictions on noise, dust, interference, obstructions, access, hours of work:
Section 01 14 01 Special Project Requirements
- .3 Temporary facilities, public safety, weather and dust barriers or partitions:
Section 01 11 01 General Requirements, Section 01 52 01 Temporary Facilities,
Section 01 57 01 Temporary Controls.
- .4 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 01001 of the Specifications.

.2 Remove following materials and equipment for salvage, and store, protect, and reinstall to suit execution of other parts of the Work:

- .1 Suspended acoustic tile ceilings complete with all mechanical and electrical items in ceiling.
- .2 Other mechanical and electrical items which impede the installation of new elements.
- .3 All other elements required to allow the Work to be completed, whether specifically indicated, or not.

.3 Carefully dismantle items containing materials for salvage and stockpile salvaged materials on site at locations as indicated or as directed by Consultant.

.4 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.

.5 Do not disrupt active or energized utilities designated to remain undisturbed, without Consultant's consent.

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

*****END*****

PART ONE - GENERAL

1.1 Related Sections

- .1 Comply with Division One as applicable.
- .2 Temporary facilities, public safety, weather and dust barriers or partitions: Section 01 11 01 General Requirements, Section 01 52 01 Temporary Facilities, Section 01 57 01 Temporary Controls.

1.2 References

- .1 ANSI/AARST CC-1000 2017, Soil Gas Control Systems in New Construction of Buildings, 2017
- .2 Ontario Building Code 2012 SB-9: "OBC9"
- .3 National Building Code 2010 Part 9, Figures A-9.13.4.3 (2) (b) and 3(b) (i). "NBC-9"
- .4 City of Guelph Building Department Requirements.
- .5 Health Canada 2015 – Guide for Radon Measurements in Public Buildings
- .6 Ontario Occupational Health and Safety Act

1.3 Definitions

- .1 ASD: Active Soil Depressurization
- .2 Soil Gas Collection Pipe: Flexible perforated pipe used to aid in the collection of soil gases from the soil gas collection plenum.
- .3 Soil Gas Collection Plenum: A layer of granular material installed on the interior of the foundation walls between the subgrade, and the poured concrete slab.
- .4 Soil Gas Retarder: Shall conform to ANSI/AARST CC-1000 2017, Section 6.4.1. A vapour barrier type of polyethylene sheeting sealed around the perimeter, seams, and all penetrations to provide a continuous membrane of protection.
- .5 Soil Gas Vent Pipe: Unperforated sealed vertical and horizontal pipes used to conduct soil gases to a specified exhaust point.
- .6 Extraction Point: The location of transition between the soil gas collection pipe and the soil gas vent pipe.
- .7 Vapour Barrier Sealant: Polyurethane or other elastomeric caulk generally specified for the purpose of sealing different components of the soil gas collection plenum.
- .8 Construction Tape: Tape suitable for sealing seams between sheets of the soil gas retarder and for sealing polyethylene to surface encountered, under both wet and dry conditions.
- .9 Sleeve: Pipe generally of the same or slightly greater diameter than the soil gas collection pipe installed through foundation walls to connect separate soil gas collection plenums. Alternatively, hollow masonry units laid on their side to provide connection between adjacent soil gas collection plenums.
- .10 Subgrade: Native or fill soil, usually compacted, under the soil gas collection plenum. Compaction requirements of subgrade is subject to geotechnical specifications.
- .11 Trunks: Refers to different loops or branches of soil gas collection pipes(s).

.12 Collection Wells: A pit or trench dug into the subgrade to assist in soil gas collection or to facilitate the installation of components that may or may not be a part of the soil gas collection system.

.13 Exhaust: Terminal end of the soil gas vent pipe and is the point of discharge of an ASD system.

1.4 Description of the Work

.1 The installation of the following materials is required:

.1 Soil gas collection pipes, in addition to sealing of penetrations and seams in the foundation walls.

.2 A soil gas retarder, in addition to sealing of seams, perimeter, and penetrations.

.3 A soil gas vent pipe.

.2 Reference Drawings identify the location and materials specifications for the ASD system.

.3 All work will be subject to inspection by authorities having jurisdiction.

1.5 Related Work

.1 Electrical Work

.1 Installation of a 120V standard 3 prong “Type B” electrical outlet for future activation of an ASD system by the addition of a radon extraction fan will be required.

1.6 Submittals

.1 The following submittals to the University of Guelph Designee prior to initiation of work:

.1 Before commencing work, submit queries pertaining to the information provided that seem ambiguous, incomplete, or that require clarification.

.2 Names of supervisory personnel who will be responsible for the satisfactory completion of the specified work is required prior to work commencing.

.1 At least one of the specified supervisors must remain on site at all times when work is underway.

.3 Submission of documentation outlining the experience of supervisory personnel is required, describing their experience in installing vapour barriers, membranes, and sealants.

PART 2 – PRODUCTS

.1 Soil Gas Collection Pipe: Corrugated, perforated, flexible HDPE “big O” drain tiles without the “sock”, usually specified to have a diameter of 75 mm (3”), 100 mm (4”), or 150 mm (6”) as specified in Reference Drawing.

.2 Soil Gas Collection Plenum: A layer of 19 mm granular material installed on the interior of the foundation walls between the subgrade, and the poured concrete slab.

.3 Soil Gas Retarder: Shall conform to ANSI/AARST CC-1000 2017, Section 6.4.1. A vapour barrier type of polyethylene sheeting sealed around the perimeter, seams, and all penetrations to provide a continuous membrane of protection. 6 mil minimum thickness vapour barrier polyethylene sheet, unless otherwise specified; sheet size to be selected to minimize joints.

.4 Soil Gas Vent Pipe: Schedule 40 PVC, ABS, and cast iron. Pipes usually specified to have a diameter of 75 mm (3”), 100 mm (4”), or 150 mm (6”). PVC and ABS pipes

must be chemically fused as per manufacturer's recommendations. Cast iron pipes are to be hub-less and joined with matching couplings. Welded steel vent pipe is also acceptable. All pipe supports to be as per the Ontario Building Code. Vent pipe material is specified in Reference Drawing.

.5 Vapour Barrier Sealant: Polyurethane or other elastomeric caulk generally specified for the purpose of sealing different components of the soil gas collection plenum.

.7 Construction Tape: Tape to have a high shear, aggressive, high tack adhesive and a water-resistant backing. Most commonly used variety is blue "Tuck Tape®".

PART 3 - EXECUTION

3.1 Work

.1 The information below outlines the steps in order to install the soil collection pipes as per Reference Drawing:

.1 Ensure that the subgrade has been compacted per the geotechnical specifications. If the subgrade contains 35% or less of sand, rock fragment fines, clay and silt, a secondary soil gas retarder is to be installed over the affected area per Section 5.1.1 of ANSI/AARST CC-1000. Secondary soil gas retarder is to be installed between the subgrade and the soil gas plenum. No sealing or overlapping of the secondary soil gas retarder is needed.

.2 Subgrade grading is to be such as to not allow any collected water in any part of this system to cause obstruction to soil gas extraction.

.3 All penetrations and seams in the foundation walls are to be sealed using appropriate means including but not limited to caulking.

.4 All exterior foundation walls are to be dampproofed per Section 5.2.2 of CC-1000.

.5 If masonry units are used in the construction of any part of the foundation, a course of solid masonry units are to be used at the first level above the soil contact line. Sealing of all penetrations, and seams must also be done on all applicable parts of this portion of the foundation.

.6 Install the soil gas collection pipes.

.2 The information below outlines the steps in order to install plenum connections (if required):

.1 Sleeves can be installed at the time that the footings are poured.

.2 Alternatively, hollow masonry units can be laid on their side to allow for air communication between adjacent soil gas collection plenums.

.3 The information below outlines the steps in order to install the soil gas collection system as per Reference Drawing.

.1 All soil gas collection pipes are to be in a 300 mm x 300mm trench to ensure that these pipes are completely surrounded by at least 75 mm of the 19mm clear stone. Manufacturers recommended fittings are to be used where appropriate.

.2 Install a PVC Schedule 40 or cast iron "T" at the extraction point below the soil gas retarder to be the point from which the soil gas vent pipe continues toward the

exhaust point. The horizontal aspects are to receive the ends of the soil gas collection pipes. The vertical aspect of the “T” is the start of the soil gas vent pipe system. A short piece of vent pipe is to be installed and temporarily capped ending 300 to 1200 mm above the poured concrete floor to allow for pressure field extension testing by a C-NRPP certified Mitigation Professional.

.3 Call a C-NRPP certified Mitigation Professional to conduct visual inspection before proceeding to the next section.

.4 The information below outlines the steps in order to install the soil gas retarder:

.1 After placement of the clear stone covering the soil gas collection pipes (and other services), install a soil gas retarder at least 6 mil thickness across the entire surface of the soil gas collection plenum.

.2 Where the soil gas retarder sheet edges meet, a 300mm overlap must be included and sealed using construction tape and caulk.

.3 Where the sheet edge meets the side of a foundation wall, the sheet must extend up the wall by at least 150 mm beyond the future surface of the final poured concrete level. A suitable sealant must attach the soil gas retarder to the foundation wall by way of a 25 mm wide bead of sealant approximately 25mm below the final concrete floor slab level.

.4 Seal all openings where penetrations had to be made to allow for any services. Details of methodologies to achieve this will be shared during a preconstruction meeting.

.5 Pedestrian and vehicular traffic across the soil gas retarder to be avoided to prevent damage. Any damage must be repaired prior to pouring the concrete.

.6 Call a C-NRPP certified Mitigation Professional to conduct visual inspection before proceeding to the next section.

.7 After the concrete has been installed and sufficiently cured to walk over, the excess soil gas retarder membrane extending above the floor can be removed by cutting. These areas should also be inspected at the same time and polyurethane caulk may be applied where there is any potential leak.

.8 After sufficient curing time call a C-NRPP certified Mitigation Professional to conduct pressure field extension testing before proceeding to the next section.

.5 The information below outlines the steps in order to install the soil gas venting system per Reference Drawing:

.1 After the completion of the pressure field extension testing, the specified type and diameter soil gas venting pipe is to be installed. Ensure that each pipe joint is fully engaged and sealed.

.2 Pipe supports and hangers spacing are to be as per code. Horizontal pipes should be sloped to the extraction point, at approximately 4 mm per 300 mm (1/8” per linear foot).

.3 Install an electrical outlet (120V) at a location convenient and not more than 2m from the location where a radon fan would be installed if and when post construction tests indicate that this is necessary.

.4 The point of exhaust of the radon vent pipe is to be directed upward (not greater

than 45 degrees from vertical) at least 1 metre above the highest vertical part of the exterior wall of the building. A 7mm (1/4") metal mesh rodent screen is to be installed at the terminal end to allow for passive ventilation and is not to terminate less than 10 metres from a mechanical air intake.

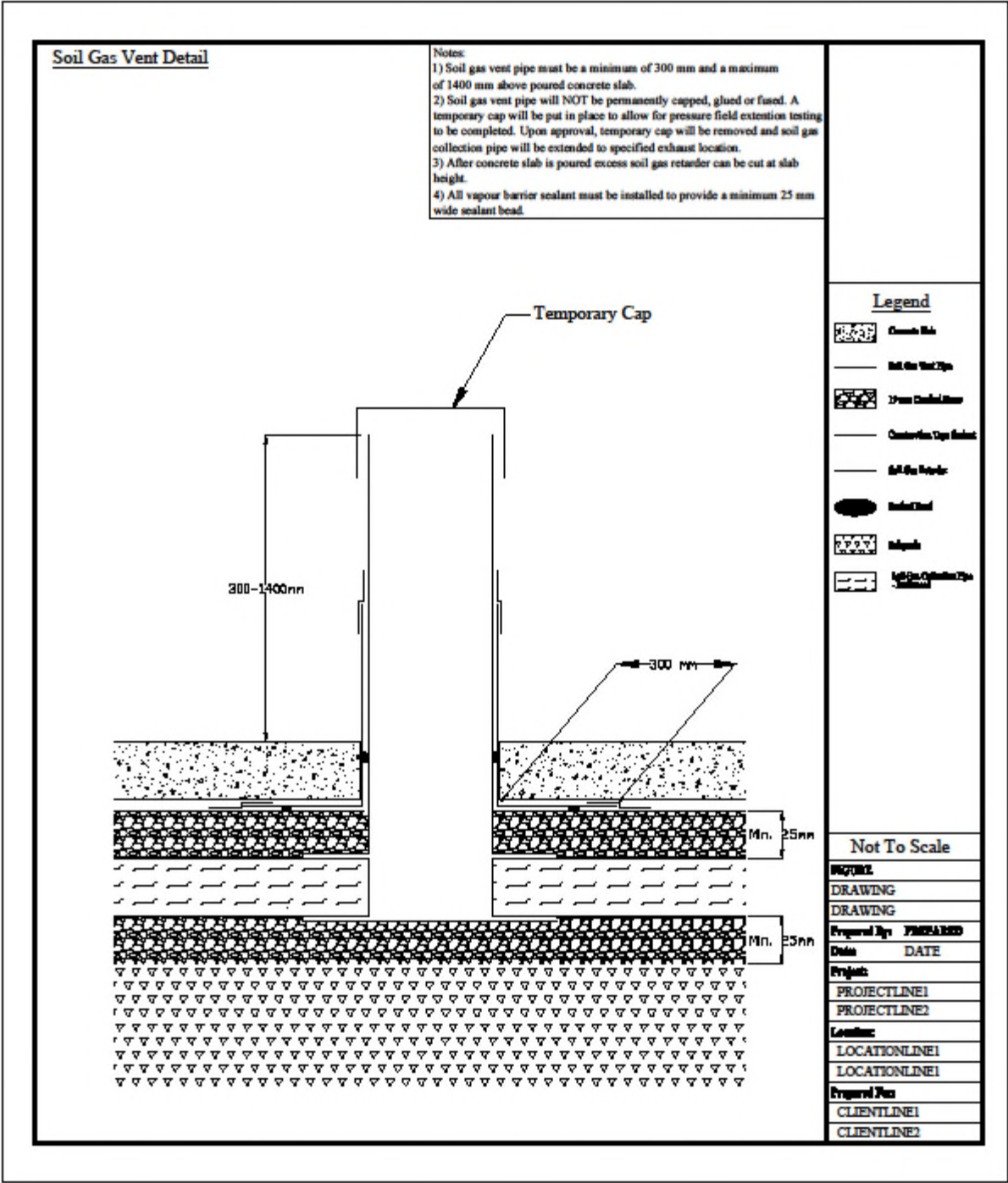
.5 Testing for radon will be conducted during the first heating season following commencement of occupancy. Testing is to be conducted by a C-NRPP Measurement Professional following the Health Canada 2015 Guide for Radon Measurements in Public Buildings.

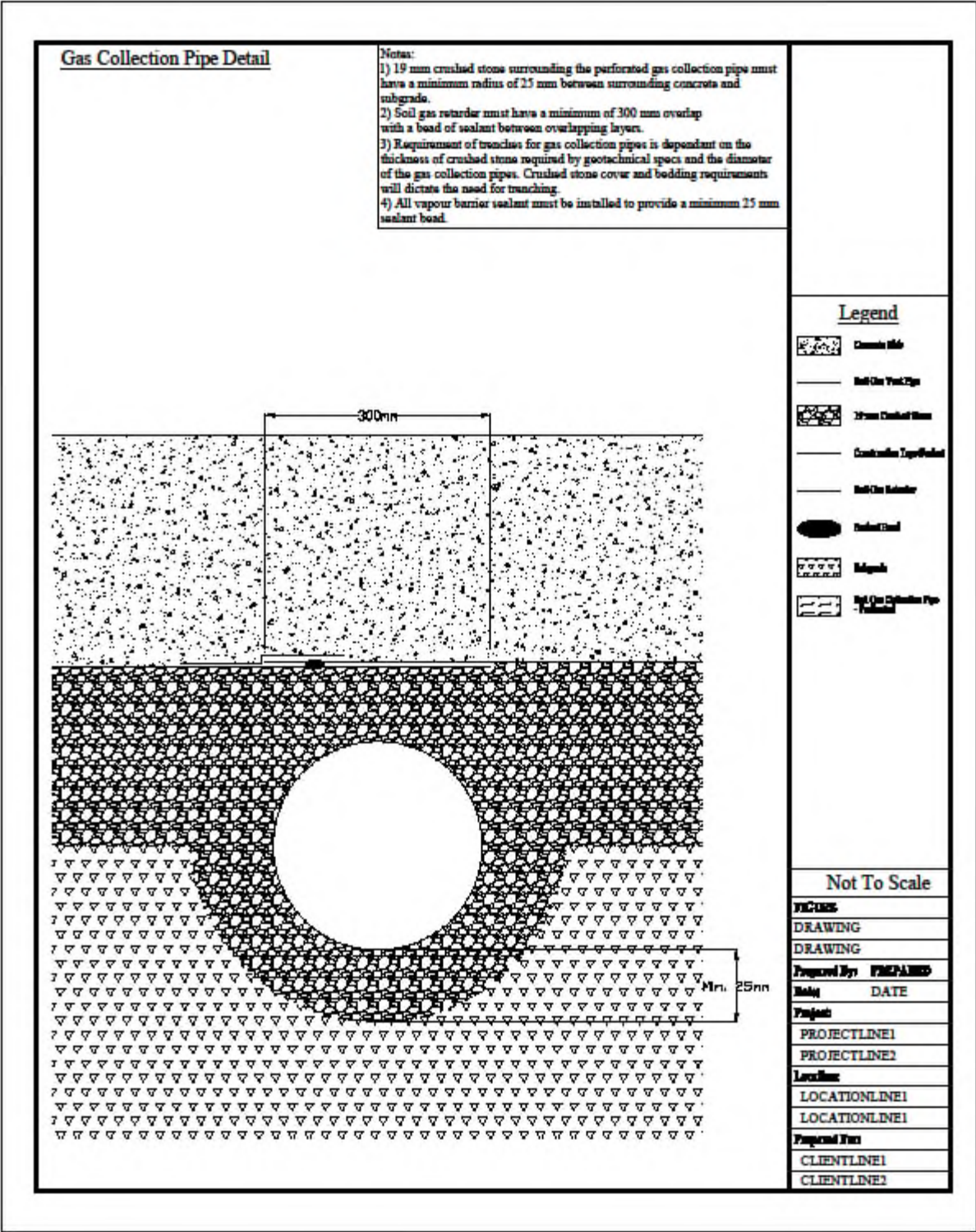
.6 University of Guelph's Designee will periodically inspect the completed work as required.

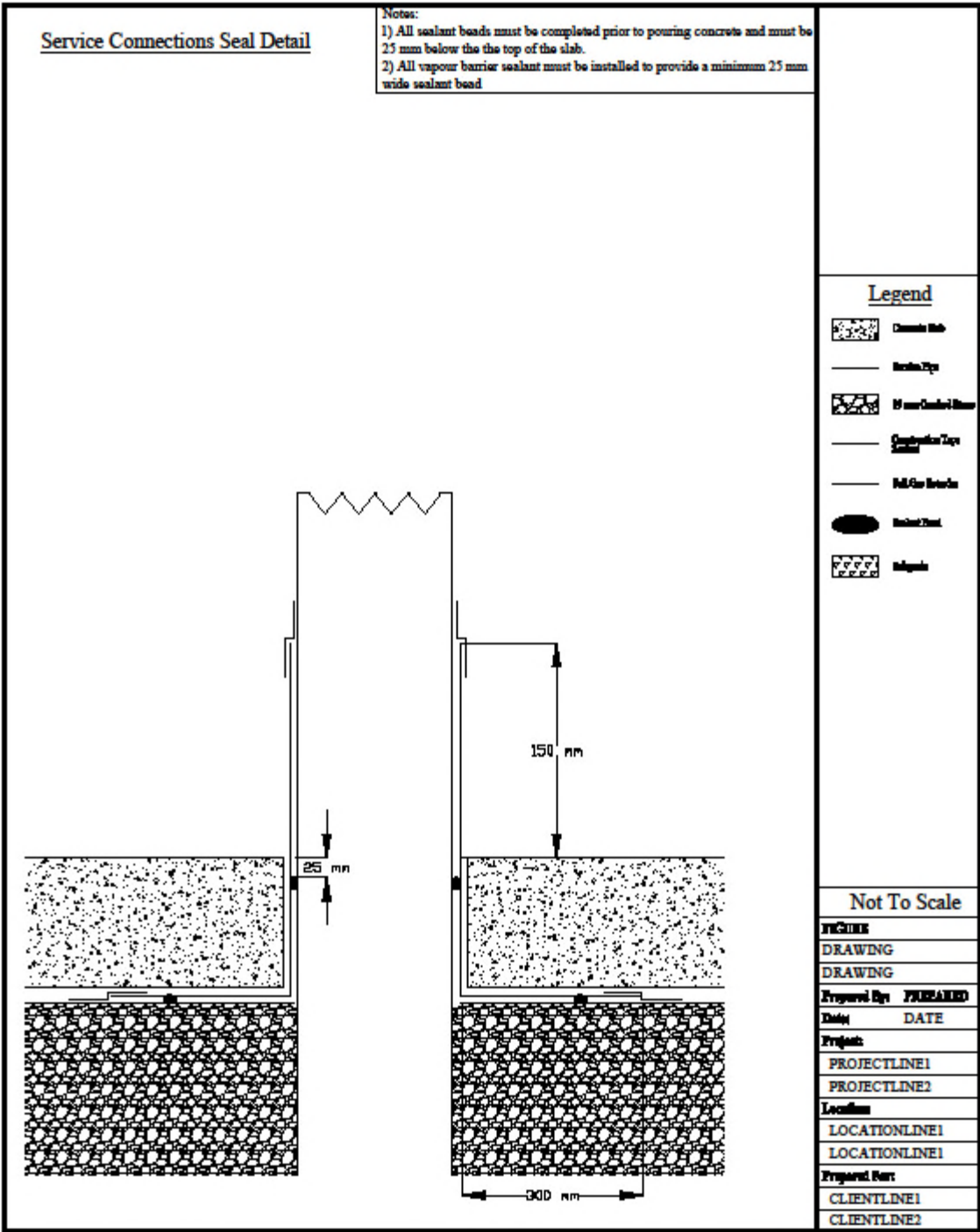
3.2 Safety Code

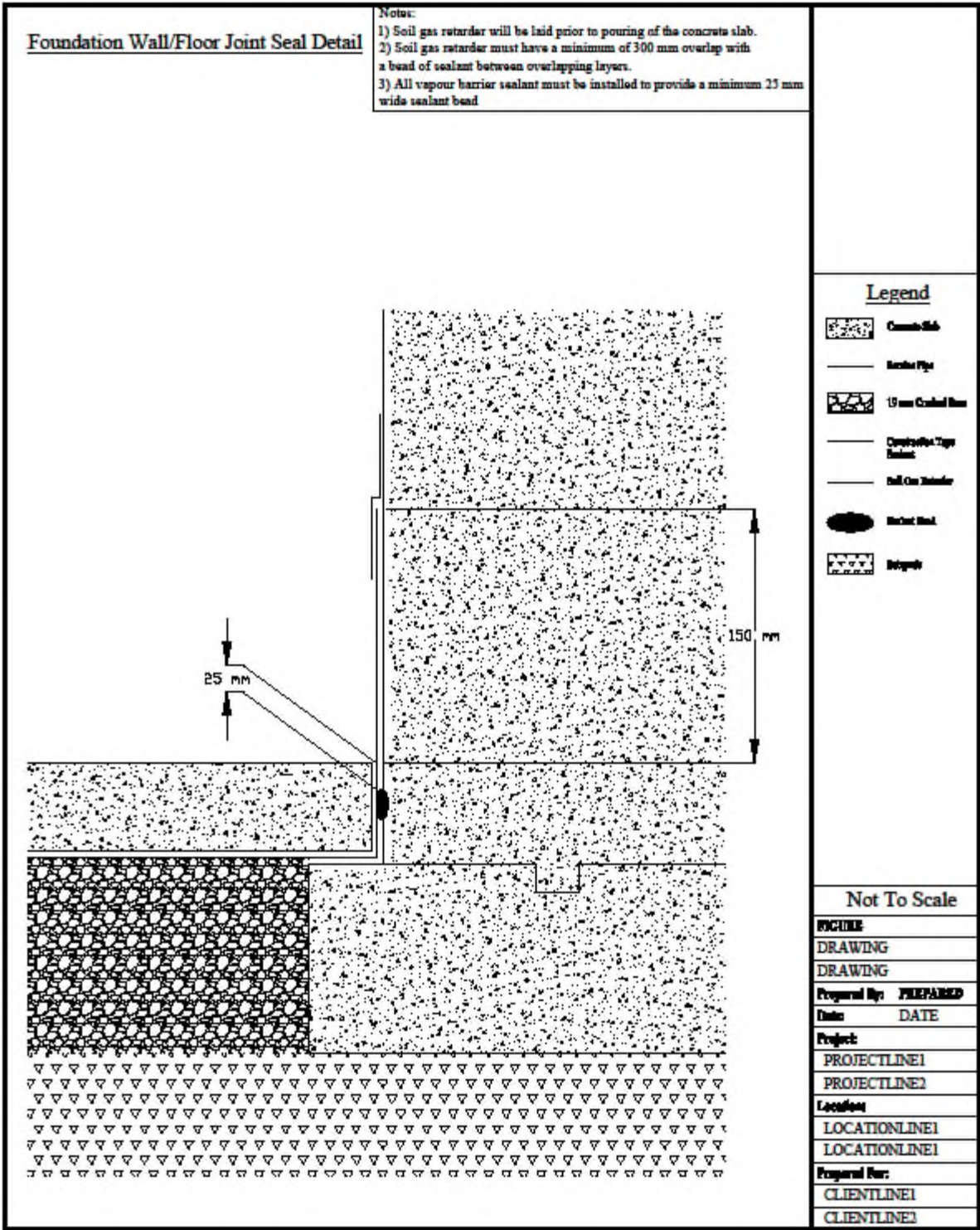
.1 Comply with all applicable legislation.

3.3 Reference Drawings









*****END*****

PART ONE - GENERAL

1.1 Related Sections

- .1 Comply with Division One as applicable.
- .2 Fire stopping and smoke seals within mechanical assemblies (i.e. inside ducts, dampers) and electrical assemblies (i.e. inside cable trays) are specified within their respective Divisions.

1.2 Submittals

- .1 Submit product data in accordance with Section 01 33 01 Submittals.
- .2 Submit manufacturer's product data to show proposed material, rating and application of material for use in rated separation, reinforcement, anchorage, fastenings and method of installation, compliance with listed standards. Construction details should accurately reflect actual job conditions.
- .3 Submit manufacturer's product data for materials and prefabricated devices, providing descriptions are sufficient for identification at job site. Include manufacturer's printed instructions for installation.
- .4 Prior to submitting data, review with Authority having Jurisdiction to confirm acceptability of proposed materials and assemblies.

PART 2 - PRODUCTS

2.1 Materials

- .1 Fire stopping and smoke seal systems: in accordance with CAN4-S115-M85.
 - .1 Asbestos-free materials and systems capable of maintaining an effective barrier against flame, smoke and gases in compliance with requirements of CAN4-S115-M85 and not to exceed opening sizes for which they are intended.
 - .2 Fire stop system rating for service penetrations: to suit Ontario Building Code 1997, 3.1.9.1 Fire Stopping of Service Penetrations.
 - .3 Fire stop system rating for sealing junction of rated walls to rated floors and ceilings: to suit Ontario Building Code.
- .2 Service penetration assemblies: certified by ULC in accordance with CAN4-S115-M85 and listed in ULC Guide No. 40 U19.
- .3 Service penetration fire stop components: certified by ULC in accordance with CAN4-S115-M85 and listed in ULC Guide No. 40 U19.13 and ULC Guide No. 40 U19.15 under the Label Service of ULC.
- .4 Fire-resistance rating of installed fire stopping assembly not less than the fire-resistance rating of surrounding floor and wall assembly, and in accordance with Ontario Building Code.
- .5 Fire stopping and smoke seals at openings intended for ease of re-entry such as cables: elastomeric seal; do not use cementitious or rigid seal at such locations.
- .6 Fire stopping and smoke seals at openings around penetrations for pipes, ductwork and other mechanical items requiring sound and vibration control: elastomeric seal; do not use a cementitious or rigid seal at such locations.

- .7 Primers: to manufacturer's recommendation for specific material, substrate, and end use.
- .8 Water (if applicable): potable, clean and free from injurious amounts of deleterious substances.
- .9 Damming and backup materials, supports and anchoring devices: to manufacturer's recommendations, and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.
- .10 Sealants for vertical joints: non-sagging.
- .11 Colour: if range available to Consultant's choice of standard colours, generally to match background colour where visible in finished spaces.

PART 3 - EXECUTION

3.1 Preparation

- .1 Examine sizes and conditions of voids to be filled to establish correct thickness and installation of materials. Ensure that substrates and surfaces are clean, dry and frost free.
- .2 Prepare surfaces in contact with fire stopping materials and smoke seals to manufacturer's instructions.
- .3 Maintain insulation around pipes and ducts penetrating fire separation without interruption to vapour barrier.
- .4 Mask where necessary to avoid spillage and over coating onto adjoining surfaces; remove stains on adjacent surfaces.

3.2 Installation

- .1 Install fire stopping and smoke seal material and components in accordance with ULC certification and manufacturer's instructions.
- .2 Seal holes or voids made by through penetrations, poke-through termination devices, and unpenetrated openings or joints to ensure continuity and integrity of fire separation are maintained.
- .3 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing.
- .4 Tool or trowel exposed surfaces to a neat finish.

3.3 Review

- .5 Remove excess compound promptly as work progresses and upon completion.
- .1 Notify Consultant when ready for review and prior to concealing or enclosing fire stopping materials and service penetration assemblies.

3.4 Schedule

- .1 Fire stop and smoke seal at:
 - .1 Penetrations through fire-resistance rated masonry, concrete, and gypsum board partitions and walls.

- .2 Top of fire-resistance rated masonry and gypsum board partitions.
- .3 Intersection of fire-resistance rated masonry and gypsum board partitions.
- .4 Control and sway joints in fire-resistance rated masonry and gypsum board partitions and walls.
- .5 Penetrations through fire-resistance rated floor slabs, ceilings and roofs.
- .6 Openings and sleeves installed for future use through fire separations.
- .7 Around mechanical and electrical assemblies penetrating fire separations.

3.5 Independent Inspection and Testing

- .1 Arrange independent inspection and testing of work of this Section. Pay costs from cash allowance established in Section 01 21 01 Allowances for this purpose.
- .2 Independent inspection agency shall:
 - .1 Inspect representative examples of each type of fire stops and smoke seals prior to being enclosed or covered.
 - .2 Make representative tests and investigations of completed work of this Section to ascertain conformance with manufacturer's requirements and performance criteria. Contractor shall make and repair test openings. Cost of making and repairing test openings shall be in Contract Price and not in Cash Allowance.
- .3 Contractor shall schedule and arrange inspections, providing sufficient advance notice to independent inspection and testing agency. Uncover any work of this Section which has not been subject to independent inspection and testing.
- .4 Independent inspection and testing agency shall issue written reports, copied to Owner, Building Dept., Contractor and Consultant.

3.6 Clean Up

- .1 Remove excess materials and debris and clean adjacent surfaces immediately after application.
- .2 Remove temporary dams after initial set of fire stopping and smoke seal materials.

***** END *****