

Project Manual for the  
**WATERDOWN D.H.S. - DUST COLLECTOR REPLACEMENT**

at

215 Parkside Drive  
Waterdown, Ontario

for

**HWDSB**

Hamilton-Wentworth District School Board  
20 Education Court  
Hamilton, Ontario

HWDSB No.: 2026-125-P02218  
CGS Project No.: 25019

ISSUED FOR BIDDING: 2026 04 07



1 General

1.1 OWNER

.1 Owner for the Project is:

Hamilton-Wentworth District School Board  
20 Education Court  
Hamilton, Ontario  
L9A 0B9

1.2 CONSULTANTS

.1 Document Responsibility: Refer to Section 00 01 10 - Table of Contents for indication of document responsibility. Abbreviations for entity responsible for document preparation are as indicated below in parentheses.

.2 The following firms comprise the Consultant team for the Project:

.1 Architect (A)

Curran Gacesa Slote Architects  
118 James Street North, Suite 300  
Hamilton, Ontario  
L8R 2K7  
Telephone: 905.297.0863

.2 Mechanical Engineer (M)

COPA Engineering Ltd.  
29 Rolling Acres Drive  
Kitchener, Ontario  
N2A 3W5  
Telephone: 519.894.0022

.3 Electrical Engineer (E)

Root3 Engineering Ltd.  
1920 Yonge Street, Suite 200  
Toronto, Ontario  
M4S 3E2  
Telephone: 437.562.6772

END OF DOCUMENT

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1 General

1.1 STATUS OF AVAILABLE PROJECT INFORMATION

- .1 Available Project information means information of any type and in any form that is expressly identified as available project information relevant to Place of the Work, that have been prepared by third-parties, and are intended strictly as additional information for consideration by Bidders.
- .2 No available Project information forms part of the Contract Documents unless copied or transcribed into Drawings or Specifications, or is expressly listed in the agreement as a Contract Document.

1.2 USE AND RELIANCE UPON AVAILABLE PROJECT INFORMATION

- .1 Available Project information is made available to Bidders to fulfill Owner's duty to disclose all relevant Project information to Bidders.
- .2 Bidders shall interpret and draw their own conclusions about available Project information, including consideration of the time when it was created. Available Project information may be time sensitive. Owner and Consultant assume no responsibility for such interpretations and conclusions.
- .3 Available Project information, or any part thereof, shall not be construed as contract requirements unless also reflected in Drawings or Specifications, and in case of conflict, Drawings or Specifications shall govern.
- .4 Bidders, acting reasonably, may rely on available Project information in preparing their bids, subject to any qualifications stated in such available Project information and unless expressly stated otherwise.
- .5 Bidders are cautioned that such documents, by their nature, cannot reveal all conditions that exist or can occur at Place of the Work.
- .6 Should conditions at Place of the Work, in Consultant's opinion, be found to substantially vary from those identified in available Project information, then changes in the Work may need to be made, with appropriate adjustments being made to Contract Price and Contract Time.
- .7 Direct questions pertaining to available Project information by contacting issuing organization.

1.3 ASBESTOS INVENTORY

- .1 A copy of an Asbestos Free Structure drawing set with respect to Place of the Work is being made available as part of the Bid Documents; described as follows:  
Titled: Waterdown High School, Asbestos Free Structure, School Built in 1992,  
Addition 1997;  
Prepared by: The Hamilton-Wentworth District School Board.

END OF SECTION

## **Appendix A – Construction School Specific Information Sheet Sample**

In addition to the terms and conditions of the Contract Documents, the Contractor shall follow the protocols of the Construction Site Specific Information Sheet, sample provided below.

A completed version of this document, with site specific content, will be provided to the Contractor at the pre-construction meeting.

## Construction School Specific Information Sheet

### 1. School Information:

**School Name:** Insert School Name

#### **Bell Times**

Morning (School Entry): 0:00 AM  
Afternoon (School Dismissal): 0:00 PM  
Aftercare Program Dismissal: 6:00 PM

**Caretaking Phone Number:** 000-000-0000

**\*After-Hours Emergency Number:** 905-667-3079

#### **\*\*Caretaking Hours**

September to June 6:00 AM – 10:00 PM  
December Holiday Break 6:00 AM – 2:00 PM  
March Break 6:00 AM – 2:00 PM  
July to August 6:00 AM – 2:00 PM  
Saturday / Sunday CLOSED

**Account Code:** HP0000

**Security Panel Code:** 0000

\*Please call the After-Hours Emergency Number noted above if issues arise outside of Caretaking Hours. These would include unanticipated interruption of services, issues with building or room access, fire alarm or security concerns, etc.

\*\*Caretaker hours are not guaranteed. Please confirm with the HWDSB project supervisor prior to any work taking place, and then on a weekly basis throughout the duration of the project.

### 2. School Entry for afterhours, school holidays or closures:

Please follow these steps upon entry to the building outside of caretaker hours and on school holidays or closures:

1. Call API Alarm Inc. at 1-877-787-5237 and notify them in advance of the day(s) and time(s) that access to the building will be required. They will require the HP code noted above.
2. Disarm the security panel when arriving.
3. Arm the security panel when leaving.
4. Call API to verify that the building is armed and secure.

## Construction School Specific Information Sheet

Failure to follow this procedure outside of caretaker hours and on school holidays or closures will result in an automatic dispatch of a security guard to the building to verify who has entered/exited the building. Security costs associated with the dispatch of a security guard for failing to follow the procedure will be expensed to the contractor responsible for the incident.

### 3. Protocol for Work Impacting Fire Alarm System or Devices

The contractor is to follow this procedure when the fire alarm system is impacted.

#### A. References and Definitions:

Fire Alarm Control and Testing Service Provider: Hamilton Fire Control

Fire Alarm and Security System Monitoring Service Provider: API Alarm Inc.

Fire Watch: An hourly patrol of areas that are not protected/monitored by the fire alarm system. These include but are not limited to, a disconnected device, a covered device, a bypassed device, or device in trouble. The general contractor is responsible for fire watch in all construction areas. Caretaking staff are responsible for fire watch in all other areas of the school. Fire watch is to be recorded in a Fire Watch Log.

Fire Watch Log: The general contractor is to document and maintain a written log confirming fire watch has been conducted hourly. This log is to remain on site for the duration of the project. This written log is maintained separate from the caretaking fire watch log. The caretaking log is digitally recorded within the Boards asset management system (eBase).

#### B. Mandatory Pre-Construction Site Meeting with Hamilton Fire Control

1. Contractor to request a meeting prior to mobilization with Michael Fleet from Hamilton Fire Control (HFC), the project supervisor from HWDSB, the facility operation supervisor from HWDSB and the head caretaker to review any work that will affect the fire alarm system. This can be coordinated by the project supervisor upon request.

Contact: Michael Fleet - Hamilton Fire Control

Phone: (905) 527-7042

Email: [michael@hamiltonfirecontrol.ca](mailto:michael@hamiltonfirecontrol.ca)

2. Contractor to minute the meeting and submit to the project supervisor and Michael Fleet from HFC for review within 48 hours of the site-walk-through.

#### C. Mandatory Construction Protocol if the Fire Alarm System is Impacted

## Construction School Specific Information Sheet

1. Contractor to follow procedures discussed and documented from the pre-construction site meeting with Hamilton Fire Control.
2. If devices are impacted during occupied hours:
  - Per the Fire Safety Plan, contractor to notify API that they'll be on Fire Watch (in the area of the impacted devices only). API will not take any action; the notification is for information purposes only.
  - Contractor to either take the device offline or protect/cover it. Fire watch (in the area of the impacted device only) is required in either of these scenarios. If the alarm goes off during work, all occupants, including contractors, are to evacuate the building and the fire department will be dispatched.

If hot work is taking place, prior to the above-noted steps:

- Contractors are required to advise HWDSB at least 24 hours before any hot work is scheduled to take place.
  - The contractor is required to provide a hot work permit to HWDSB at the same time.
3. If devices are impacted outside of occupied hours, and the contractor is the only party in the building:
    - The same protocol above is to be followed.
  4. If the system or specific devices will not be operational while the school is completely vacant (i.e. overnight or on a weekend when no Work is taking place):
    - No action required.

***The system is not to be bypassed (device(s) or full system). The system is NOT to be put on test. The only time the system will be put on test and the school will be on Fire Watch is if the system is being tested.***

***In the event a fire alarm device is activated, all occupants of the school, including contractors, must evacuate the school. The fire department will be dispatched. The contractor will be responsible for all fire department costs resulting from construction.***

#### **4. Please follow these steps for planning any service (electrical, gas, water) shutdowns:**

A. Internal Localized System/Service Shutdowns:

## Construction School Specific Information Sheet

1. Localized shutdowns **require minimum 3 days' notice** to HWDSB project supervisor for coordination with the school facility and staff.
2. Shutdowns must be completed outside of school bell times/operational hours which vary by facility and must be scheduled for evenings after 6:00 PM, weekends or board holidays.
3. If a shutdown will impact the security system, the contractor shall contact API Alarm Inc. at 1-877-787-5237 and notify them in advance of the day(s) and time(s) of the shutdown.
4. If a shutdown impacts the fire alarm system, the contractor shall follow the Fire Alarm Bypass Protocol, section 4 above.
5. If required, the contractor is to coordinate with Board vendor/s to be on site to ensure boilers, roof top units, heat pumps, etc. are functioning properly after service disruption has concluded.
  - Chamberlain Building Services Inc - [info@chbs.ca](mailto:info@chbs.ca), 905-664-1914 or
  - Union Boiler Company Limited - [info@unionboiler.com](mailto:info@unionboiler.com), 905-528-7977
6. Process will vary based on services shutdown and ability to localize shutdown.

### B. Complete School System/Service Shutdowns:

1. Complete building shutdowns **require minimum 5 days' notice** to HWDSB project supervisor.
2. Shutdowns must be completed outside of school bell times/operational hours which vary by facility and must be scheduled for evenings after 6:00 PM, weekends or board holidays.
3. Contractor to contact API Alarm Inc. at 1-877-787-5237 and notify them in advance of the day(s) and time(s) of shutdown.
4. During the shutdown, the contractor is responsible for following Fire Alarm Bypass Protocol, section 4 above.
5. The contractor is to coordinate with Board vendor/s to be on site to ensure boilers, roof top units, heat pumps, etc. are functioning properly after service disruption has concluded.
  - Chamberlain Building Services Inc - [info@chbs.ca](mailto:info@chbs.ca), 905-664-1914 or
  - Union Boiler Company Limited - [info@unionboiler.com](mailto:info@unionboiler.com), 905-528-7977
6. HWDSB project supervisor will coordinate with other HWDSB departments to ensure all systems (IIT, security, communications) are up and running after service disruption has concluded.
7. If required, HWDSB project supervisor will coordinate with City of Hamilton staff if site has shared facilities such as recreation centre, community centre, pool or library, etc.
8. Process will vary based on service shutdown.

### C. Heating and Cooling System Shutdowns:

## Construction School Specific Information Sheet

1. Heating and cooling system shutdowns **require minimum 5 days' notice** to HWDSB project supervisor
2. Shutdowns must be completed outside of school bell times/operational hours which vary by facility and must be scheduled for evenings after 6:00 PM, weekends or board holidays.
3. The contractor is to coordinate with Board vendor/s to be on site to ensure boilers, roof top units, heat pumps, etc. are functioning properly after service disruption has concluded.
  - Chamberlain Building Services Inc - [info@chbs.ca](mailto:info@chbs.ca), 905-664-1914 or
  - Union Boiler Company Limited - [info@unionboiler.com](mailto:info@unionboiler.com), 905-528-7977
4. If the boiler system is drained, the contractor upon refilling the system, is responsible for coordinating Board approved chemical treatment vendor to treat water.
  - Aquarian Chemicals Inc - [info@aquarianchemicals.com](mailto:info@aquarianchemicals.com), 905-825-3711
5. Process will vary based on services shutdown and ability to localize shutdown.

#### D. Asbestos Abatement and Designated Substance Related Work:

1. Designated substance related work **requires minimum 5 days' notice** to HWDSB project supervisor.
2. Designated substance related work in occupied areas must be completed outside of school bell times/operational hours which vary by facility and must be scheduled for evenings after 6:00 PM, weekends or board holidays.

1 General

1.1 WORK OF THIS CONTRACT

- .1 Work of this Contract comprises the following:

WATERDOWN D.H.S. - DUST COLLECTOR REPLACEMENT

at the following location:

215 Parkside Drive  
Waterdown, Ontario

and is further identified as:

HWDSB No. 2026-125-P02218, and  
CGS Project No.: 25019.

1.2 DIVISION OF WORK

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

1.3 SPECIFICATIONS LANGUAGE AND STYLE

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

1.4 SPECIFICATIONS MEASUREMENTS AND DIMENSIONS

- .1 Specifications are written using metric measurements and dimensions.
- .2 This does not preclude the use of Products manufactured or produced to imperial measurements.
- .3 It remains Contractor's responsibility to make the various parts of the Project come together properly and neatly in a complete manner, in accordance with Contract Documents.

1.5 CONTRACT DOCUMENTS FOR CONSTRUCTION PURPOSES

- .1 Contract Documents were prepared by Consultant for the account of Owner. Information contained in Contract Documents reflects Consultant's best judgement in light of the information available to them at the time of preparation. Any use which a third party makes of Contract Documents, or any reliance on or decisions to be made based on them, are the responsibility of such third parties. Consultant accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on Contract Documents.
- .2 Consultant will supply Contractor with a complete set of Contract Documents in electronic form before commencement of the Work. Contractor may print hard copies for construction purposes as required.

## 1.6 DOCUMENTS AT PLACE OF THE WORK

- .1 Keep the following documents at Place of the Work, stored securely and in good order and available to Owner and Consultant in hard copy and electronic form.
  - .1 Current Contract Documents, including Drawings, Specifications, addenda, bid revisions, and Notices in Writing.
  - .2 Proposed changes, Change Orders, Change Directives, and Supplemental Instructions.
  - .3 Reviewed Shop Drawings, Product data and samples.
  - .4 Field test reports and records.
  - .5 Construction progress schedule.
  - .6 Construction daily log.
  - .7 Meeting minutes.
  - .8 Manufacturer's certifications.
  - .9 Current as-built drawings.
  - .10 Safety Data Sheets (SDS) for controlled Products.
  - .11 Manufacturer's installation and maintenance guidelines.
  - .12 Consultant's field review reports and deficiency reports.
  - .13 Permits and reports issued by authorities having jurisdiction.
- .2 Make documents available to Consultant for review at Place of the Work.

## 1.7 CONTRACTOR USE OF PREMISES

- .1 Refer to Section 01 14 00 for Contractor use and control of Place of the Work from time of Contract award until Ready-for-Takeover.
- .2 Confine Construction Equipment, Temporary Work, storage of Products, waste materials and debris, and other construction operations to limits required by laws, ordinances, permits, and Contract Documents, whichever is most restrictive. Do not unreasonably encumber Place of the Work.

## 1.8 OWNER-SUPPLIED PRODUCTS

- .1 Owner Responsibilities
  - .1 Order and pay for Owner-supplied Products not already in Owner's possession.
  - .2 Arrange and pay for delivery of Owner-supplied Products F.O.B. Place of the Work, within time frames required by Contractor's construction progress schedule. If delivered sooner than required by Contractor's latest construction progress schedule submitted to Owner, arrange and pay for delivery to a temporary storage location and subsequent delivery to Place of the Work.
  - .3 Advise Contractor in writing of the value of Owner-supplied Products for Contractor's insurance purposes.
  - .4 Arrange and pay for delivery to Contractor of reviewed Shop Drawings, Product data, samples, and manufacturer's instructions and certificates.
  - .5 Inspect deliveries jointly with Contractor.
  - .6 Submit claims for transportation damage.
  - .7 Arrange for replacement of damaged, defective or missing items identified at time of delivery.
  - .8 Arrange for manufacturer's field services.
  - .9 Arrange for delivery of manufacturer's warranties to Contractor for inclusion in operation and maintenance manuals.
- .2 Contractor Responsibilities
  - .1 Designate in construction progress schedule, time frames for delivery of Owner-supplied Products to Place of the Work and for receipt of related submittals. If Place of the Work is not ready to receive delivery of Owner-supplied Products within the time frame indicated in the latest construction progress schedule submitted to Owner, arrange and pay for delivery to a temporary storage location and subsequent delivery to Place of the Work.

- .2 Review required submittals and notify Consultant of any observed discrepancies or anticipated problems.
- .3 Ensure that course of construction insurance is adequate to cover Owner-supplied Products.
- .4 Receive and unload Owner-supplied Products at Place of the Work.
- .5 Inspect deliveries jointly with Owner. Record and notify Owner and Consultant of shortages and visibly damaged or defective items.
- .6 Handle Owner-supplied Products at Place of the Work, including uncrating and storage. Dispose of waste materials and debris.
- .7 Take appropriate precautions to protect Owner-supplied Products from loss or damage.
- .8 Repair or replace items damaged at Place of the Work.
- .9 Assemble, install, connect, adjust, and finish Owner-supplied Products.
- .10 Arrange for inspections required by authorities having jurisdiction.
- .11 Arrange for or perform testing required by authorities having jurisdiction.
- .12 Workmanship warranty for installation.
- .13 Make Good Owner-supplied Products damaged by Contractor or Subcontractors at Place of the Work.

#### 1.9 OWNER'S SPECIAL REQUIREMENTS

- .1 Refer to Owner's Request for Tender documents for additional contractual requirements intended to supplement or modify CCDC 2; including the following:
  - .1 Requests for substitution during the bidding phase.
  - .2 Defined words and terms.
  - .3 Construction insurance.
  - .4 Surety bonds.
  - .5 WSIB coverage.
  - .6 Payment terms.
  - .7 Timelines for deliverables.
  - .8 Ontario Construction Act timelines, including release of lien holdback.
  - .9 Access to existing facility.

END OF SECTION

1 General

1.1 RESTRICTIONS ON USE OF PREMISES

- .1 Limit use of premises for Work, for storage, and for access, to allow:
  - .1 Owner occupancy.
  - .2 Work by Other Contractors.
  - .3 Public usage.
- .2 Coordinate use of premises under direction of Owner.
- .3 Conform to Owner's Construction School Specific Information Sheet.

1.2 WORK BY OTHERS

- .1 Work of the Project executed prior to start of Work of this Contract, and which is specifically excluded from this Contract.
  - .1 Removal and storage of existing portable furnishings from defined areas of construction at Place of the Work by Owner.

1.3 OWNER OCCUPANCY OF EXISTING FACILITY

- .1 Owner will occupy existing facility during entire construction period.
- .2 Cooperate with Owner in scheduling operations to minimize disruptions and to facilitate Owner usage.

1.4 RESTRICTED HOURS OF WORK IN OCCUPIED FACILITY

- .1 When performing Work within existing facility beyond the defined areas of construction, coordinate with Owner's representative at Place of the Work to ensure operational program of existing facility is not disrupted. Conduct such coordination not less than 48 hours prior to commencing such portions of the Work.
- .2 Submit written notice to Owner within 24 hours of any potential disruptions to continuing operations of existing facility.
- .3 Allow for hours of work restrictions in construction progress schedule.

1.5 WORK RESTRICTIONS IN OCCUPIED FACILITY

- .1 Ensure construction and manoeuvring by Subcontractors is restricted to within the defined areas of construction at Place of the Work.
- .2 When vehicle manoeuvring is required beyond the defined areas of construction at Place of the Work, arrange for an experienced flag person to safely direct vehicles and keep both workers and non-construction personnel at safe distances.
- .3 Maintain exiting during all phases of construction including, but not limited to, exiting through or adjacent to, defined areas of construction in existing facility and Place of the Work.
- .4 Conduct a daily construction fencing review walk at beginning of each shift to ensure construction fencing is secure and safely separating the defined areas of construction from occupied facility and outdoor play areas.
- .5 Contractor is responsible for maintaining one construction access point. This access point must be secured by a locking device during after hours. Contractor will Provide a temporary door where one does not currently exist for any opening required through the protective enclosure to access existing occupied facility. Temporary door requires a locking mechanism. Contractor is solely responsible for maintaining and preventing unauthorized access into defined areas of construction.

- .6 At no time may Contractor store any Products or Construction Equipment inside existing boiler rooms or custodial rooms. If Products or Construction Equipment are found stored in such locations, Owner will issue one Notice in Writing to Contractor, instructing them to remove such items. If items are not removed within 24 hours, Owner will remove items and cannot guaranty their safe storage.
  - .7 Contractor is not permitted to use any part of existing facility for storage, meeting spaces, site offices, washrooms facilities, or lunch rooms.
  - .8 Microwaves, or other cooking devices, are not permitted inside existing facility and will be immediately removed by Owner when found.
- 1.6 NOISY WORK RESTRICTIONS IN OCCUPIED FACILITY
- .1 Use powder actuated devices only with Consultant's written permission.
- 1.7 FOOD AND BEVERAGE RESTRICTIONS IN OCCUPIED FACILITY
- .1 Limit consumption of food and beverages in occupied facility to only those areas designated by Owner.
  - .2 There shall be no food or beverages allowed within existing facility beyond the defined areas of construction.
  - .3 Only water will be permitted to be consumed within existing facility.
  - .4 No sunflower seeds, peanuts, nuts, or similar foods are permitted anywhere at Place of the Work.
  - .5 Workers found to be in violation of this requirement will be required to leave Place of the Work and will be replaced by Contractor.
- 1.8 MAINTAINING LIFE SAFETY SYSTEMS IN OCCUPIED FACILITY
- .1 Maintain operational life safety systems and public access to exits in occupied areas during execution of the Work.
  - .2 Existing Entrances and Exits:
    - .1 Maintain existing entrances and exits to ensure public safety.
    - .2 Where existing entrances and exits are blocked or adversely affected by construction activities, construct temporary entrances and exits in accordance with authorities having jurisdiction.
  - .3 Determine nature and exact locations of existing fire and smoke sensors prior to commencement of the Work. Avoid direct or indirect jarring while working in adjacent areas and exercise caution to avoid triggering these devices.
  - .4 Be responsible for costs incurred by Owner on account of false fire alarms activated as a result of the execution of the Work without adequate precautions.
- 1.9 FIRE PROTECTION IN OCCUPIED FACILITY
- .1 Conduct fire watches in strict accordance with Owner's Construction School Specific Information Sheet, Part 3 - Protocol for Work Impacting Fire Alarm System or Devices.
  - .2 Fire Watch Log: Prepare and maintain a written fire watch log, recording the following information for each fire watch:
    - .1 Name of facility,
    - .2 Area of fire watch,
    - .3 Date and time of fire watch,

- .4 Initials of person conducting fire watch, and
- .5 Status and notes pertaining to fire watch.

END OF SECTION

1 General

1.1 CASH ALLOWANCES FOR PURCHASE ORDERS

- .1 Amount of each cash allowance includes the amount payable by Contractor to designated Supplier after assignment of the assignable purchase order, excluding Value Added Taxes.
- .2 Amount of each cash allowance does not include costs of the following items, which costs shall be included in Contract Price and not in cash allowance:
  - .1 Unloading, handling and storage at Place of the Work.
  - .2 Installation and other related costs.
  - .3 Overheads and profits related to cash allowance.

END OF SECTION

1 General

1.1 DEFINITION

- .1 Substitution means a Product, a manufacturer, or both, not originally specified in Contract Documents by proprietary name but proposed for use by Contractor in place of a Product, a manufacturer, or both, specified by proprietary name.

1.2 SUBSTITUTION PROCEDURES

- .1 Contractor may propose a Substitution wherever a Product or manufacturer is specified by proprietary name(s), unless there is accompanying language indicating that Substitutions will not be considered.
- .2 Contractor may propose a Substitution wherever a Product or manufacturer is specified by proprietary name(s) and accompanied by language such as "or equal", "or approved equal", or other similar words. Do not construe such language as an invitation to unilaterally Provide a Substitution without Consultant's prior written acceptance. Do not order or install any Substitution without a Supplemental Instruction or Change Order. Unauthorized Substitutions will be removed and replaced with specified Product by Contractor.
- .3 Provided a proposed Substitution submission includes all of the information specified in this Section under Submission Requirements for Proposed Substitutions, Consultant will promptly review and accept or reject the proposed Substitution.
- .4 Consultant may accept a Substitution if satisfied that:
  - .1 The proposed substitute Product is the same type as, is capable of performing the same functions as, interfaces with adjacent work the same as, and meets or exceeds the standard of quality, performance and, if applicable, appearance, warranty and maintenance considerations, of the specified Product,
  - .2 The proposed substitute manufacturer has capabilities comparable to the specified manufacturer, and
  - .3 The Substitution provides a benefit to Owner.
- .5 If Contractor fails to order a specified Product or order a Product by a specified manufacturer in adequate time to meet Contractor's construction progress schedule, Consultant will not consider that valid reason to accept a Substitution.
- .6 If Consultant accepts a Substitution, and subject to Owner's agreement, the change in the Work will be documented in the form of either a Supplemental Instruction or Change Order as specified in Section 01 26 00.
- .7 If a Substitution is accepted in the form of a Supplemental Instruction or Change Order, Contractor shall not revert to an originally specified Product or manufacturer without Consultant's prior written acceptance.

1.3 SUBMISSION REQUIREMENTS FOR PROPOSED SUBSTITUTIONS

- .1 Include with each proposed Substitution the following information:
  - .1 Identification of the substitution, including product name, and manufacturer's name, address, telephone numbers, and web site address.
  - .2 Reason or reasons for proposing the Substitution.
  - .3 A statement verifying that the Substitution will not affect the Contract Price and Contract Time or, if applicable, the amount and extent of a proposed increase or decrease in Contract Price and Contract Time on account of the Substitution.
  - .4 A statement verifying that the Substitution will not affect the performance and warranty of other parts of the Work.
  - .5 Manufacturer's Product literature for the Substitution, including material descriptions, compliance with applicable codes and reference standards, performance and test data, compatibility with contiguous materials and systems, and environmental considerations.

- .6 Product samples as applicable.
- .7 A summarized comparison of the physical properties and performance characteristics of the specified Product and the proposed Substitution, with any significant variations clearly highlighted. Values describing the physical properties and performance characteristics of the proposed Substitution must be expressed using the same units of measurement as for the specified Product, and have been tested using the same test methods as used for the specified Product.
- .8 Availability of maintenance services and sources of replacement materials and parts for the proposed Substitution, as applicable, including associated costs and time frames.
- .9 If applicable, estimated life cycle cost savings resulting from the Substitution.
- .10 Details of other similar projects and applications where the Substitution has been used.
- .11 Identification of any consequential changes in the Work to accommodate the Substitution and any consequential effects on the performance of the Work as a whole. A later claim for an increase to the Contract Price or Contract Time for other changes in the Work attributable to the Substitution will not be considered.

END OF SECTION

1 General

1.1 CLARIFICATIONS

- .1 Request written clarifications when meaning of Contract Documents is unclear.
- .2 Do not proceed with related parts of the Work until clarification is received.
- .3 Failure to notify Consultant when Contract Documents are unclear or inconsistent will result in Contractor incurring responsibility for resulting deficiencies and additional costs.
- .4 Clarifications issued by Consultant are deemed to supercede the relevant parts of Contract Documents, regardless whether those documents are cited in the written clarification.

1.2 REQUESTS FOR INFORMATION

- .1 Contractor may, after exercising due diligence to locate the required information, request from Consultant clarification or interpretation of Contract Documents, hereinafter referred to as a request for information (RFI).
- .2 Submit RFI on a form acceptable in content to Consultant, including a detailed description of Contractor's review of Contract Documents leading up to issuance of the RFI. Requests for information that fail to include a detailed review description, or whose description is insufficient in the opinion of Consultant, may not be considered and may be rejected.
- .3 Maintain a log of RFI sent to and responses received from Consultant, complete with corresponding dates. Submit updated RFI log with each application for payment.
- .4 Submit RFI to Consultant sufficiently in advance of affected parts of the Work so as not to cause delay in the Work. Additional costs incurred as a result of failure to submit an RFI in sufficient time will not be reimbursed by Owner.
- .5 RFI will only be received from Contractor. RFI received directly from Subcontractors or Suppliers will not be considered.
- .6 Submit one RFI per RFI form, numbered consecutively in a single sequence, in the order submitted.
- .7 Consultant will review and respond to RFI with reasonable promptness.
- .8 Consultant's response to RFI will not be considered a Change Order or a Change Directive, nor does it authorize changes in the Work, Contract Price or Contract Time.
- .9 If, at any time, Contractor submits a large quantity of RFI, such that Consultant cannot process them within a reasonable period of time, then Consultant will notify Contractor of such in writing. In this event, Contractor and Consultant will jointly prepare an estimate of time necessary for processing RFI, as well as determining an order of priority among submitted RFI. Contractor will accommodate such necessary time at no increase in Contract Time or Contract Price.
- .10 If the information requested in an RFI is apparent from field observations, is contained in Contract Documents or is reasonably inferable from them, Contractor shall be responsible to Owner for reasonable costs charged by Consultant for additional services required to prepare and issue such information.
- .11 A request for information (RFI) will not constitute a notice of claim for a delay.

1.3 SUPPLEMENTAL INSTRUCTIONS

- .1 Consultant may issue Supplemental Instructions to clarify Contract Documents, issue additional information, or make minor variations in the Work not involving adjustments in Contract Price or Contract Time.

- .2 If Contractor considers a Supplemental Instruction to require an adjustment in Contract Price or Contract Time, Contractor shall promptly notify Consultant and Owner in writing and shall not proceed with any work related to the Supplemental Instruction pending receipt of a Change Order, a Change Directive, or, in accordance with the dispute resolution provisions of General Conditions of the Contract, a Notice in Writing of a dispute and instructions to proceed.

END OF SECTION

1 General

1.1 SCHEDULE OF VALUES

- .1 Prior to first application for payment, submit for Consultant's review an initial schedule of values.
- .2 Modify initial schedule of values if and as requested by Consultant.
- .3 Obtain Consultant's written acceptance of initial schedule of values prior to first application for payment.
- .4 Together with first and all subsequent applications for payment, submit updated versions of the schedule of values, indicating the values, to the date of application for payment, of work performed and Products delivered to Place of the Work.
- .5 Prepare schedule of values in an electronic spreadsheet format based on the format and content described in CCDC 24-2016, A Guide to Model Forms and Support Documents.

1.2 CASH FLOW PROJECTION

- .1 Prior to first application for payment, submit for Consultant's review a forecast of approximate monthly progress payments for each month of Contract Time.
- .2 Submit revised cash flow forecasts when required due to significant changes in rate of progress of the Work or significant changes in Contract Price, or when requested by Owner or Consultant.

1.3 WSIB CLEARANCE CERTIFICATES

- .1 Submit proof of workers' compensation clearance, in the form of a WSIB Clearance Certificate, with each application for payment.

END OF SECTION

- 1 General
- 1.1 COORDINATION
  - .1 Coordinate the Work to ensure the Project proceeds safely and expeditiously.
  - .2 Ensure adequate communication among involved parties.
  - .3 Allocate mobilization areas at Place of the Work; for field offices and sheds, for access, for traffic, and for parking facilities.
  - .4 Coordinate use of Place of the Work and facilities through procedures for Submittals, reports and records, schedules, coordination of Drawings, recommendations, and resolution of ambiguities and conflicts.
  - .5 Submit information required for preparation of coordination and interference drawings. Review and approve revised drawings for submission to Consultant.
- 1.2 OTHER CONTRACTORS
  - .1 Cooperate with Other Contractors employed by Owner and, if necessary, coordinate with their work.
  - .2 Submit necessary information to Owner to assist in required scheduling of Other Contractors.
- 1.3 GENERAL REQUIREMENTS FOR MEETINGS
  - .1 Schedule and administer meetings in consultation with Consultant, throughout progress of the Work.
  - .2 Prepare agenda for meetings.
  - .3 Distribute written notice of each meeting 5 Working Days in advance of meeting date to Consultant and Owner.
  - .4 Provide physical space and make arrangements for meetings.
  - .5 Preside at meetings.
  - .6 Record meeting minutes, including significant decisions and identifying action items and action dates by attendees or the parties they represent.
  - .7 Submit draft copy of minutes to Consultant within two Working Days after meeting.
  - .8 Consultant will review minutes and will submit comments for any necessary revisions or additions within three Working Days.
  - .9 Update minutes to reflect Consultant's comments.
  - .10 Reproduce and distribute copies of meeting minutes within 5 days after meeting and transmit to meeting participants, affected parties not in attendance, Consultant, and Owner.
  - .11 Representatives of parties attending meetings shall be qualified and authorized to act on behalf of the party each represents.
  - .12 Schedule meetings on a day that is determined to be convenient by both Contractor and Consultant.
- 1.4 CONSTRUCTION START-UP MEETING
  - .1 Promptly after Contract award, Contractor shall establish the time and location of a construction start-up meeting to review and discuss administrative procedures and responsibilities.

- .2 Senior representatives of Owner, Consultant, subconsultants, Contractor, including Contractor's project manager and site superintendent, and major Subcontractors shall be in attendance.
- .3 Agenda will include the following:
  - .1 Appointment of official representatives of Owner, Contractor, Subcontractors, Consultant, and subconsultants.
  - .2 Project communications.
  - .3 Contract Documents for construction purposes.
  - .4 Documents at Place of the Work.
  - .5 Contractor's use of premises.
  - .6 Owner-supplied Products.
  - .7 Work restrictions.
  - .8 Contract modification procedures.
  - .9 Payment procedures.
  - .10 Construction progress meetings.
  - .11 Construction progress schedule, including long lead time items.
  - .12 Submittals schedule and procedures.
  - .13 Special procedures.
  - .14 Quality requirements, including testing and inspection procedures.
  - .15 Contractor's mobilization.
  - .16 Temporary utilities.
  - .17 Existing utility services.
  - .18 Construction facilities.
  - .19 Temporary barriers and enclosures.
  - .20 Temporary controls.
  - .21 Field engineering and layout of work.
  - .22 Site safety.
  - .23 Site security.
  - .24 Cleaning and waste management.
  - .25 Closeout procedures and submittals.
  - .26 Procedures for publishing Certificate of Substantial Performance of the Work, including identification of publisher, and procedures for notifying Subcontractors and Suppliers of publication.
  - .27 Commissioning.
  - .28 Other items.

#### 1.5 PREINSTALLATION MEETINGS

- .1 During course of the Work, schedule preinstallation meetings as required by Contract Documents.
- .2 Wherever possible, schedule preinstallation meetings on same date as regularly scheduled progress meetings.
- .3 Contractor, affected Subcontractors and Suppliers, Consultant, manufacturer's representatives, field inspectors and supervisors, and any other specified parties are to be in attendance.
- .4 Agenda will include the following:
  - .1 Review of existing conditions and affected parts of the Work, and any testing thereof.
  - .2 Review of installation procedures and requirements.
  - .3 Review of environmental and field condition requirements.
  - .4 Schedule of the applicable parts of the Work.
  - .5 Schedule of submission for samples and other items requiring Consultant's selection.
  - .6 Requirements for Temporary Work.
  - .7 Requirements for notification for reviews. Allow minimum 48 hours notice for Consultant to review the affected parts of the Work.

- .8 Requirements for inspections and tests as applicable. Schedule and undertake inspections and tests.
- .9 Delivery schedule for Products.
- .10 Special requirements and procedures necessary to comply with regulatory requirements and authorities having jurisdiction.

#### 1.6 CONSTRUCTION PROGRESS MEETINGS

- .1 Schedule regular bi-weekly construction progress meetings for duration of the Work.
- .2 Contractor, major Subcontractors currently involved in the Work, Consultant, and Owner are to be in attendance.
- .3 Agenda will include the following:
  - .1 Review and approval of minutes from previous meeting.
  - .2 Work progress since previous meeting.
  - .3 Field observations, including any problems, difficulties, or concerns.
  - .4 Construction progress schedule.
  - .5 Submittals schedule.
  - .6 Proposed changes in the Work.
  - .7 Requests for information.
  - .8 Site safety issues.
  - .9 Maintenance of construction quality standards.
  - .10 Other business.

#### 1.7 PROGRESS DRAW MEETINGS

- .1 Schedule regular monthly progress draw meetings for duration of the Work.
- .2 Progress draw meetings may be scheduled to occur immediately following construction progress meeting.
- .3 Contractor, Owner, and Consultant are to be in attendance.
- .4 Submit to Consultant a copy of application for payment not less than two Working Days before scheduled progress draw meeting.
- .5 Consultant may require changes to application for payment prior to progress draw meeting occurring.

END OF SECTION

1 General

1.1 CONSTRUCTION PROGRESS SCHEDULE

.1 Format and Content:

- .1 Prepare schedule in the form of a critical path method (CPM) Gantt chart using appropriate scheduling software.
- .2 Incorporate a work breakdown structure identifying key activities, work packages, and major milestones, including long delivery Products, inspection and testing activities, preparation and review of mock-ups, Owner decisions for cash allowances, shutdown or closure activities, delivery of Owner-supplied Products, Owner performed work, demonstration and training activities, and similar items, at a sufficient level of detail to effectively manage construction progress.
- .3 Indicate milestone dates for Ready-for-Takeover and Substantial Performance of the Work.

.2 Submission:

- .1 Submit initial schedule in accordance with General Conditions of the Contract.
- .2 Consultant will review format and content of initial schedule and request necessary changes, if any, within 5 Working Days after receipt.
- .3 If changes are required, resubmit finalized initial schedule within 5 Working Days after return of reviewed copy.
- .4 Submit updated progress schedule monthly to Owner and Consultant, indicating actual and projected start and finish dates with report date line and progress, activity relationships, critical path, float, and baseline comparison to current progress.
- .5 Include a written report with each updated progress schedule. Indicate work status to date comparing baseline to actual progress, current forecasts, identifying problem areas, anticipated delays and impact on schedule, and planned corrective actions.

1.2 SUBMITTALS SCHEDULE

.1 Format and Content:

- .1 Prepare schedule identifying required Shop Drawings, Product data, and sample submissions, including samples required for testing and including those for Owner-supplied Products.
- .2 Prepare schedule in electronic format.
- .3 Incorporate separate line items for each required submittal, organized by Specification sections numbers and titles, and further broken down by individual Products and systems required.
- .4 For each required submittal, show planned earliest date for initial submission, earliest date for return of reviewed submittal by Consultant, and latest date for return of reviewed submittal without causing delay.
- .5 Allow time in schedule for resubmission of submittals, should resubmission be necessary.

.2 Submission:

- .1 Submit initial schedule to Owner and Consultant within 10 Working Days after Contract award.
- .2 Submit schedule as portable document format (.pdf) file.
- .3 Consultant will review format and content of initial schedule and request necessary changes, if any, within 10 Working Days after receipt.
- .4 If changes are required, resubmit finalized initial schedule within 5 Working Days after return of reviewed copy.
- .5 Submit updated submittals schedule monthly to Owner and Consultant.

1.3 SCHEDULE MANAGEMENT

- .1 A schedule submitted as specified and accepted by Consultant will become the baseline schedule and shall be used as the baseline for updates.

- .2 At regular progress meeting, review and discuss current construction progress and submittals schedules with Consultant and Owner, including activities that are behind schedule and planned measures to regain schedule slippage in key areas on or near the critical path.
- .3 Activities considered behind schedule are those with start or completion dates later than the dates shown on the baseline schedule.

#### 1.4 CONSTRUCTION DAILY LOG

- .1 Maintain a construction log, recording on a daily basis the following information:
  - .1 Number of workers actively working at Place of the Work, organized on a Subcontract basis.
  - .2 Subcontractors present at Place of the Work.
  - .3 Identify the parts of the Work being worked on.
  - .4 Identify the working hours being kept at Place of the Work.
  - .5 Activities with intermittent progress.
  - .6 Time lost with an explanation as to cause.
  - .7 Difficulties encountered, such as construction activity delays, labour inefficiencies, labour shortages, etc.
  - .8 Product deliveries.
  - .9 Equipment mobilization and de-mobilization.
  - .10 Demolition conditions.
  - .11 Start and finish dates for each part of the Work.

#### 1.5 RECORDING ACTUAL SITE CONDITIONS ON AS-BUILT DRAWINGS

- .1 Keep one hard-copy set of the Drawings at Place of the Work for the purpose of creating as-built drawings. Record information and maintain as-built drawings in clean, dry and legible condition.
- .2 Clearly label each drawing as "AS-BUILT DRAWING". Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .3 Record actual construction including:
  - .1 Measured depths of elements of foundation in relation to finish first floor datum.
  - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - .3 Measured locations of pipes, ducts, conduits, outlets, fixtures, access panels, and appurtenances, referenced to visible and accessible features of construction.
  - .4 Field changes of dimension and detail.
  - .5 Changes made by Change Orders and Supplemental Instructions.
  - .6 References to Shop Drawings, where Shop Drawings show more detail.
- .4 Do not use as-built drawings for construction purposes.

#### 1.6 PROGRESS PHOTOGRAPHS

- .1 Arrange for periodic digital photography to document and record the progress of the Work.
- .2 Photographs will be properly exposed and in focus, with unobstructed views.
- .3 Identify each photograph by Project name and date taken.
- .4 Format photographs as .jpg, .bmp, or .tif format files in high definition resolution.
- .5 Submit progress photographs monthly as part of the current application for payment.
- .6 Submit additional photographs showing special conditions when requested by Consultant.

- .7 Do not use progress photographs, or any other Project photographs for promotional purposes without Owner's written consent.

END OF SECTION

1 General

1.1 ADMINISTRATIVE

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

1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 Indicate Products, methods of construction, and attachment or anchorage, erection diagrams, connections, explanatory notes, and other information necessary for completion of the Work.
- .2 Where Products attach or connect to other Products, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross-references to Drawings, Specifications, and other already reviewed Shop Drawings.
- .3 Accompany submittals with a transmittal form containing the following information:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification of each submittal item and quantity.
  - .5 Other pertinent data.
- .4 Shop Drawing submittals will include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.

- .4 Contractor's stamp, date, and signature of Contractor's authorized representative responsible for Shop Drawing review, indicating that each Shop Drawing has been reviewed for compliance with Contract Documents and, where applicable, that field measurements have been verified.
- .5 Details of appropriate portions of the Work as applicable:
  - .1 Fabrication.
  - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
  - .3 Setting or erection details.
  - .4 Capacities.
  - .5 Performance characteristics.
  - .6 Standards.
  - .7 Operating weight.
  - .8 Wiring diagrams.
  - .9 Single line and schematic diagrams.
  - .10 Relationships to other parts of the Work.
- .5 Product data submittals for controlled Products must include safety data sheets (SDS).
- .6 Submit electronic copy of Shop Drawings as portable document format (.pdf) files.
- .7 Submit electronic copy of Product data sheets and brochures as portable document format (.pdf) files.
- .8 Where a submittal includes information not applicable to the Work, clearly identify applicable information and strike out non-applicable information.
- .9 Supplement standard information to include details applicable to Project.
- .10 Allow 10 Working Days for Consultant's review of each submittal and incorporate submittals schedule specified in Section 01 32 00. Allow additional 5 Working Days where subconsultant or commissioning agent review is required.
- .11 If upon Consultant's review no errors or omissions are discovered, or if only minor corrections are required as indicated, submittal will be returned and fabrication or installation of work may proceed.
- .12 If upon Consultant's review significant errors or omissions are discovered, a copy noted as such will be returned for correction and resubmission. Do not commence fabrication or installation.
- .13 Consultant's notations on submittals are intended to ensure compliance with Contract Documents and are not intended to constitute a change in the Work requiring change to Contract Price or Contract Time. If Contractor considers any Consultant's notation to be a change in the Work, promptly notify Consultant in writing before proceeding with the Work.
- .14 Resubmit corrected submittals through same procedure indicated above, before any fabrication or installation of the Work proceeds. When resubmitting, notify Consultant in writing of any revisions other than those requested by Consultant.

### 1.3 ENGINEERED SUBMITTALS

- .1 Submittals required to be sealed by a professional engineer are to be prepared, sealed, signed and dated under the direct control and supervision of a qualified professional engineer licensed to practice at Place of the Work.
- .2 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 Contract Documents.

- .3 Engineered submittals are to include design calculations, complete with references to codes and standards used in such calculations, supporting the proposed design represented in the submittal. Prepare calculations in a clear and comprehensive manner so that they can be properly reviewed.
- .4 Submittal engineer shall undertake periodic field review, including review of associated mock-ups when applicable. Such reviews will include review during fabrication at the point of manufacture, and during installation at Place of the Work. Prepare and submit a field review report for each review undertaken.
- .5 Conduct field reviews at intervals appropriate to the progress of the parts of the Work relevant to the engineered submittal. Report on progress and quality of the affected parts of the Work. Determine if installation is in general conformity with Contract Documents and in strict conformance with the accepted engineered submittal.
- .6 Upon completion of the parts of the Work affected by an engineered submittal, submittal engineer shall prepare and submit a Letter of General Conformity to Contractor, Consultant and authorities having jurisdiction. Certify that the parts of the Work affected by the engineered submittal have been designed, fabricated and installed in accordance with Contract Documents and applicable regulatory requirements.
- .7 Include costs of submittal engineer's services in Contract Price.

#### 1.4 SAMPLES

- .1 Submit samples for Consultant's review as requested in Contract Documents.
- .2 Label samples as to origin, Project name, and intended use.
- .3 Deliver samples prepaid to Consultant's business address.
- .4 Notify Consultant in writing of any deviations in samples from requirements of Contract Documents.
- .5 Where a required colour, pattern, or texture has not been specified, submit full range of available Products meeting other specified requirements.
- .6 Consultant selection from samples is not intended to change Contract Price or Contract Time. If a selection would affect Contract Price or Contract Time, notify Consultant in writing prior to proceeding with the Work.
- .7 Resubmit samples as required by Consultant to comply with Contract Documents.
- .8 Reviewed and accepted samples will establish the standard against which installed Work will be reviewed.

#### 1.5 INTERFERENCE DRAWINGS

- .1 Prepare interference drawings, identifying and resolving potential conflicts among various parts of the Work, including sprinkler systems, HVAC ductwork, plumbing and drainage lines, lighting, and electrical systems.
- .2 Submit interference drawings electronically as portable document format (.pdf) files to Consultant prior to commencement of the Work.
- .3 Coordinate and review interference drawings with affected Subcontractors prior to commencement of their portions of the Work.

#### 1.6 CERTIFICATES AND CERTIFICATION SUBMITTALS

- .1 Submit written statements, as requested in Contract Documents, certifying installed Products meet specified criteria.

- .2 Include signature of person responsible for preparing certification.

1.7 TEST AND EVALUATION REPORTS

- .1 Submit manufacturers' test and evaluation reports electronically as portable document format (.pdf) files for requirements requested in Specifications and as Consultant may reasonably request.
- .2 Ensure results are expressed in SI Metric units of measurement. Test and evaluation reports recording results only in Imperial units of measurement may be rejected.
- .3 Clearly indicate compliance with specified performance criteria, tested in accordance with specified test methods, and conducted by independent testing agency.
- .4 Test results achieved through use of alternative test methods will be rejected.

END OF SECTION

- 1 General
- 1.1 PROPER CONDUCT OF WORKERS
  - .1 Ensure workers conduct themselves in a proper and civilized manner at all times.
  - .2 Workers using improper language, cat calls, lewd comments or improper behaviour will be required to leave Place of the Work and will be replaced by Contractor.
  - .3 Workers are required to be properly attired at all times.
  - .4 Workers wearing clothing exhibiting hateful or offensive images or language will be required to replace or cover such clothing. Workers refusing to do so will be required to leave Place of the Work, and will be replaced by Contractor.
  - .5 Smoking or vaping of any substance is not permitted at Place of the Work. Workers found doing so will be required to leave Place of the Work, and will be replaced by Contractor.
  - .6 Consumption of alcohol and use of controlled substances is not permitted at Place of the Work. Workers found doing so will be required to leave Place of the Work, and will be replaced by Contractor.
- 1.2 SPECIAL PROCEDURES FOR INFECTION CONTROL
  - .1 Conform to latest edition of CCA COVID-19 - Standardized Protocols for All Canadian Construction Sites.
- 1.3 LABOUR CONDITIONS
  - .1 Ensure rates of wages, working hours, and working conditions at Place of the Work are in accordance with regulatory requirements and authorities having jurisdiction.
- 1.4 EMERGENCY CONTACT INFORMATION
  - .1 Submit emergency contact information for site superintendent to authority having jurisdiction; for their use 24 hours a day, 7 days a week, 52 weeks a year.
  - .2 Immediately notify authority having jurisdiction when emergency contact information changes.
- 1.5 FIRST AID PERSONNEL
  - .1 A minimum of one person trained in basic first aid must be present at Place of the Work at all times during performance of the Work.
  - .2 This person may perform other duties, but must be immediately available to render first aid when needed.
- 1.6 SPECIAL PROCEDURES FOR CONTRACTORS WORKING IN EXISTING FACILITY
  - .1 Comply with Owner's procedures and requirements for construction personnel working in existing facility.
  - .2 Conform to latest edition of "Guidelines For Maintaining Fire Safety During Construction in Existing Buildings", as issued by Office of the Fire Marshal.
  - .3 Coordinate requirements with local fire department. Discuss fire safety planning issues and alternative measures.
- 1.7 SPILL RESPONSE
  - .1 Prepare and initiate spill response procedure in accordance with appropriate authorities having jurisdiction before commencing the Work.

- .2 Supply and maintain spill kit at Place of the Work.

1.8 SPECIAL PROCEDURES FOR WORKING IN CONFINED SPACES

- .1 Perform work in confined spaces in accordance with applicable regulatory requirements.
- .2 Work in confined spaces must be supervised and performed by licenced confined space and hazardous materials personnel.

1.9 SPECIAL PROCEDURES FOR WORKING WITH DESIGNATED SUBSTANCES

- .1 Prepare and initiate a health and safety plan in accordance with authorities having jurisdiction prior to commencing construction operations involving excavating, removing, transporting, handling, or disposing of potentially contaminated materials.
- .2 Keep an up-to-date copy of health and safety plan at Place of the Work.
- .3 Adhere to health and safety plan for duration of removal and disposal of contaminated material from Place of the Work.
- .4 Provide and maintain a safe working environment for on-site personnel and minimize the impact of construction activities on general public and surrounding environment.
- .5 Verify workers and visitors to Place of the Work have, and are adequately trained in the use of, appropriate personal protective equipment.
- .6 Should any unforeseen, or site-peculiar safety related factor, hazard, or condition become evident during performance of the Work, immediately notify authority having jurisdiction and Consultant, and take prudent temporary action to establish and maintain safe working conditions until suitable permanent action can be implemented. Safeguard workers, the public, and the surrounding area from contamination.
- .7 Perform routine air monitoring at Place of the Work, testing for organic vapours, explosive conditions and oxygen deficient conditions. Evacuate affected areas immediately and implement corrective measures if unsatisfactory conditions are discovered.
- .8 Perform removal or disturbance of low level lead-containing paint by implementing a basic worker hygiene program in accordance with Environmental Abatement Council of Canada's Lead Guideline for Construction, Renovation, Maintenance and Repair.
- .9 Perform removal or disturbance of mercury-containing materials by maintaining mercury intact, with no on-site crushing. Following removal, safely store mercury-containing materials at Place of the Work until it can be safely disposed of at a licensed disposal site.
- .10 Perform removal or disturbance of silica-containing materials in accordance with Ontario Ministry of Labour's guideline, Silica on Construction Projects.
- .11 Suspected PCB-containing equipment, including light ballasts, shall be assessed upon removal from service to determine PCB content. When identified as containing PCB, appropriately store and dispose of PCB-containing equipment in accordance with SOR 2008-273 - PCB Regulations.
- .12 In the event of injury to on-site personnel, contact designated hospital and describe injury prior to or during transport of injured personnel. Transport injured personnel to designated medical facility along a predefined route.

- .13 Take appropriate measures to minimize contact of construction vehicles and Construction Equipment with potentially contaminated materials. Decontaminate construction vehicles, Construction Equipment, and workers that have come into contact with contaminated materials prior to leaving Place of the Work.

END OF SECTION

1 General

1.1 REFERENCE STANDARDS

- .1 Reference Standards means consensus standards, trade association standards, guides and other publications expressly referenced in Contract Documents.
- .2 Where an edition or version date is not specified, referenced standards shall be deemed to be the latest edition or revision issued by the publisher at the time of bid closing. However, if a particular edition or revision date of a specified standard is referenced in an applicable regulatory requirement, the regulatory referenced edition or version shall apply.
- .3 Reference standards establish minimum standards. If Contract Documents call for requirements that differ from a referenced standard, the more stringent requirements shall govern.
- .4 If compliance with two or more reference standards is specified and the standards establish different or conflicting requirements, comply with most stringent requirement. Refer uncertainties to Consultant for clarification.
- .5 Specifications refer to standards writing, testing and certification organizations by their acronyms or initialisms, as follows:
  - .1 AA The Aluminum Association;
  - .2 AABC Associated Air Balance Council;
  - .3 AAMA American Architectural Manufacturers Association;
  - .4 ACI American Concrete Institute;
  - .5 AISC American Iron and Steel Construction;
  - .6 AMCA Air Movement and Air Control Association;
  - .7 ANSI American National Standards Institute;
  - .8 ARI Air Conditioning and Refrigeration Institute;
  - .9 ASCC American Society of Concrete Contractors;
  - .10 ASME American Society of Mechanical Engineers;
  - .11 ASTM American Society for Testing and Materials;
  - .12 ASHRAE American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.;
  - .13 AWMAC Architectural Woodwork Manufacturers' Association of Canada;
  - .14 AWPA American Wire Producers Association;
  - .15 BHMA Builders Hardware Manufacturers Association;
  - .16 BIA Brick Industry Association;
  - .17 CaGBC Canadian Green Building Council;
  - .18 CCMPA Canadian Concrete Masonry Producers Association;
  - .19 CFCA Concrete Floor Contractors Association of Canada;
  - .20 CGA Canadian Gas Association;
  - .21 CGSB Canadian General Standards Board;
  - .22 CHPVA Canadian Hardwood Plywood and Veneer Association;
  - .23 CISC Canadian Institute of Steel Construction;
  - .24 CISCA Ceiling & Interior Systems Construction Association;
  - .25 CKCA Canadian Kitchen Cabinet Association;
  - .26 CLFMI Chain Link Fence Manufacturers' Institute;
  - .27 CPC Concrete Polishing Council;
  - .28 CPCI Canadian Precast Concrete Institute;
  - .29 CPCQA Canadian Precast Concrete Quality Assurance;
  - .30 CPSC Consumer Product Safety Commission;
  - .31 CRCA Canadian Roofing Contractors' Association;
  - .32 CRI Carpet and Rug Institute;
  - .33 CSA Canadian Standards Association;
  - .34 CSC Construction Specifications Canada;
  - .35 CSDMA Canadian Steel Door Manufacturers' Association;

.36	CSSBI	Canadian Sheet Steel Building Institute;
.37	CUFCA	Canadian Urethane Foam Contractors Association Inc.;
.38	CWB	Canadian Welding Bureau;
.39	CWC	Canadian Wood Council;
.40	CWTA	Canadian Wood Truss Association;
.41	DASMA	Door & Access Systems Manufacturers' Association, International;
.42	DHI	Door and Hardware Institute;
.43	DIN	Deutsches Institut für Normung E.V.;
.44	GA	Gypsum Association;
.45	GANA	Glass Association of North America;
.46	HPVA	Hardwood Plywood and Veneer Association;
.47	ICEA	Insulated Cable Engineers Association;
.48	ICRI	International Concrete Repair Institute;
.49	IEEE	Institute of Electrical and Electronics Engineers;
.50	IGMA	Insulating Glass Manufacturers Association;
.51	ISCA	Interior Systems Contractors Association of Ontario;
.52	IWFA	International Window Film Association;
.53	LEED	Leadership in Energy and Environmental Design;
.54	MPI	Master Painters' Institute;
.55	MSS	Manufacturers Standardization Society of the Valve and Fittings Industry;
.56	NAAMM	National Association of Architectural Metal Manufacturers;
.57	NCMA	National Concrete Masonry Association;
.58	NEMA	National Electrical Manufacturers Association;
.59	NFPA	National Fire Protection Association;
.60	NFRC	National Fenestration Rating Council Incorporated;
.61	NHLA	National Hardwood Lumber Association;
.62	NLGA	National Lumber Grades Authority;
.63	OIRCA	Ontario Industrial Roofing Contractors' Association;
.64	OMCA	Ontario Masonry Contractors' Association;
.65	OPSD	Ontario Provincial Standard Drawings;
.66	OPSS	Ontario Provincial Standard Specifications;
.67	OWTFA	Ontario Wood Truss Fabricators Association;
.68	PCI	Precast Concrete Institute;
.69	PEI	Porcelain Enamel Institute;
.70	RSIC	Reinforcing Steel Institute of Canada;
.71	SEFA	Scientific Equipment & Furniture Association;
.72	SMACNA	Sheet Metal and Air Conditioning Contractors' National Association;
.73	SSPC	The Society for Protective Coatings;
.74	SWI	Sealant and Waterproofer's Institute;
.75	TPIC	Truss Plate Institute of Canada;
.76	TSSA	Technical Standards and Safety Authority;
.77	TTMAC	Terrazzo, Tile and Marble Association of Canada;
.78	ULC	Underwriters' Laboratories of Canada;
.79	ULI	Underwriters' Laboratories Incorporated;
.80	WDMA	Window and Door Manufacturers' Association; and
.81	WHI	Warnock-Hersey International.

## 1.2 QUALITY ASSURANCE

- .1 Quality of work shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed.
- .2 Immediately notify Consultant if required work is such as to make it impractical to produce required results.
- .3 Decisions as to the quality or fitness of work in cases of dispute rest solely with Consultant, whose decision is final.

### 1.3 INDEPENDENT INSPECTION AND TESTING AGENCIES

- .1 Retain and pay for independent inspection and testing agencies to inspect, test, or perform other quality control reviews of parts of the Work.
- .2 Employment of inspection and testing agencies by Contractor does not relieve Contractor from responsibility to perform the Work in accordance with Contract Documents.
- .3 Allow and arrange for inspection and testing agencies to have access to the Work, including access to off-site manufacturing and fabrication plants.
- .4 For inspection and testing required by authorities having jurisdiction, notify Consultant and inspection and testing agencies in a timely manner in advance of required inspection and testing.
- .5 Submit test samples required for testing in accordance with submittals schedule specified in Section 01 32 00.
- .6 Supply labour, Construction Equipment and temporary facilities needed to obtain and handle test samples at Place of the Work.
- .7 If defects are revealed during inspection and testing, the appointed agency will request additional inspection and testing to ascertain full degree of defect. Correct defect and irregularities as advised by Consultant at no additional cost to Owner. Pay costs for retesting and reinspection.

### 1.4 INSPECTION AND TESTING AGENCY REPORTS

- .1 For inspection and testing required by regulatory requirements, and performed by Contractor retained inspection and testing agencies, promptly submit copies of reports to Consultant, Owner, authority having jurisdiction and affected Subcontractors.
- .2 Submit reports electronically as portable document format (.pdf) files.

### 1.5 MANUFACTURER FIELD REVIEW

- .1 When required by Contract Documents, arrange for a qualified manufacturer's representative to review relevant parts of the Work and verify those portions of the Work are being executed in accordance with manufacturer's written recommendations and installation guidelines.
- .2 Manufacturer field review services are intended to ensure specified Products are being used and are being installed on substrates that have been prepared in accordance with manufacturer's written recommendations.
- .3 Unless specified otherwise, manufacturer's representative will undertake a minimum of one field review, with additional reviews being conducted as deemed necessary by manufacturer.
- .4 Within two Working Days of a field review, manufacturer will submit a field review report recording manufacturer representative's observations and recommendations.
- .5 Distribute copies of manufacturer's field review reports to affected Subcontractors, Consultant, and authorities having jurisdiction.

### 1.6 MOCK-UPS

- .1 Prepare mock-ups of Work as specified in Contract Documents with reasonable promptness and in an orderly sequence, so as not to cause delay in the Work.
- .2 If a mock-up location is not indicated on Drawings, locate where directed by Consultant.
- .3 Include all necessary Products and labour required to fully construct mock-ups.

- .4 Modify mock-up as required until Consultant acceptance is obtained.
  - .5 Accepted mock-ups establish an acceptable standard for the Work.
  - .6 Protect mock-ups from damage until the Work they represent is complete.
  - .7 Unless specified otherwise, accepted mock-ups forming part of the Work may remain as part of the Work.
  - .8 Remove mock-ups only when the Work they represent is complete or when otherwise directed by Consultant.
- 1.7 MILL TESTS
- .1 Submit mill tests certificates as may be requested.
- 1.8 EQUIPMENT AND SYSTEMS
- .1 Submit adjustment and balancing reports for mechanical, electrical, and building equipment systems.
  - .2 Refer to facility services Sections for definitive requirements.

END OF SECTION

1 General

1.1 EXISTING BUILDING HEATING, VENTILATION, POWER AND LIGHTING

- .1 Existing building heating, ventilation, power, and lighting may be relied upon and used during construction.
- .2 Coordinate and make arrangements with Owner for use of existing facility services during hours or days when existing facility is not operational.

END OF SECTION

- 1 General
- 1.1 ADMINISTRATIVE REQUIREMENTS
  - .1 Provide temporary construction facilities as necessary for performance of the Work, and in compliance with applicable regulatory requirements.
  - .2 Maintain temporary construction facilities in good condition for duration of the Work.
  - .3 Remove temporary construction facilities from Place of the Work when no longer required.
- 1.2 CONSTRUCTION PARKING
  - .1 Parking will be available at Place of the Work during summer months when school is out.
  - .2 Parking at Place of the Work when school is in operation will be restricted, and only allowed after receipt of Owner's written approval.
- 1.3 VEHICULAR ACCESS
  - .1 Provide and maintain adequate access to Place of the Work, ensuring continuous access by emergency vehicles.
  - .2 Existing private roadways at Place of the Work may be used for access to Place of the Work. Contractor assumes responsibility for any damage caused by construction traffic, and agrees to prevent or promptly clean up mud tracking or material spillage.
  - .3 Clean municipal roadways located immediately adjacent to Place of the Work, regardless of cause, as follows:
    - .1 At least once per week on Friday afternoons, just before end of Working Day,
    - .2 After construction equipment or vehicles have left Place of the Work, resulting in soil or debris being deposited on roadway surfaces,
    - .3 As directed by authorities having jurisdiction, and
    - .4 As directed by Consultant.
  - .4 Municipal Road Closures: Conform to requirements of authorities having jurisdiction.
- 1.4 FIELD OFFICES
  - .1 No exterior field offices are required.
  - .2 Contractor can use spaces within the scope area as a field office during summer months only.
  - .3 Provide appropriate emergency and first aid equipment as required by authorities having jurisdiction. Mount equipment in a prominent and easily accessible location, complete with easily identifiable labels.
- 1.5 STORAGE FACILITIES
  - .1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds with raised floors for storage of Products and Construction Equipment.
  - .2 Locate storage facilities within approved staging area.
  - .3 Do not store Products or Construction Equipment in existing facility.
- 1.6 SANITARY FACILITIES
  - .1 Provide sufficient quantity of temporary, lockable sanitary facilities, separate for male and female workers, in accordance with authorities having jurisdiction.
  - .2 Locate temporary sanitary facilities within approved staging area. Obtain Owner's written approval of temporary sanitary facilities location prior to placement.

- .3 Keep temporary sanitary facilities locked when Contractor is not present at Place of the Work.
  - .4 Keep sanitary facilities clean and fully stocked with necessary supplies.
  - .5 Permanent sanitary facilities may not be used during construction.
  - .6 Except where connected to municipal sewer system, periodically remove wastes from Place of the Work.
- 1.7 FIRE PROTECTION
- .1 Provide and maintain temporary fire protection systems and equipment during construction.

END OF SECTION

- 1 General
- 1.1 ADMINISTRATIVE REQUIREMENTS
  - .1 Provide temporary barriers and enclosures necessary to protect the public, and to secure Place of the Work during performance of the Work.
  - .2 Comply with applicable regulatory requirements.
  - .3 Maintain temporary barriers and enclosures in good condition for duration of the Work.
  - .4 Remove temporary barriers and enclosures from Place of the Work when no longer required.
- 1.2 FENCING
  - .1 Erect temporary security and safety site fencing, of type and height determined by Contractor, subject to applicable regulatory requirements.
  - .2 Provide lockable access gates as required to facilitate construction access.
- 1.3 DUST TIGHT SCREENS AND PARTITIONS
  - .1 Provide dust tight partitions to localize interior building areas from dust and noise generating activities.
  - .2 Erect, maintain, and relocate screens and partitions as required to facilitate construction operations.
- 1.4 FIRE ROUTES
  - .1 Maintain fire access routes, including overhead clearances, for use by emergency response vehicles.
- 1.5 SECURITY AT PLACE OF THE WORK
  - .1 Become familiar with Place of the Work and surrounding neighbourhood.
  - .2 Provide adequate security measures to prevent vandalism, theft, arson and trespassing by unauthorized persons at Place of the Work.
    - .1 Include for secure, vandal- and tamper-proof solid hoardings over exposed exterior openings in existing facility at end of each Working Day.
  - .3 Maintain security measures for 24 hours a day, 7 days a week, 52 weeks a year, including times when construction may be shut down due to strikes or lockouts.
  - .4 Remove security measures upon Ready-for-Takeover.
- 1.6 PROTECTION OF BUILDING FINISHES
  - .1 Provide necessary temporary barriers and enclosures to protect existing and completed or partially-completed finished surfaces from damage during performance of the Work.

END OF SECTION

- 1 General
- 1.1 ADMINISTRATIVE REQUIREMENTS
  - .1 Provide temporary controls necessary for performance of the Work, and in compliance with applicable regulatory requirements.
  - .2 Maintain temporary controls in good condition for duration of the Work.
  - .3 Remove temporary controls, and Construction Equipment used to provide temporary controls, from Place of the Work when no longer required.
- 1.2 PLANT PROTECTION
  - .1 Protect trees and other plant material designated to remain at Place of the Work, and on adjacent properties, where indicated on Drawings.
  - .2 Protect trees and shrubs susceptible to damage during construction to OPSS.MUNI 801.
  - .3 For trees designated to remain, protect roots inside dripline from disturbance or damage during excavation and grading. Avoid traffic, dumping, and storage of materials over root zones.
  - .4 Minimize stripping of topsoil near trees and other plant material designated to remain at Place of the Work.
  - .5 Provide lockable access gates as required to facilitate construction access.
- 1.3 DUST AND PARTICULATE CONTROL
  - .1 Implement and maintain dust and particulate control measures in accordance with applicable regulatory requirements.
  - .2 Execute Work by methods that minimize dust from construction operations and spreading of dust at Place of the Work or to adjacent properties.
  - .3 Provide temporary dust tight enclosures to prevent extraneous materials resulting from sandblasting or similar operations from contaminating air beyond immediate work area. Refer to Section 01 56 00.
  - .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.
  - .5 Use appropriate covers on trucks hauling fine, dusty or loose materials.
- 1.4 POLLUTION CONTROL
  - .1 Take measures to prevent contamination of soil, water and atmosphere through uncontrolled discharge of noxious or toxic substances and other pollutants, potentially causing environmental damage.
  - .2 Be prepared, by maintaining appropriate materials, equipment and trained personnel at Place of the Work, to intercept, clean up and dispose of spills or releases that may occur. Promptly report spills and releases that may occur to:
    - .1 Authority having jurisdiction.
    - .2 Person causing or having control of pollution source, if known.
    - .3 Owner and Consultant.
  - .3 Contact manufacturer of pollutant, if known and applicable, to obtain safety data sheets (SDS) and ascertain hazards involved and precautions and measures required in cleanup or mitigating actions.

- .4 Take immediate action to contain and mitigate harmful effects of spill or release.

END OF SECTION

1 General

1.1 DEFINITIONS

- .1 Not In Contract (NIC) means an item that requires coordination for its later installation, and which is not Provided as part of the Work.
- .2 Owner-supplied Product means a Product that will be supplied by Owner to Contractor for installation as part of the Work. Refer to Section 01 11 00.

1.2 COMMON PRODUCT REQUIREMENTS

- .1 Provide Products that are not damaged or defective, and suitable for purpose intended, subject to specified requirements. If requested by Consultant, furnish evidence as to type, source, and quality of Products Provided in the Work.
- .2 Products referred to in the singular implies the supply and installation of as many Products as necessary to complete the Work.
- .3 Unless specified otherwise, maintain uniformity of manufacture for like items throughout.
- .4 Unless specified otherwise, Consultant may select colours from manufacturer's complete range of available colours, textures, and patterns, including those considered to be premium.
- .5 Permanent manufacturer's markings, labels, trademarks and nameplates on Products are not acceptable in prominent locations, except where required by regulatory requirements or for operating instructions, or when located in mechanical or electrical rooms.

1.3 PRODUCT OPTIONS

- .1 Subject to the provisions of Section 01 25 00:
  - .1 Wherever a Product or manufacturer is specified by a single proprietary name, Provide the named Product only.
  - .2 Wherever more than one Product or manufacturer is specified by proprietary name for a single application, Provide any one of the named Products.
- .2 Wherever a Product is specified by reference to a standard only, Provide any Product that meets or exceeds the specified standard. If requested by Consultant, submit information verifying that the proposed Product meets or exceeds the specified standard.
- .3 Wherever a Product is specified by descriptive or performance requirements, and includes a named example preceded by the abbreviation "eg." (meaning "for example"), Provide the named Product or a similar Product manufactured by one of the named manufacturers that meets or exceeds the specified descriptive and performance characteristics. If requested by Consultant, submit information verifying that a proposed Product meets or exceeds the specified requirements.
- .4 Wherever a Product is specified by descriptive or performance requirements only, Provide any Product that meets or exceeds the specified requirements. If requested by Consultant, submit information verifying that the proposed Product meets or exceeds the specified requirements.

1.4 PRODUCT AVAILABILITY AND DELIVERY TIMES

- .1 Promptly upon Contract award and periodically during construction, review and confirm Product availability and delivery times. Order Products in sufficient time to meet the construction progress schedule and the Contract Time.
- .2 If a specified Product is no longer available, promptly notify Consultant. Consultant will take action as required.

- .3 If delivery delays are foreseeable, for any reason, promptly notify Consultant.
  - .1 If a delivery delay is beyond Contractor's control, Consultant will give direction how to proceed.
  - .2 If a delivery delay is caused by something that was or is within Contractor's control, Contractor shall propose actions to maintain the construction progress schedule for Consultant's review and acceptance.

#### 1.5 STORAGE, HANDLING AND PROTECTION

- .1 Store, handle and protect Products during transportation to Place of the Work and before, during and after installation in a manner to prevent damage, adulteration, deterioration and soiling.
- .2 Comply with manufacturer's instructions for storage, handling and protection.
- .3 Store packaged or bundle 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.
- .4 Do not store Products and Construction Equipment detrimental to finished surfaces within the Work where finishing has commenced or has been completed.
- .5 Do not store Products and Construction Equipment in existing facility. Arrange for additional storage facilities either outside at Place of the Work or at a remote location away from Place of the Work, as required. Coordinate storage facility locations at Place of the Work with Owner.
- .6 Comply with requirements of workplace hazardous materials information system (WHMIS) regarding use, handling, storage and disposal of hazardous materials, including requirements for labelling and submission of safety data sheets (SDS).
- .7 Store Products subject to damage from weather in weatherproof enclosures.
- .8 Store sheet Products on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .9 Remove flammable rubbish and packing materials from Place of the Work on a daily basis.
- .10 Remove and replace damaged Products.

END OF SECTION

1 General

1.1 VERIFICATION OF EXISTING CONDITIONS

- .1 Where work specified in any Section is dependent on the work of another Section or Sections having been properly completed, verify that work is complete and in a condition suitable to receive subsequent work. Commencement of work of a Section that is dependent on the work of another Section or Sections having been properly completed means acceptance of those existing conditions.
- .2 Verify ambient conditions are suitable before commencing the work of any Section and will remain suitable for as long as required for proper setting, curing, or drying of Products used.
- .3 Ensure substrate surfaces are clean, dimensionally stable, cured, and free of contaminants.
- .4 Notify Consultant in writing of unacceptable conditions.

END OF SECTION

1 General

1.1 DEFINITIONS

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

1.2 COLD WEATHER REQUIREMENTS

- .1 Perform the Work continually and avoid weather delays.
- .2 Provide temporary heating and cold weather working measures during cold weather periods and winter months. Refer to Sections 01 51 00 and 01 56 00.
- .3 Construction delays, whether the responsibility of Contractor or otherwise, which result in unanticipated or extended winter work will not be considered justification for claims for additional payments.
- .4 Uniformly distribute heat to avoid hot or cool areas or excessive drying.

1.3 MANUFACTURER'S INSTRUCTIONS

- .1 Install, erect or apply Products in strict accordance with manufacturer's instructions.
- .2 Specifications requiring the installation, erection or application of Products to conform to a consensus standard does not replace or supercede the requirement to also conform to manufacturer's instructions.
- .3 Where a manufacturer's instructions and the requirements of a specified consensus standard are contradictory, manufacturer's instructions will govern.
- .4 Notify Consultant in writing of conflicts between Contract Documents and manufacturer's instructions where, in Contractor's opinion, conformance with Contract Documents instead of manufacturer's instructions may be detrimental to the Work or may jeopardize manufacturer's warranty.
- .5 Do not rely on labels or enclosures supplied with Products. Obtain written instructions directly from manufacturers.
- .6 Allow manufacturer's representatives to have access to the Work at all times. Render assistance and facilities for such access so that manufacturer's representatives may properly perform their responsibilities. Refer to Section 01 40 00.

1.4 CONCEALMENT

- .1 Conceal pipes, ducts, and wiring in floors, walls and ceilings in finished areas:
  - .1 After review by Consultant and authority having jurisdiction.
  - .2 Where locations differ from those shown on Drawings, after recording actual locations on as-built record drawings.
- .2 Provide incidental furring or other enclosure as required.
- .3 Notify Consultant in writing of interferences before installation.

1.5 FASTENINGS - GENERAL

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

- .2 Provide fasteners to full required complement. Products with missing fasteners will be rejected by Consultant.
- .3 Prevent electrolytic action and corrosion between dissimilar metals and materials by using suitable non-metallic strips, washers, sleeves, or other permanent separators to avoid direct contact.
- .4 Use non-corrosive fasteners and anchors for securing exterior work and in spaces where high humidity levels are anticipated.
- .5 Space fasteners within individual load limit or shear capacity, and ensure fasteners provide positive permanent anchorage.
- .6 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .7 Do not use fastenings or fastening methods that may cause spalling or cracking of material to which anchorage is made.
- .8 Fasteners stressed in withdrawal will be rejected.
- .9 Powder-actuated fasteners are to be a system suitable for the specific application, corrosion-resistant, and capable of sustaining without failure a load equal to 10 times the design load when tested to ASTM E1190.
- .10 Do not use powder-actuated fasteners stressed in withdrawal for finished work.
- .11 Do not use powder-actuated fasteners within 100 mm of concrete or masonry edges.
- .12 Do not use powder-actuated fasteners in post-tensioned concrete.

#### 1.6 FASTENINGS - EQUIPMENT

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Bolts shall not project more than one diameter beyond nuts.

#### 1.7 FIRE RATED ASSEMBLIES

- .1 When penetrating fire rated wall, ceiling, or floor assemblies, completely seal voids with firestopping materials, smoke seals, or both, in full thickness of the construction element as required to maintain the integrity of the fire rated assembly.

#### 1.8 TEMPLATES, BUILT-INS AND DIMENSIONS

- .1 Take field measurements and confirm dimensions necessary for the proper execution of the Work.
- .2 Assume responsibility for accuracy and completeness of dimensions.
- .3 Provide forms, templates, anchors, inserts and accessories to be fixed to or inserted as part of the Work.
- .4 Prepare and submit setting drawings, templates and other information necessary for the placement and installation of Products, holes, sleeves, inserts, anchors, accessories, fastenings, connections and access panels.
- .5 Supply items in sufficient time, complete with templates and other necessary information, to accommodate installation without causing delay to the Work. Failure to do so will not result in an increase in Contract Price and Contract Time.

- .6 Verify that the Work, as it proceeds, is executed in accordance with dimensions and positions indicated, which maintain levels and clearances to adjacent work, as set out in Contract Documents.
- .7 Verify details and field measurements at Place of the Work prior to fabricating Products of special design to ensure fit.

#### 1.9 INTERFERENCES

- .1 Prior to commencement of the Work, coordinate placement of Products to ensure components are properly accommodated within designed spaces. Prepare and submit interference drawings as specified in Section 01 33 00.
- .2 Be responsible for additional work and costs necessitated by failure to coordinate the parts of the Work.
- .3 Provide adequate access and clearances around Products as required by authorities having jurisdiction, and as required for maintenance purposes by manufacturers.
- .4 Notify Consultant if Contract Documents are in conflict with access and clearance requirements.

#### 1.10 LOCATION OF FIXTURES, OUTLETS AND DEVICES

- .1 Consider location of fixtures, outlets, and devices indicated on Drawings as approximate.
- .2 Locate fixtures, outlets, and devices for minimum interference, maximum usable space, and as required to meet safety, access, maintenance, acoustic, and regulatory, including barrier free, requirements.
- .3 Promptly notify Consultant in writing of conflicting installation requirements for fixtures, outlets and devices. If requested, indicate proposed locations and obtain approval for actual locations.

#### 1.11 REMEDIAL WORK AND MAKING GOOD

- .1 Notify Consultant of, and perform remedial work required to Make Good defective or unacceptable work.
- .2 Ensure properly qualified workers perform remedial work.
- .3 Coordinate adjacent affected work as required.
- .4 Make Good defective and damaged parts of the Work.
- .5 Make Good damage to property located adjacent to Place of the Work.
- .6 Make Good damage to existing surfaces designated to remain as part of the Work.
- .7 Make Good existing conditions as noted on Drawings.
- .8 Prioritize correction of defective work which, in the sole discretion of Owner, adversely affects Owner's day to day operations.
- .9 Make Good damage to the Work resulting from lack of adequate heating protection.
- .10 Make Good damage to utility services in accordance with applicable authority having jurisdiction.

END OF SECTION

1 General

1.1 REQUESTS FOR CUTTING, PATCHING AND REMEDIAL WORK

- .1 Submit written request in advance of cutting, coring, or alteration which affects or is likely to affect:
  - .1 Structural integrity of any element of the Work.
  - .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 Other Contractor.
  - .6 Warranty of Products affected.
- .2 Include in request:
  - .1 Identification of Project.
  - .2 Location and description of affected work, including drawings or sketches as required.
  - .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 Other Contractors.
  - .7 Written permission of affected Other Contractors.
  - .8 Date and time work will be executed.

1.2 PRODUCTS

- .1 Unless specified otherwise, when replacing existing or previously installed Products in the course of cutting and patching work, use replacement Products of same character and quality as those being replaced.
- .2 If an existing or previously installed Product must be replaced with a different Product, submit request for substitution as specified in Section 01 25 00.

1.3 PREPARATION

- .1 Inspect existing conditions as specified in Section 01 71 00.
- .2 Provide supports to assure structural integrity of surroundings.
- .3 Provide devices and methods to protect other portions of the Work from damage.
- .4 Provide protection from elements for areas that may be exposed by uncovering work.

1.4 EXISTING UTILITIES

- .1 Where the Work involves breaking into or connecting to existing services, give authority having jurisdiction, Owner and Consultant 48 hours notice for necessary interruption of facility services.
- .2 Maintain excavations free of water.
- .3 Keep duration of interruptions to a minimum.
- .4 Carry out interruptions after regular working hours of occupants, preferably on weekends, unless Owner's prior written approval is obtained.
- .5 Protect and maintain existing active services.
- .6 Record locations of services, including depth, on as-built drawings.
- .7 Construct or erect temporary barriers as specified in Section 01 56 00, as required to protect pedestrian and vehicular traffic.

1.5 CUTTING, PATCHING AND REMEDIAL WORK

- .1 Coordinate and perform the Work to ensure cutting and patching is kept to a minimum.
- .2 Perform cutting, fitting, patching, and remedial work including excavation and fill, to make the affected parts of the Work come together properly and complete the Work.
- .3 Provide openings in non-structural elements of the Work for penetrations of facility services components.
- .4 Perform cutting by methods to avoid damage to other work.
- .5 Provide proper surfaces to receive patching, remedial work and finishing.
- .6 Perform cutting, patching, and remedial work using competent and qualified specialists familiar with the Products affected, in a manner that neither damages nor endangers the Work.
- .7 Do not use pneumatic or impact tools without Consultant's prior written approval.
- .8 Ensure cutting, patching, and remedial work does not jeopardize manufacturers' warranties.
- .9 Refinish surfaces to match adjacent finishes. For continuous surfaces refinish to nearest intersection. For an assembly, refinish entire unit.
- .10 Fit work to pipes, sleeves, ducts, conduit and other penetrations through surfaces with suitable allowance for deflection, expansion, contraction, acoustic isolation and firestopping.
- .11 Maintain fire ratings of fire rated assemblies where cutting, patching or remedial work is performed. Completely seal voids or penetrations of assembly with firestopping and smoke seal materials to full depth or with suitably rated devices.

END OF SECTION

- 1 General
- 1.1 REGULATORY REQUIREMENTS
  - .1 Comply with applicable regulatory requirements when disposing of waste materials.
  - .2 Obtain permits from authorities having jurisdiction and pay disposal fees where required for disposal of waste materials and recyclables.
- 1.2 GENERAL CLEANING REQUIREMENTS
  - .1 Provide adequate ventilation during use of volatile or noxious substances. Do not rely on building ventilation systems for this purpose.
  - .2 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
  - .3 Prevent cross-contamination during cleaning process.
  - .4 Notify Consultant of the need for cleaning caused by Owner or Other Contractors.
  - .5 Assign cleaning duties to special dedicated crew with own foreman and of sufficient size and skill to prevent accumulation of waste, debris, and dirt at Place of the Work.
- 1.3 PROGRESSIVE CLEANING AND WASTE MANAGEMENT
  - .1 Maintain the Work in tidy and safe condition, free from accumulation of waste materials and construction debris.
  - .2 Provide appropriate, clearly marked, containers for collection of waste materials and recyclables. Locate containers where directed by Owner.
  - .3 Owner's waste containers at Place of the Work may not be used during construction.
  - .4 Owner's custodial equipment and supplies may not be used during construction.
  - .5 Remove waste materials and recyclables from work areas, separate and deposit in designated containers at end of each Working Day. Collect packaging materials for recycling or reuse.
  - .6 Remove waste materials and recyclables from Place of the Work daily.
  - .7 Clean interior building areas prior to start of finish work and maintain free of dust and other contaminants during finishing operations.
  - .8 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly finished surfaces nor contaminate building systems.
- 1.4 FINAL CLEANING
  - .1 Before final cleaning, arrange a meeting at Place of the Work to determine the acceptable standard of cleaning. Ensure Owner, Consultant, Contractor, and cleaning Subcontractor are in attendance.
  - .2 Remove from Place of the Work surplus Products, waste materials, recyclables, Temporary Work, and Construction Equipment not required to perform any remaining work.
  - .3 Provide professional cleaning by a recognized, established cleaning company.
  - .4 Lock or otherwise restrict access to each room or area after completing final cleaning in that area.

- .5 Re-clean as necessary areas that have been accessed by Contractor's workers prior to Ready-for-Takeover.
  - .6 Remove stains, spots, marks, and dirt from finished surfaces, mechanical and electrical fixtures, furniture, fitments, walls, and floors.
  - .7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and other finished surfaces, including mechanical and electrical fixtures. Replace broken, scratched, or otherwise damaged glass.
  - .8 Remove dust from lighting reflectors, lenses, lamps, bulbs, and other lighting surfaces.
  - .9 Vacuum clean and dust exposed wall, floor, and ceiling surfaces, above suspended ceiling tiles, and behind grilles, louvres, and screens.
  - .10 Clean mechanical, electrical, and other equipment. Replace filters for mechanical equipment if equipment has been used during construction.
  - .11 Remove waste materials and debris from crawlspaces and other accessible concealed spaces.
  - .12 Remove stains, spots, marks, and dirt from exterior facades.
  - .13 Clean exterior and interior window glass and frames.
  - .14 Power wash exterior paved surfaces.
- 1.5 WASTE MANAGEMENT AND DISPOSAL
- .1 Dispose of waste materials and recyclables at appropriate municipal landfills and recycling facilities in accordance with applicable regulatory requirements.
  - .2 Do not burn or bury waste materials at Place of the Work.
  - .3 Do not dispose of volatile and other liquid waste such as mineral spirits, oil, paints and other coating materials, paint thinners, cleaners, and similar materials together with dry waste materials or on the ground, in waterways, or in storm or sanitary sewers. Collect such waste materials in appropriate covered containers, promptly remove from Place of the Work, and dispose of at recycling facilities or as otherwise permitted by applicable regulatory requirements.
  - .4 Cover or wet down dry waste materials to prevent blowing dust and debris.
- 1.6 HAZARDOUS WASTE DISPOSAL
- .1 If and when required, remove and dispose of hazardous or contaminated waste materials in accordance with applicable regulatory requirements.
  - .2 Hazardous or contaminated waste materials must be transported by a licensed waste hauling company.
  - .3 Submit a copy of hauling company's Certificate of Approval to authority having jurisdiction prior to transporting any hazardous or contaminated waste materials.
  - .4 Stockpile suspected hazardous or contaminated waste material temporarily in neat and secure stockpiles overlying a double layer of 0.20 mm thick high density polyethylene.
  - .5 Isolate stockpiles from remainder of Place of the Work and cover with a single layer of 0.20 mm thick polyethylene to prevent entry, wind disturbance or collection of surface water.

- .6 Do not transport potentially hazardous or contaminated waste materials until such materials have been properly identified by appropriate authority having jurisdiction.

END OF SECTION

1 General

1.1 PROTECTION OF EXISTING PROPERTY

- .1 Protect Owner's existing property and property adjacent to Place of the Work from damage.
- .2 Make Good damage to Owner's existing property resulting from performance of the Work.
- .3 Do not undertake to Make Good damage to any property located adjacent to Place of the Work, or acknowledge that such damage was caused or occasioned by Contractor, without first consulting with Owner and receiving written instructions as to the course of action to be followed.
  - .1 Under such circumstances, where there is danger to life or property, Contractor may take such emergency action as he deems necessary to remove the danger.
  - .2 Contractor shall indemnify and hold harmless Owner and Consultant, including their agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings by third parties that arise out of, or are attributable to, such emergency action.

1.2 PROTECTION OF COMPLETED WORK AND WORK IN PROGRESS

- .1 Adequately protect parts of the Work completed and in progress from any kind of damage.
- .2 Do not load or permit to be loaded any part of the Work with a weight or force that will endanger the safety or integrity of the Work.
- .3 Refer to technical specification Sections for Product-specific requirements regarding protection of installed Products.
- .4 Unless specified otherwise, maintain protection until Ready-for-Takeover. Remove protection and protective coverings upon expiry of specified duration.
- .5 Promptly Make Good parts of the Work damaged as a result of inadequate protection.

END OF SECTION

- 1 General
  - 1.1 READY-FOR-TAKEOVER
    - .1 Prerequisites to attaining Ready-for-Takeover of the Work are described in General Conditions of the Contract.
  - 1.2 INSPECTION AND REVIEW BEFORE READY-FOR-TAKEOVER
    - .1 Contractor's Inspection: Before applying for Consultant's review to establish Ready-for-Takeover of the Work:
      - .1 Ensure specified prerequisites for Ready-for-Takeover of the Work are completed.
      - .2 Conduct an inspection of the Work to identify defective, deficient, or incomplete work.
      - .3 Prepare a comprehensive and detailed list of items to be completed or corrected.
      - .4 Submit an anticipated schedule and costs for items to be completed or corrected.
    - .2 Consultant's Review: Upon receipt of Contractor's application for review, together with Contractor's list of items to be completed or corrected, Consultant will review the Work. Consultant will advise Contractor whether or not the Work is Ready-for-Takeover and will prepare and give Contractor a list of items, if any, to be added to Contractor's list of items to be completed or corrected. Submit to Consultant a revised list of items to be completed or corrected.
    - .3 Maintain the list of items to be completed or corrected and promptly correct or complete defective, deficient and incomplete work. Contractor's inspection and Consultant's review procedures specified above shall be repeated until the Work is Ready-for-Takeover and no items remain on Contractor's list of items to be completed or corrected.
    - .4 When Consultant determines the Work is Ready-for-Takeover, Consultant will notify Contractor and Owner in writing to that affect.
  - 1.3 PREREQUISITES TO FINAL PAYMENT
    - .1 After Ready-for-Takeover of the Work and before submitting an application for final payment in accordance with General Conditions of the Contract:
      - .1 Correct or complete all remaining defective, deficient, and incomplete work.
      - .2 Remove from Place of the Work surplus Products, Construction Equipment, and Temporary Work.
      - .3 Perform final cleaning and waste removal necessitated by Contractor's work performed after Ready-for-Takeover, as specified in Section 01 74 00.
  - 1.4 SUBSTANTIAL PERFORMANCE OF THE WORK
    - .1 The prerequisites to, and the procedures for, attaining Substantial Performance of the Work shall be:
      - .1 Independent of those for attaining Ready-for-Takeover of the Work.
      - .2 In accordance with lien legislation applicable at Place of the Work.
  - 1.5 TAKE-OVER PROCEDURES
    - .1 Conform to OAA-OGCA Document 100-2025, Recommended Procedures Concerning Substantial Performance, Ready-for-Takeover, and Completion of Construction Projects.

END OF SECTION

- 1 General
- 1.1 OPERATION AND MAINTENANCE MANUAL
  - .1 Prepare a comprehensive operation and maintenance manual for each school property, in the language of the Contract, using personnel qualified and experienced for this task.
  - .2 Submit initial draft of operation and maintenance manual for Consultant's review. If required by Consultant's review comments, revise manual contents and resubmit for Consultant's review. If required, repeat this process until Consultant accepts draft manual in writing.
  - .3 Submit final version of operation and maintenance manual to Owner in digital format.
- 1.2 OPERATION AND MAINTENANCE MANUAL FORMAT
  - .1 Organize data in the form of an instructional manual.
  - .2 Arrange content by systems, under Section numbers and sequence of Table of Contents.
  - .3 Prepare digital copy of operation and maintenance manual as portable document format (.pdf) file.
  - .4 When multiple files are used, correlate data into related consistent groupings. Identify contents of each file in file name.
  - .5 Submit operation and maintenance manual on electronic media type acceptable to Owner.
  - .6 Include electronic bookmarks for each separate Product and system, with description of Product and major component parts of equipment.
  - .7 Include digital copy of Shop Drawings in manual as portable document format (.pdf) files.
- 1.3 OPERATION AND MAINTENANCE MANUAL - GENERAL CONTENT
  - .1 Table of Contents for each volume.
  - .2 Introductory information, including:
    - .1 Date of manual submission.
    - .2 Complete contact information for Consultant, subconsultants, other consultants, and Contractor, with names of responsible parties identified for each.
    - .3 Schedule of Products and systems indexed to content of volume.
  - .3 For each Product or system, include complete contact information for Subcontractors, Suppliers and manufacturers, including local sources for supplies and replacement parts.
  - .4 Product Data: Mark each sheet to clearly identify specific Products, options, and component parts, and data applicable to installation. Delete or strike out inapplicable information. Supplement with additional information as required.
  - .5 Reviewed Shop Drawings.
  - .6 Permits, certificates, letters of assurance and other relevant documents issued by or required by authorities having jurisdiction.
  - .7 Warranties.
  - .8 Operating and maintenance procedures, incorporating manufacturer's operating and maintenance instructions, in a logical sequence.
  - .9 Training materials as specified in Section 01 79 00.

- 1.4 OPERATION AND MAINTENANCE MANUAL - EQUIPMENT AND SYSTEMS CONTENT
  - .1 Each Item of Equipment and System: Include description of unit or system and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
  - .2 Panel Board Circuit Directories: Include electrical service characteristics, controls, and communications.
  - .3 Include installed colour coded wiring diagrams.
  - .4 Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
  - .5 Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
  - .6 Include servicing and lubrication schedule, and list of lubricants required.
  - .7 Include manufacturer's printed operation and maintenance instructions.
  - .8 Include sequence of operation by controls manufacturer.
  - .9 Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
  - .10 Include Contractor's coordination drawings, with installed colour coded piping diagrams.
  - .11 Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
  - .12 Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
  - .13 Include testing and balancing reports.
  - .14 Include additional content as specified in Contract Documents.
- 1.5 OPERATION AND MAINTENANCE MANUAL - PRODUCTS AND FINISHES
  - .1 Include Product data, with catalogue number, options selected, size, composition, and colour and texture designations. Include information for re-ordering custom manufactured Products.
  - .2 Include instructions for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
  - .3 Include an outline of requirements for routine and special inspections and for regular maintenance to ensure that on-going performance of building envelope will meet the initial building envelope criteria.
  - .4 Include additional content as specified in Contract Documents.
- 1.6 OPERATION AND MAINTENANCE MANUAL - WARRANTIES CONTENT
  - .1 Separate each warranty with index tab sheets keyed to Table of Contents listing.
  - .2 List each warrantor with complete contact information.
  - .3 Verify documents are in proper form and contain full information. Ensure warranties are for correct duration and are in Owner's name.

1.7 PROJECT AS-BUILT RECORD DRAWINGS

- .1 Transfer information marked up on as-built record drawings during progress of the Work to a master set of electronic drawing files obtained from Consultant.
- .2 Mark revised drawings as "AS-BUILT DRAWINGS".
- .3 Submit completed record drawings in hard copy and electronic forms to Owner. Submit three hard copies.
- .4 Submit electronic copies as both Autodesk AutoCAD (.dwg) files and portable document format (.pdf) files.

1.8 SPARE PARTS, EXTRA STOCK MATERIALS AND SPECIAL TOOLS

- .1 Supply spare parts, extra stock materials, and special tools in specified quantities.
- .2 Ensure spare parts and extra stock materials are new, not damaged or defective, and of same quality, manufacturer, and batch or production run as installed Products.
- .3 Include tags for special tools identifying their function and associated Product.
- .4 Deliver to, and store items at, location directed by Owner at Place of the Work. Store in original packaging with manufacturer's labels intact, and in a manner to prevent damage or deterioration.
- .5 Catalogue items and submit to Consultant an inventory listing organized by specification Section numbers. Include Consultant reviewed inventory listing in operation and maintenance manual.

END OF SECTION

- 1 General
- 1.1 ADMINISTRATIVE REQUIREMENTS
  - .1 Demonstrate and train Owner's personnel on operation and maintenance of equipment, building envelope and systems prior to scheduled date of Ready-for-Takeover.
  - .2 Owner will prepare a list of personnel to receive training, and will coordinate their attendance at agreed upon times.
  - .3 Coordinate and schedule demonstration and training given by Subcontractors and Suppliers.
- 1.2 SUBMITTALS
  - .1 Submit proposed dates, times, durations, and locations for demonstration and training of each item of equipment and each system for which demonstration and training is required. Allow sufficient time for training and demonstration for each item of equipment or system.
  - .2 Consultant and Owner will review submittal and advise Contractor of any necessary revisions.
  - .3 Submit reports within 5 Working Days after completion of demonstration and training:
    - .1 Identifying time and date of each demonstration and training session.
    - .2 Summarizing the demonstration and training performed.
    - .3 Including a list of attendees.
  - .4 Submit video recordings of demonstration and training sessions together with reports.
- 1.3 PREREQUISITES TO DEMONSTRATION AND TRAINING
  - .1 Ensure testing, adjusting, and balancing has been performed in accordance with Contract Documents.
  - .2 Ensure equipment and systems are fully operational.
  - .3 Ensure a copy of the completed operation and maintenance manual is available for use in demonstration and training.
  - .4 Ensure conditions for demonstration and training comply with requirements of Contract Documents.
- 1.4 DEMONSTRATION AND TRAINING
  - .1 Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, and maintenance of each item of equipment and system.
  - .2 Review operation and maintenance manual in detail to explain all aspects of operation and maintenance.
  - .3 Prepare and insert additional data in operation and maintenance manual if required.

END OF SECTION

- 1 General
- 1.1 REFERENCES
  - .1 CSA Z783-12 (R2021): Deconstruction of Buildings and Their Related Parts.
- 1.2 SEQUENCING
  - .1 Schedule deconstruction activities to minimize disruption to existing facility operations.
  - .2 Verify deconstruction schedule with Consultant prior to commencement of the Work.
  - .3 Protect existing facility occupants from dust and from any danger arising from deconstruction operations. Refer to Section 01 56 00.
- 1.3 SPECIAL PROCEDURE SUBMITTALS
  - .1 Submit three copies of each photograph taken of existing conditions to Consultant.
- 1.4 QUALIFICATIONS
  - .1 Demolition Supervisor: An individual experienced in building deconstruction, capable of ensuring deconstruction is carried out safely, expeditiously, and without unnecessary damage to materials and surfaces that are designated to remain.
- 1.5 FIELD CONDITIONS
  - .1 Inspect and photograph existing adjacent surfaces and assemblies.
  - .2 Record conditions and stability in a manner suitable for evaluation of possible damage caused by deconstruction operations.
  - .3 Approximate locations of existing facility services may be indicated on Drawings. Owner and Consultant assume no responsibility for accuracy of such information.
- 2 Products
- 2.1 REGULATORY REQUIREMENTS
  - .1 Permits and Fees: Include tipping charges and other related fees necessary for completion of deconstruction operations.
  - .2 Utilities: Obtain approval from authorities having jurisdiction prior to commencing deconstruction operations.
  - .3 Hazardous Waste: Conform to authorities having jurisdiction.
- 2.2 EQUIPMENT
  - .1 Deconstruction: Appropriate equipment for type of deconstruction being contemplated.
  - .2 Do not use heavy equipment for making openings in existing walls or in confined spaces where damage to other parts of the Work or adjacent property may result.
- 3 Execution
- 3.1 EXAMINATION
  - .1 Refer to Section 01 71 00.
  - .2 Verify locations and construction of structures to be demolished.

- .3 Verify construction and details of other existing and adjacent property.
- .4 Verify location of utility and facility services.
- .5 Undertake x-ray investigations of existing building elements designated for selective demolition to determine locations of concealed components.

### 3.2 PREPARATION

- .1 Erect shoring, bracing and other temporary structures to prevent collapse, settlement and movement of property. Refer to Section 01 56 00.
- .2 Provide and maintain dust protection screen as specified in Section 01 56 00.
- .3 Barricade access by unauthorized persons to areas in which deconstruction is in-progress.
- .4 Post danger signs in conspicuous locations to warn persons that deconstruction is in-progress.
- .5 Erect protection to ensure safe access that must be maintained to existing areas still occupied by the public.
- .6 Protect adjacent property from damage caused by deconstruction operations.
- .7 Remove flammable and contaminated materials, and refuse from area before deconstruction operations commence.
- .8 Arrange for disconnection, capping and plugging of facility services that may be affected by deconstruction operations.

### 3.3 DECONSTRUCTION

- .1 Perform deconstruction work in an expeditious and safe manner.
- .2 Conform to CSA Z783.
- .3 Confine deconstruction operations to only those areas required.
- .4 Prevent and contain the spread of dust.
- .5 Do not drop debris more than one storey unless in an enclosed chute. Lower large components carefully, under control and fully supported at all times.
- .6 Withdraw or flatten protruding nails as deconstruction operations proceed.

### 3.4 SALVAGE

- .1 Carefully remove materials scheduled for salvage to CSA Z783.
- .2 Refer to Drawings for list of items scheduled for salvage.
- .3 Clean and prepare salvaged items for use by others.
- .4 Store salvaged materials in secure locations, protected from damage.
- .5 Items not scheduled for salvage become property of Contractor.

### 3.5 CLEANING

- .1 Leave Place of the Work in a clean and orderly condition, ready for use by others.
- .2 Remove waste and debris as specified in Section 01 74 00 and in accordance with authorities having jurisdiction.

- .3 Remove protections, barricades and other temporary constructions on completion of deconstruction operations.
- .4 Make Good property and materials damaged during deconstruction operations.

END OF SECTION