

# CCDC 01

## Guide to the use of CCDC Master Specification for Division 01 – General Requirements

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## 1.0 INTRODUCTION

The *CCDC Master Specification for Division 00 – Procurement and Contracting Requirement* was first published in 2018. With the publication of the *CCDC Master Specification for Division 01 – General Requirements* comes this revised Guide, which addresses both Division 00 and 01. Both are based on the TEK-AIDs for Division 00 and 01 formerly published by Construction Specifications Canada (CSC). CSC formally requested that CCDC assume responsibility for the publishing and future updating of its Division 00 and 01 TEK-AID master specification. CCDC subsequently undertook to revise the CSC master specification to ensure compatibility with other CCDC publications and to reflect industry-wide consensus on current procurement and contracting best practices, with input from *Owners* and all CCDC constituent organizations.

The contribution of CSC in developing the forerunner to this CCDC publication, and in recognizing the industry-wide benefits of it becoming a CCDC publication, is gratefully acknowledged.

The standard text for both Division 00 and 01 is fully editable and is intended to be used as a tool for creating project specific procurement and contracting documents, and general requirements *Specifications*, for construction projects in Canada. Users are assumed to be procurement authorities, *Owners*, or their *Consultants*. Use of a CCDC standard form contract is also assumed.

With regard to the *CCDC Master Specification for Division 00*, users are strongly encouraged to read *CCDC 23 – A Guide to Calling Bids and Awarding Construction Contracts* as a companion document to the master specification sections. *CCDC 23* provides guidance information and explains recommended procurement and contracting best practices in detail whereas the *CCDC Master Specification for Division 00* provides standard text for implementing the recommended best practices. A competitive lowest bid procurement method is assumed.

With regard to the *CCDC Master Specification for Division 01 – General Requirements*, note that Div. 01 is not necessarily comprehensive enough to address all Division 01 General Requirements that may potentially be required. Large, complex projects, or those with unique or special requirements, will no doubt require additional Div. 01 Sections or require additional provisions to be added to the master specification sections provided.

The *CCDC Master Specification for Division 00 and Division 01* may be used with forms of contract other than those published by CCDC, and with other procurement methods, but will require more extensive editing to suit.

## 2.0 ORGANIZATION AND PRESENTATION

### .1 MasterFormat

The *CCDC Master Specification for Division 00 and Division 01* is organized into Sections according to *MasterFormat*. *MasterFormat* is the North American standard that provides a master list of numbers and titles for organizing construction information in a standardized sequence. *MasterFormat* may be obtained at [www.MasterFormat.com](http://www.MasterFormat.com).

*MasterFormat* titles and numbers are organized into basic groupings of related construction information called divisions and sections. Each division is identified by a fixed number and title indicating the location of a primary element of the system, e.g. Division 00 – Procurement and Contracting Requirements. Within each division there are numbered sections. Each section covers one specific subject or a small group of associated subjects, e.g. Section 00 21 13 - Instructions to Bidders.

The inherent consistency and flexibility of this classification system allows for the organization and assembly of the written part of the Bid Documents and *Contract Documents* in a numerical sequence that is universally recognized and understood in the North American design and construction industry.

## .2 Language, Terminology and Capitalization

The *CCDC Master Specification for Division 00 and Division 01* is written in the simple imperative grammatical mood, generally directed to prime contract Bidders. Exceptions to this are the Bid Forms and Bid Form Supplements, which are written as declarative statements directed to the *Owner*.

Where applicable, the *CCDC Master Specification for Division 00 and Division 01* uses terminology consistent with defined terms in the CCDC standard forms of contract. These terms are capitalized wherever they appear.

## .3 Master Specification Conventions

Common master specification conventions including explanatory *Spec Notes* and square brackets are used to explain and identify optional text to facilitate editing, as described below.

## 3.0 EDITING

### .1 Editing, Generally

Like all master specifications, the *CCDC Master Specification for Division 00 and Division 01* is intended to be used selectively and edited for project specific use. First, by selecting the sections that will be applicable to a given *Project* and then editing those Sections to suit the needs of the user and the *Project*. To provide maximum editing flexibility, the master specification sections are published in MS Word format.

### .2 Spec Notes

*Spec Notes* are addressed to and intended to guide the user. They appear in a different font and colour to distinguish them from the master specification text itself. *Spec Notes* generally provide a brief introductory explanation of the intended use of each Section. Within the body of the Section they immediately precede the master specification article, paragraph, or sub-paragraph to which they pertain and they explain various options to assist the editing process. They also identify the need for coordination where coordination is required and provide other supplementary guidance information.

*Spec Notes* generally do not provide detailed guidance or explanation of procurement and contracting related best practices, as these are provided in *CCDC 23 – A Guide to Calling Bids and Awarding Construction Contracts*.

Ensure that all *Spec Notes* are removed as part of the editing process and do not appear in the final *Project Specification*.

### .3 Square Brackets

Square brackets appear at various locations within the text to indicate where the user must make project specific choices. Text enclosed within a single set of square brackets indicates that inclusion of that text is optional; it may be deleted or it may stand. Similarly, text enclosed within multiple sets of square brackets within the same paragraph indicates that more than one option is available; the unwanted option(s) must be deleted. Blank spaces enclosed by square brackets indicate that project specific or other optional text must be inserted at that location. Ensure that all square brackets are deleted in the editing process so that none appear in the final *Project Specification*.

All master specification text, whether or not enclosed in square brackets, can and should be edited to suit project specific requirements.

### .4 Paragraph and Page Numbering

Paragraphs and pages are numbered automatically within the word processing application. Nevertheless, check to ensure that proper sequential numbering has been maintained at each paragraph indent level following editing.

### .5 Other Editing Considerations

As part of the editing process, the header information in each master specification section should be edited to remove the edition date of the section and the “CCDC Master Specification” reference. Project specific identifiers should be substituted.

When adding new text in editing, use consistent terminology, including use of CCDC defined terms and ensure consistent capitalization. Follow good specification writing practices for all new text, including proper spelling and grammar (use the simple imperative mood). Maintain the “End of Section” convention to indicate the point where each section ends.

### .6 Editing Division 00

The Division 00 master specification reflects the industry accepted best practices that are discussed in detail in *CCDC 23 – A Guide to Calling Bids and Awarding Contracts*. When editing Division 00 Sections, avoid deviating significantly from these industry accepted best practices that are embodied in the master specification text.

### .7 Editing Division 01

The Division 01 master specification contains some subject matter that is closely related to subject matter that is typically addressed in the Conditions of Contract in Division 00. The Division 01 master specification text has been carefully coordinated with the CCDC Conditions of Contract in this regard. Exercise caution when editing Division 01 sections to avoid creating duplication or conflict with the General Conditions in Division 00. Division 01 can and should be used to add more detailed and complementary administrative requirements related to subject matter addressed in the General Conditions.

#### 4.0 DISCLAIMER AND LIMITATIONS OF USE

The *CCDC Master Specification for Division 00 and 01* requires appropriate selection and editing of Sections to suit the requirements of individual users and their projects. Users are responsible for determining its suitability for a particular *Project* and for all necessary editing to suit. Not all matters and variations necessary for the procurement of construction services for a particular *Project*, on behalf of a particular user, in a particular locale, are necessarily addressed.

CCDC and its constituent organizations make no representations or warranties with respect to the accuracy or completeness of the master specification text and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose and shall not be liable for any loss of profit or any incidental, consequential or other damages arising from its use.

FOR EDUCATION ONLY

**SPEC NOTE:** This Section lists the contents of the CCDC Master Specification for Division 00 and 01. It may also be used as a basis for creating the Division 00 and 01 portion of the table of contents for the entire project manual. Section names and titles in square brackets identify standard templates for documents that are included in the Master Specification but which would not appear in the project manual or its table of contents.

| Section Number  | Section Title   |
|---|---|
| <b>DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS</b> |   |
| [00 11 13<br>[00 11 16  | Advertisement for Bids]<br>Letter of Invitation to Bid] |
| 00 21 13  | Instructions to Bidders                                 |
| 00 31 00  | Available Project Information                           |
| 00 41 13  | Bid Form - Stipulated Price                             |
| 00 41 33  | Bid Form Cost Plus Fee                                  |
| 00 41 43  | Bid Form - Unit Price                                   |
| 00 41 45  | Bid Form – Combined Stipulated and Unit Price           |
| 00 43 23  | Bid Form Supplement – Alternative Prices                |
| 00 43 36  | Bid Form Supplement – List of Subcontractors            |
| [00 51 00<br>[00 51 13  | Notice of Award]<br>Letter to Unsuccessful Bidders]     |
| 00 70 00  | Conditions of the Contract                              |
| 00 70 50  | Amendments to Agreement                                 |
| 00 71 50  | Amendments to Definitions                               |
| 00 73 00  | Supplementary Conditions                                |
| 00 73 63  | Contract Performance Security                           |
| [00 91 13   | Addenda]  |

**DIVISION 01 – GENERAL REQUIREMENTS**

|          |                                     |
|----------|-------------------------------------|
| 01 11 00 | Summary of Work                     |
| 01 11 20 | Contract Assignment                 |
| 01 11 22 | Assignable Contracts                |
| 01 14 00 | Work Restrictions                   |
| 01 21 00 | Allowances                          |
| 01 25 00 | Substitution Procedures             |
| 01 26 00 | Contract Modification Procedures    |
| 01 29 00 | Payment Procedures                  |
| 01 31 19 | Project Meetings                    |
| 01 32 00 | Construction Progress Documentation |
| 01 33 00 | Submittal Procedures                |
| 01 35 00 | Special Procedures                  |
| 01 40 00 | Quality Requirements                |
| 01 51 00 | Temporary Utilities                 |
| 01 52 00 | Construction Facilities             |
| 01 56 00 | Temporary Barriers and Enclosures   |
| 01 57 00 | Temporary Controls                  |
| 01 61 00 | Common Product Requirements         |
| 01 71 00 | Examination and Preparation         |
| 01 73 00 | Execution                           |
| 01 73 29 | Cutting and Patching                |
| 01 74 00 | Cleaning and Waste Management       |
| 01 78 00 | Closeout Submittals                 |
| 01 79 00 | Demonstration and Training          |
| 01 91 13 | General Commissioning Requirements  |

END OF SECTION

SPEC NOTE: This Section includes identification of the work of this Contract, work by others and work by the Owner that affects this Contract, Owner-supplied Products, as well as various other miscellaneous requirements not addressed elsewhere in the Contract Documents.

SPEC NOTE: As with all Division 01 Sections, ensure this Section is coordinated with the technical Specifications, Drawings, and the applicable General Conditions of Contract. This Section assumes use of a CCDC standard form contract and in particular CCDC 2 – 2020. If using a different CCDC contract or a non-CCDC contract, some of the provisions in this Section may be included in the General Conditions of Contract, in which case they should be deleted from this Section. Exercise caution when editing this Section to ensure that provisions of the General Conditions are not duplicated here unnecessarily and that no conflicts are created with the General Conditions.

## 1.1 WORK OF THE PROJECT

SPEC NOTE: Use this article when the Project involves multiple construction contracts. If work of this Contract must accommodate other future work, ensure that requirements such a structural provisions, utilities, areas of site to be kept clear, site preparation, etc. are addressed in the Drawings and Specifications.

- .1 *Work of the Project*, of which *Work of this Contract* is a part, comprises the following:
  - .1 [\_\_\_\_\_].
- .2 *Work of the Project* includes the following separate contracts that have been or will be performed by others:
  - .1 Contract [No. \_\_\_\_\_] for [\_\_\_\_\_] [which has been awarded to [\_\_\_\_\_] [and which is complete.]
  - .2 Contract [No. \_\_\_\_\_] for [\_\_\_\_\_] [which has been awarded to [\_\_\_\_\_] [and which is scheduled to be completed during the *Work of this Contract*.]
  - .3 Contract [No. \_\_\_\_\_] for [\_\_\_\_\_] which comprises the *Work of this Contract*.
  - .4 Contract [No. \_\_\_\_\_] for [\_\_\_\_\_] which has not been awarded.

## 1.2 WORK OF THIS CONTRACT

SPEC NOTE: Use the following paragraphs to identify the Project name and location, including municipal address and Owner provided legal description if required. This paragraph is not intended to be a “scope of work”.

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

[\_\_\_\_\_]  
[\_\_\_\_\_]



.2 Municipal Address: [ ]

.3 Legal Description: [ ]

### 1.3 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*.

### 1.4 SPECIFICATIONS LANGUAGE AND STYLE

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

### 1.5 CONTRACT DOCUMENTS FOR CONSTRUCTION PURPOSES

- .1 *Owner* 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.
- .2 [*Owner* will also provide *Contractor* with [15] [20] [\_\_\_\_\_] hard copy sets of *Contract Documents* for construction purposes. Additional hard copy sets shall be at *Contractor's* expense for the cost of printing, handling and shipping.]

### 1.6 DOCUMENTS AT THE SITE

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



- .2 Arrange and pay for delivery of *Owner-supplied Products* F.O.B. the site, within time frames required by *Contractor's* progress schedule. If delivered sooner than required by *Contractor's* latest progress schedule submitted to *Owner*, arrange and pay for delivery to a temporary storage location and subsequent delivery to the site.
  - .3 Advise *Contractor* in writing of the value of *Owner-supplied Products* for *Contractor's* insurance purposes.
  - .4 Arrange and pay for delivery to *Contractor* of reviewed *Shop Drawings, Product* data, samples, [and] manufacturer's installation instructions [, and ].
  - .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 manual.
- .2 *Contractor Responsibilities:*
- .1 Designate in progress schedule, time frames for delivery of *Owner-supplied Products* to the site and for receipt of related submittals. If the site is not ready to receive delivery of *Owner-supplied Products* within the time frame indicated in the latest progress schedule submitted to *Owner*, arrange and pay for delivery to a temporary storage location and subsequent delivery to the site.
  - .2 Review all required submittals and notify *Consultant* of any observed discrepancies or anticipated problems.
  - .3 Ensure that course of construction insurance is adequate to cover *Owner-supplied Products*.
  - .4 Receive and unload *Owner-supplied Products* at the site.
  - .5 Inspect deliveries jointly with *Owner*. Record and notify *Owner* and *Consultant* of shortages and visibly damaged or defective items.
  - .6 Handle *Owner-supplied Products* at site, including uncrating and storage. Dispose of waste materials and debris.
  - .7 Take appropriate precautions to protect *Owner-supplied Products* from loss or damage.
  - .8 Repair or replace items damaged on site.

- .9 Assemble, install, connect, adjust, and finish *Owner-supplied Products* as specified.
- .10 Arrange for inspections required by authorities having jurisdiction as specified.
- .11 Arrange for or perform testing as specified.
- .12 Workmanship warranty for installation.
- .3 Schedule of *Owner-supplied Products*:

SPEC NOTE: Provide a description of all Owner-supplied Products here. If the value of Owner-supplied Products is known, specify values here also, thus fulfilling the Owner's obligations under 1.9.1.3 above.

.1 [ ].

.2 [ ].

.3 [ ].

END OF SECTION

SPEC NOTE: Include this Section ONLY in a contract that the Owner intends to subsequently assign to another contractor. For example, if an elevator contract is pre-bid several months before bids are called for the general (or prime) contract, and the elevator contract is subsequently to be assigned to the general (or prime) contractor when the general contractor is known, include this Section in the Bid Documents for the elevator contract only.

SPEC NOTE: This Section assumes use of a CCDC standard form of contract containing an assignment General Condition that permits the Owner to assign this Contract with the Contractor's written consent.

SPEC NOTE: Include Section 01 11 22 – Assignable Contracts in the contract that will receive the assignment of this Contract, for example, in the prime contract that will receive the assignment of the elevator contract.

SPEC NOTE: An assignment agreement signed by all three parties, that is by this Contractor, by the Contractor receiving the assignment of this Contract, and by the Owner, will be required to make the assignment legally effective. The assignment agreement will also provide the Contractor's "written consent" to the assignment that is required by the General Conditions for this Contract. The Owner should obtain legal advice in drafting the assignment agreement, an unsigned copy of which should be included in the both contracts, that is in this Contract to be assigned and in the contract that will receive the assignment. The assignment agreement is not provided as part of the CCDC Master Specification but it should be included in Division 00 as Section 00 73 26 – Assignment Agreement, in both contracts.

## 1.1 SUMMARY OF CONTRACTUAL RELATIONSHIPS

- .1 This Section specifies administrative provisions related to the exercise of *Owner's* right to assign the *Contract* to another contractor ("prime contractor").
- .2 Upon award of the *Contract*, *Contractor* shall execute an agreement with *Owner* for performance of the *Contract*.
- .3 [At a later date, *Owner* will enter into] [*Owner* has entered into] an agreement with prime contractor for performance of prime contract, the terms of which provide for the assignment of the *Contract* to prime contractor.
- .4 *Owner* intends to exercise its right under the *Contract* to assign the *Contract* to prime contractor, with *Contractor's* written consent by means of an assignment agreement in the form provided in Section 00 73 26 – Assignment Agreement.
- .5 Upon assignment of the *Contract*, *Contractor* shall become a subcontractor to prime contractor as set out in the assignment agreement.



SPEC NOTE: Include this Section ONLY if this Contract will receive one or more contracts to be assigned to the Contractor for this Contract. For example, if an elevator contract is pre-bid several months before bids are called for the general (or prime) contract, and the elevator contract is subsequently to be assigned to the general (or prime) contractor when that contractor is known, include this Section in the Bid Documents for prime contract only.

SPEC NOTE: This Section assumes that Section 01 11 20 – Contract Assignment was included in the contract(s) that will be assigned to this Contract. For example, Section 01 11 20 should have been included in the Bid Documents for the elevator contract that is to be assigned to the Contractor for this Contract.

SPEC NOTE: An assignment agreement signed by all three parties, that is by this Contractor who is receiving the assignment, by the contractor whose contract is being assigned, and by the Owner, will be required to make the assignment legally effective. The assignment agreement will also confirm this Contractor's written consent to the assignment. The Owner should obtain legal advice in drafting the assignment agreement, an unsigned copy of which should be included in the both contracts, that is in the contract to be assigned and in this Contract that will receive the assignment. The assignment agreement is not provided as part of the CCDC Master Specification but it should be included in Division 00 as Section 00 73 26 – Assignment Agreement, in both contracts.

#### SUMMARY OF CONTRACTUAL RELATIONSHIPS

- .1 This Section specifies administrative provisions related to *Owner's* assignment of one or more other contracts (the "assignable contract(s)") to the *Contract*.
- .2 *Owner* has entered into one or more assignable contracts with one or more other entities ("designated subcontractors or suppliers") for performance of *Work* or supply of *Products* for the *Project*.
- .3 *Owner* intends to exercise its right under each assignable contract to assign such contract to *Contractor* by means of an assignment agreement in the form provided in Section 00 73 26 – Assignment Agreement.
- .4 Upon the assignment of each assignable contract, each designated subcontractor or supplier shall become a *Subcontractor* or *Supplier* to *Contractor* as set out in the assignment agreement.

## 1.1 ASSIGNABLE CONTRACTS AND DESIGNATED SUBCONTRACTORS/SUPPLIERS

SPEC NOTE: Identify in the following paragraphs the contract, the designated subcontractor or supplier, and the contact information for each contract that will be assigned to the Contractor.

.1 Assignable contract: [Contract No. [ ] ]

Designated [subcontractor] [supplier]:

[name ]

[address ]

[ ]

[contact name, telephone and e-mail address ]

.2 Assignable contract: [Contract No. [ ] ]

Designated [subcontractor] [supplier]: [name ]

[address ]

[ ]

[contact name, telephone and e-mail address ]

## 1.2 ASSIGNMENT

.1 As soon after award of the *Contract* as *Owner* considers practicable, *Owner* will assign each assignable contract to *Contractor*.

.2 Each assignment will be made legally effective by means of an assignment agreement, to be signed by *Contractor*, the designated subcontractor or supplier, and *Owner*.

.3 *Owner* will give *Contractor* at least [5] [ ] *Working Days* notice in advance of the effective date of the assignment.

.4 Upon assignment, all monies payable to the assigned *Subcontractor* or *Supplier* as of the date of the assignment, and all other *Owner's* obligations under the assignable contract, shall become obligations of *Contractor*, subject to the terms of the assignment agreement.



### 1.3 CONTRACT DOCUMENTS

SPEC NOTE: Ensure that the contract documents for each assignable contract are disclosed to the Bidders for this Contract, by including them as available project information in Division 00.

- .1 Contract documents for each assignable contract are provided as information under the *Contract*. Refer to Section 00 31 00 – Available Project Information.
- .2 Upon assignment, the contract documents for each assignable contract shall become *Contract Documents* under the *Contract*.

### 1.4 CONTRACT TIME AND SCHEDULING

- .1 Refer to the contract documents for each assignable contract for contract time provisions for each assignable contract.
- .2 Coordinate scheduling with each designated subcontractor or supplier and incorporate each assignable contract into the construction schedule for the *Contract*, so as to achieve [Ready-for-Takeover] [Substantial Performance of the Work], including the work of each assignable contract, within the *Contract Time* for the *Contract*.

### 1.5 CONTRACT PRICE AND COSTS

SPEC NOTE: Ensure that Section 01 21 00 – Allowances includes a cash allowance for each assignable contract, in the amount anticipated to be payable by the Contractor after the effective date of the assignment to the designated subcontractor or supplier.

- .1 Include the cost of each assignable contract as a cash allowance in the *Contract Price* for the *Contract*, as specified in Section 01 21 00 - Allowances.

END OF SECTION

SPEC NOTE: Use this Section, where applicable, to specify restrictions that will affect the Contractor's construction operations and use of the premises, including required work sequencing, restrictions resulting from full or partial occupancy of the premises by the Owner, Owner/Contractor responsibilities after partial Owner occupancy, restricted hours of work, noisy work restrictions, maintaining life safety systems, and similar such requirements. Where applicable, add additional articles to address other Owner and Project specific restrictions on the Contractor's work force at the work site, such as restrictions related to smoking, eating, dress, loud music, etc.

SPEC NOTE: Exercise caution when editing this Section to ensure that no conflicts are created with the General Conditions of Contract.

### 1.1 RESTRICTIONS ON USE OF PREMISES

SPEC NOTE: Elaborate on specified requirements and show on Drawings extent of limits on use of premises in as much detail as may be required.

.1 Limit use of premises [for *Work*,] [for storage,] [and] [for access,] to allow;

- .1 *Owner* occupancy.
- .2 Partial *Owner* occupancy.
- .3 Work by other contractors.
- .4 Public usage.
- .5 [ ].

.2 Coordinate use of premises under direction of [*Owner*] [*Consultant*].

### 1.2 WORK SEQUENCE

SPEC NOTE: Consider the following paragraphs when a specific sequence is required for the Work of this Contract. Edit as appropriate.

.1 Schedule and construct *Work* in stages to accommodate *Owner's* [continued] [intermittent] use of premises during construction.

SPEC NOTE: Use the following paragraph only for work to which the public has access. Edit as appropriate.

.2 Schedule and construct *Work* in stages to provide for continuous public usage. Do not close off public usage of facilities until use of one stage of *Work* will provide alternate usage.

.3 Required stages:

- .1 [Refer to staging diagrams].
- .2 [ ].

SPEC NOTE: Select one of the following paragraphs as applicable.

### 1.3 OWNER OCCUPANCY

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

[OR]

### 1.4 PARTIAL OWNER OCCUPANCY

- .1 Schedule designated portions of *Work* for *Owner's* use prior to [Ready-for-Takeover] [Substantial Performance of the Work].

SPEC NOTE: List designated areas and any mandatory completions dates. Coordinate with designations on Drawings.

- .2 Designated Areas:
  - .1 [\_\_\_\_], completed by [\_\_\_\_].
  - .2 [\_\_\_\_], completed by [\_\_\_\_].
  - .3 [\_\_\_\_], completed by [\_\_\_\_].
- .3 *Owner* will occupy designated areas for purpose of [storage of furnishings and equipment] [installation of equipment] [\_\_\_\_\_].

SPEC NOTE: Consider who will be responsible upon partial *Owner* occupancy for operation and maintenance of HVAC, electrical, and other systems, fire protection, utilities, security, insurance, work site safety, and other such matters.

- .4 Upon occupancy of designated areas, *Owner* will provide or be responsible for:
  - .1 [\_\_\_\_].
  - .2 [\_\_\_\_].
  - .3 [\_\_\_\_].
  - .4 [\_\_\_\_].
  - .5 [\_\_\_\_].
- .5 Upon occupancy of designated areas, *Contractor* will provide or be responsible for:
  - .1 [\_\_\_\_].
  - .2 [\_\_\_\_].
  - .3 [\_\_\_\_].
  - .4 [\_\_\_\_].
  - .5 [\_\_\_\_].

## 1.5 RESTRICTED HOURS OF WORK IN OCCUPIED FACILITIES

SPEC NOTE: Edit as required to suit Owner and Project specific requirements.

- .1 *Work* may not be performed during *Owner's* normal business hours which are [Monday to Friday] [ ] from [8:00] [ ] to [05:00] [ ].
- .2 Allow for hours of work restrictions in construction progress schedule.

## 1.6 NOISY WORK RESTRICTIONS IN OCCUPIED FACILITIES

- .1 Schedule excessively noisy work to avoid disturbance to building occupants. Perform excessive noise generating work outside of *Owner's* business hours.
- .2 Use powder actuated devices only with *Consultant's* written permission.

## 1.7 MAINTAINING LIFE SAFETY SYSTEMS IN OCCUPIED FACILITIES

- .1 Maintain operational life safety systems and public access to exits in occupied areas during all stages of the *Work*.
- .2 Determine nature and exact locations of existing fire and smoke sensors prior to the commencement of the *Work*. Avoid direct or indirect jarring while working in adjacent areas and exercise caution to avoid triggering these devices.
- .3 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.

SPEC NOTE: For occupied facilities, add additional articles as required to address maintaining building services, site or building access restrictions including security screening, parking restrictions, use of existing elevators and washrooms, and other Project specific restrictions. Coordinate with other Sections addressing temporary facilities, access roads, parking areas, traffic regulations, etc.

END OF SECTION

SPEC NOTE: Use this Section to specify cash allowances and contingency allowances. Both are sums of money that the Contractor is required to carry in the Contract Price, but when specified under a CCDC standard form contract, there are significant differences between them:

- A cash allowance is for something known to definitely be required but which cannot be specified with adequate detail to permit accurate pricing by the Contractor at the time of the bid call, or which otherwise needs to be deferred. However the cost of the item can be estimated and specified as a cash allowance amount in the contract. When more information subsequently becomes available to permit the item to be more accurately priced, the Owner approves expenditure of the cash allowance. A cash allowance excludes any amounts for the Contractor's overhead and profit related to the item. The Contractor must carry the overhead and profit separately in the Contract Price.
- A contingency allowance is for something completely unknown. It may or may not ultimately need to be spent in whole or in part. In other words, a contingency allowance is an amount, carried in the Contract Price, which the Owner may use to pay for some or all changes in the Work. Unlike a cash allowance, the Contractor's overhead and profit, and all other costs for which the contingency allowances is to be used, are included in the contingency allowance amount.

SPEC NOTE: This Section assumes use of a CCDC standard form contract and unmodified Part 4 Allowances. Part 4 Allowances includes important provisions related to the administration of cash allowances and contingency allowances. This Section provides additional details and requirements related to allowances that are specific to the Project and to facilitate administration of this Contract. Exercise caution when editing this Section to ensure that provisions of the General Conditions of Contract are not duplicated here unnecessarily and that no conflicts are created with the General Conditions of Contract.

### 1.1 CASH ALLOWANCES FOR SUPPLY ONLY OF PRODUCTS

SPEC NOTE: Use this article to specify cash allowances where the allowance amount includes the cost of supply and delivery of the Product only, as invoiced by the Supplier. Installation and other related costs, including overhead and profit for the cash allowance, are included separately in the Contract Price.

#### .1 Amount of each cash allowance includes:

.1 Cost of *Products* as invoiced by the *Supplier*, including delivery and applicable taxes but excluding *Value Added Taxes*.

#### .2 Amount of each cash allowance does not include costs of the following items, which costs shall be included in the *Contract Price* and not in the cash allowance:

.1 Unloading, handling and storage on site.

.2 Installation and all other related costs.

.3 Overheads and profits related to the cash allowance.

**SPEC NOTE:** Specify the amount of the cash allowance and describe what it is intended to be used for. Reference the technical Specification Section in which the installation of the Product and other related requirements are specified (the cost of which is NOT included in the allowance amount). Ensure that the technical Specification Section includes a reference back to this Section for the amount of the cash allowance. Do not specify the amount of the cash allowance more than once in more than one location. If more than one cash allowance for supply only of Products is required, repeat the following as necessary.

- .3 Allow the stipulated sum of \$[ ] for the supply of:
- .1 [ ].
- .2 Refer to Section [ ] – [ ] for installation and other related requirements.

## 1.2 CASH ALLOWANCES FOR SUPPLY AND INSTALLATION OF PRODUCTS

**SPEC NOTE:** Use this article to specify cash allowances where the allowance amount includes the cost of the supply and delivery of the Product, its installation, and other related costs. The Contractor's overhead and profit for the cash allowance is included separately in the Contract Price.

- .1 Amount of each cash allowance includes:
- .1 All costs to provide the specified *Products*, including supply, installation, and related costs, excluding *Value Added Taxes*.
- .2 *Subcontractor's* and sub-*Subcontractor's* overheads and profits related to the cash allowance.
- .2 Amount of each cash allowance does not include *Contractor's* overhead and profit, and other related costs, which shall be included in the *Contract Price* and not in the cash allowance.

**SPEC NOTE:** Specify the amount of the cash allowance and describe what it is intended to be used for. Do not specify the amount of the cash allowance more than once in more than one location. If more than one cash allowance for supply and installation of Products is required, repeat the following as necessary.

- .3 Allow the stipulated sum of \$[ ] for the supply and installation of [ ].

## 1.3 CASH ALLOWANCES FOR SERVICES

**SPEC NOTE:** Use this article to specify cash allowances where the allowance amount includes the cost of services only, for example, inspection and testing services to be paid for by the Contractor. The Contractor's overhead and profit for the cash allowance is included separately in the Contract Price.

- .1 Amount of each cash allowance includes:
- .1 All costs related to the services, excluding *Value Added Taxes*.

- .2 *Subcontractor's* and sub-*Subcontractor's* overheads and profits related to the cash allowance.
- .2 Amount of each cash allowance does not include *Contractor's* overhead and profit, and other related costs, which shall be included in the *Contract Price* and not in the cash allowance.

SPEC NOTE: Specify the amount of the cash allowance and describe the services for which it is intended. Do not specify the amount of the cash allowance more than once in more than one location. If more than one cash allowance for services is required, repeat the following as necessary.

- .3 Allow the stipulated sum of \$[ ] for [ ] services.

#### 1.4 CASH ALLOWANCES FOR ASSIGNABLE CONTRACTS

SPEC NOTE: Use this article only if one or more assignable contracts are to be assigned to this Contract, as specified in Section 01 11 22 – Assignable Contracts.

- .1 *Owner* has entered into assignable contracts, which will be assigned to this *Contractor* as specified in Section 01 11 22 – Assignable Contracts.
- .2 Amount of each cash allowance includes the amount payable by *Contractor* to the designated *Subcontractor* after assignment of the assignable contract, excluding *Value Added Taxes*.
- .3 Amount of each allowance does not include the *Contractor's* overhead and profit, and other related costs, which costs shall be included in the *Contract Price* and not in the cash allowance.

SPEC NOTE: Specify the amount of the cash allowance and identify the assignable contract for which it is intended. Do not specify the amount of the cash allowance more than once in more than one location. If more than one cash allowance for assignable contracts is required, repeat the following as necessary.

- .4 Allow the stipulated sum of \$[ ] for the assignment of [ ].

#### 1.5 EXPENDITURE OF CASH ALLOWANCES

SPEC NOTE: If a cash allowance for assignable contracts is the ONLY type of allowance specified, deleted this article.

- .1 *Owner*, through *Consultant*, will provide *Contractor* with documentation required to permit pricing of a cash allowance item.
- .2 *Owner*, through *Consultant*, may request *Contractor* to identify potential *Suppliers* or *Subcontractors*, as applicable, and to obtain at least three competitive prices for each cash allowance item.
- .3 *Owner*, through *Consultant*, may request the *Contractor* to disclose originals of all bids, quotations, and other price related information received from potential *Suppliers* or *Subcontractors*.

- .4 *Owner*, through *Consultant*, will determine by whom and for what amount each cash allowance item will be performed. Obtain *Owner's* prior written approval in the form of a *Change Order* before entering into a subcontract, amending an existing subcontract, or performing own forces work included in a cash allowance. Upon issuance of the *Change Order*, the *Contractor's* responsibilities for a cash allowance item shall be the same as for other work of the *Contract*.

#### 1.6 CONTINGENCY ALLOWANCE

SPEC NOTE: Most Owners prefer to carry a construction contingency in their project budget outside of the Contract Price and undisclosed to the Contractor, but where the Owner wishes to include a contingency allowance in the Contract Price, use this article to specify the allowance. Do not specify the amount of the contingency allowance more than once in more than one location.

- .1 Include in the *Contract Price* a contingency allowance in the amount of \$ [                      ].

END OF SECTION



SPEC NOTE: Use this Section to specify procedures relevant to the submission, review and acceptance of proposed substitutions after contract award. If substitutions will also be considered during the bid period, add appropriate content to Section 00 21 13 – Instructions to Bidders regarding substitution procedures during the bid period. Applicable parts of this Section may be referenced in the Instructions to Bidders.

## 1.1 DEFINITION

- .1 In this Section “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 acceptance in writing. Do not order or install any Substitution without a *Supplemental Instruction* or *Change Order*.
- .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 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 schedule, *Consultant* will not consider that a 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 – Contract Modification Procedures.

- .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.
  - .2 Reason(s) 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 [or 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 Substitution, with any significant variations clearly highlighted.
  - .8 Availability of maintenance services and sources of replacement materials and parts for the 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 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

SPEC NOTE: Use this this Section to specify administrative procedures related to modifying the contract by means of Change Orders, Change Directives, and Supplemental Instructions, which are all defined terms in CCDC standard form contracts.

SPEC NOTE: This Section assumes use of a CCDC standard form contract and unmodified Part 6 Changes in the Work. Part 6 Changes in the Work includes important provisions regarding modifications. This Section provides additional details and requirements specific to the Project and to facilitate administration of this Contract. Exercise caution when editing this Section to ensure that provisions of the General Conditions of Contract are not duplicated here unnecessarily and that no conflicts are created with the General Conditions.

### 1.1 SCHEDULE OF LABOUR RATES

SPEC NOTE: The purpose of this requirement is to provide, at the outset of the contract, an agreed upon basis for valuing the labour component of all Change Orders, so as to eliminate the need to negotiate labour rates on each individual Change Order. It may be unnecessary for contracts where relatively few Change Orders with a labour component are anticipated. It is likely also unnecessary where a unit price or cost plus form of contract is used. Delete this article if not required.

- .1 Prior to the first application for payment, submit for the Consultant's review a schedule of labour rates for all trades and classifications of trades, such as journeymen, apprentices, and foremen that will be employed in the Work. Provide a breakdown of payroll burden component of labour rates.
- .2 Labour rates shall reflect the salaries, wages, and benefits paid to personnel in the direct employ of the Contractor, Subcontractors, and sub-Subcontractors, stated as hourly rates, that will be used when:
  - .1 preparing price quotations for Change Orders, and
  - .2 determining the cost of work attributable to Change Directives.
- .3 Labour rates stated in the schedule of labour rates shall be consistent with rates that will actually be paid, and payroll burden costs that will actually be incurred, in the normal performance of the Work, during regular working hours. Labour rates shall not include any additional overhead and profit component.
- .4 Where collective agreements apply, the labour rates shall not exceed those established by collective agreement.
- .5 Obtain the Owner's written acceptance of the schedule of labour rates before submitting the first Change Order quotation.
- .6 Accepted schedule of labour rates will be used solely for evaluating Change Order quotations and cost of performing work attributable to Change Directives.

- .7 The Contractor may request amendments to the accepted schedule of labour rates if changes in the labour rates that will actually be paid, or payroll burden cost that will actually be incurred, in the normal performance of the Work can be demonstrated. Obtain the Owner's written acceptance of such changes.

## 1.2 SCHEDULE OF EQUIPMENT RATES

SPEC NOTE: The purpose of this requirement is to provide, at the outset of the contract, an agreed upon basis for valuing the equipment cost component of all Change Orders, so as to eliminate the need to negotiate equipment rates on each individual Change Order. It may be unnecessary for contracts where relatively few Change Orders with a significant equipment cost component are anticipated. It is likely also unnecessary where a unit price or cost plus form of contract is used. Delete this article if not required.

- .1 Prior to the first application for payment, submit for the Consultant's review a schedule of equipment rates for Contractor owned Construction Equipment.
- .2 Equipment rates shall reflect the rates that will be used when:
  - .1 preparing price quotations for Change Orders, and
  - .2 determining the cost of work attributable to Change Directives.
- .3 Equipment rates stated in the schedule shall be consistent with local equipment rental market rates and shall not include any additional overhead and profit component.
- .4 Obtain the Owner's written acceptance of the schedule of equipment rates before submitting the first Change Order quotation.
- .5 Accepted schedule of equipment rates will be used solely for evaluating Change Order quotations and cost of performing work attributable to Change Directives.
- .6 The Contractor may request amendments to the accepted schedule of equipment rates if changes in local equipment rental market rates can be demonstrated. Obtain the Owner's written acceptance of such changes.

## 1.3 VALUATION OF CHANGES BASED ON AGREED UNIT PRICES

SPEC NOTE: Include this article only if it is anticipated that unit prices may be requested, after contract award, for the purpose of valuing changes. The benefit of agreeing on unit prices at the outset of the Contract is that it should reduce the need to individually negotiate acceptable rates and prices for each proposed change in the Work.

- .1 The Consultant may, at the outset of the Contract or at any other time, request the Contractor to submit unit prices anticipated to be required in valuing changes in the Work.
- .2 The Contractor shall submit such unit prices promptly upon request.
- .3 The unit prices shall be valid for a specified duration.

SPEC NOTE: The following sentence assumes that allowable percentage fees for overhead and profit are specified in this Section. See article 1.6. If article 1.6 is deleted, consider modifying this sentence to require the unit prices to include overhead and profit.

- .4 The unit prices shall exclude all fees for overhead and profit [and shall be subject to the percentage fees specified in this Section under Fees for Overhead and Profit – Change Orders].
- .5 The Consultant will evaluate the Contractor’s quoted unit prices and, if accepted by the Owner in writing, the agreed unit prices shall be used to value subsequent proposed changes in the Work wherever they are applicable.

#### 1.4 METHOD OF CONTRACT PRICE ADJUSTMENT - CHANGE ORDERS

SPEC NOTE: If CCDC 2 or CCDC 18 with a stipulated price is being used, select the following paragraph.

- .1 Unless otherwise agreed, the adjustment of the Contract Price on account of a proposed change in the Work shall be based on a quotation for a fixed price increase or decrease to the Contract Price regardless of the Contractor’s actual expenditures and savings.

SPEC NOTE: Include the following paragraph only if the stipulated price contract also includes unit prices for parts of the Work, e.g. if Section 00 41 45 – Bid Form – Combined Stipulated and Unit Price was used.

- .2 If unit prices included in the stipulated price contract are applicable to the proposed change, the adjustment of the Contract Price shall be based on those unit prices, to the extent they apply. [If the actual quantities to which the unit prices apply vary from the estimated quantities by more than [ ]%, the unit prices shall be subject to negotiation.]

[OR]

SPEC NOTE: If CCDC 4 or CCDC 18 with Unit Prices is being used, select the following paragraph, which deals only with changes in the Work of a given Unit Price item, as described in the Drawings, Specifications or Schedule of Prices. Changes in quantity and unit price measurement should be addressed separately in Section 01 22 00 – Unit Prices (not included in CCDC Master Specification for Division 01).

- .3 Unless otherwise agreed, the adjustment of Unit Prices affected by a proposed change in the Work shall be based on a quotation for an increase or decrease to existing Unit Prices, or new Unit Prices, as applicable, regardless of the Contractor’s actual expenditures and savings.

[OR]

SPEC NOTE: If CCDC 3 – Cost Plus Contract is being used, select the following paragraph.

- .4 If necessary and unless otherwise agreed, the adjustment of the GMP or the Target Contract Price on account of a proposed change in the Work shall be based on a quotation for an increase or decrease to the GMP or Target Contract Price. The increase or decrease shall include an adjustment to the Contractor's fixed fee, if any, as agreed by the Owner and the Contractor.

## 1.5 CHANGE ORDER PROCEDURES

- .1 Upon issuance by the Consultant to the Contractor of a proposed change in the Work, and unless otherwise requested in the proposed change or unless otherwise agreed:
  - .1 Submit to the Consultant a fixed price quotation for the proposed change in the Work within [5] [ ] days after receipt of the proposed change in the Work.
  - .2 If requested in the proposed change, provide a detailed breakdown of the price quotation including the following to the extent applicable, with appropriate supporting documentation:
    - .1 Estimated labour costs, including hours and applicable hourly rates based on the accepted schedule of labour rates.
    - .2 Estimated Product costs, including Supplier quotations, estimated quantities and unit prices.
    - .3 Estimated Construction Equipment costs.
    - .4 Enumeration of all other estimated costs included in the price quotation.
    - .5 Estimated credit amounts for labour and Products not required on account of the proposed change.

SPEC NOTE: Include following sentence only if percentage fees for overhead and profit are specified in this Section. See immediately following article.

- .6 [Fees, not exceeding the applicable percentages for overhead and profit as specified in this Section.]
- .7 Where applicable, Subcontractor quotations, also including a detailed breakdown of all of the above.
- .3 Include in the quotation the increase or decrease to the Contract Time, if any, for the proposed change, stated in number of days.
- .4 Include in the quotation the number of days for which the quotation is valid.
- .5 The quotation will be evaluated by the Consultant and the Owner and, if accepted by the Owner, be documented in the form of a signed Change Order.

## 1.6 FEES FOR OVERHEAD AND PROFIT – CHANGE ORDERS

**SPEC NOTE:** It is recommended that fees for overhead and profit included in Contractor quotations for Change Orders be established contractually by including this article and inserting appropriate percentages where required.

- .1 Where the Contractor's price quotation for a Change Order results in a net increase to the Contract Price, the Contractor's entitlement to a fee for overhead and profit in the quotation shall be as follows, as applicable:
  - .1 For work to be performed by the Contractor's own forces, [ ]% of the Contractor's price quotation before the Contractor's fee is applied.
  - .2 For work to be performed by a Subcontractor, [ ]% of the Subcontractor's price quotation including the Subcontractor's fee.
- .2 Where a Subcontractor's price quotation for a Change Order results in a net increase to the Subcontractor's contract price, the Subcontractor's entitlement to a fee for overhead and profit in the quotation shall be as follows, as applicable:
  - .1 For work to be performed by the Subcontractor's own forces, [ ]% of the Subcontractor's price quotation before the Subcontractor's fee is applied.
  - .2 For work to be performed by a sub-Subcontractor, [ ]% of the sub-Subcontractor's price quotation including the sub-Subcontractor's fee.
- .3 Where the Contractor's or a Subcontractor's price quotation for a Change Order results in a net decrease in price before adjustment for fees for overhead and profit, such a price quotation shall be for the net decrease without any adjustment for fees for overhead and profit.

## 1.7 METHOD OF CONTRACT PRICE ADJUSTMENT - CHANGE DIRECTIVES

- .1 Unless the Owner and the Contractor reach an earlier agreement on the adjustment to the Contract Price by means of a Change Order that cancels the Change Directive, the adjustment in the Contract Price for change carried out by way of a Change Directive shall be determined as specified in the General Conditions of Contract after the change in the Work is completed.

## 1.8 CHANGE DIRECTIVE PROCEDURES

- .1 If a Change Directive is issued for a change in the Work for which a proposed change was previously issued, but no Change Order has yet been signed, the Change Directive shall cancel the proposed change and any Contractor quotations related to that change in the Work.
- .2 When proceeding with a change in the Work under a Change Directive, keep accurate records of daily time sheets for labour and Construction Equipment, and invoices for Product and Construction Equipment costs. Submit such records to the Consultant [daily] [weekly], until the Change Order superseding the Change Directive is issued.

## 1.9 FEES FOR OVERHEAD AND PROFIT – CHANGE DIRECTIVES

SPEC NOTE: Fees for overhead and profit on Change Directives are specified in this article separately from those allowable on Change Orders as specified in article 1.6. This is because the Contractor's fee for Change Directives must be specified in the Contract Documents, as referenced in GC 6.3 of the CCDC 2 General Conditions of Contract, whereas specifying fees for Change Orders is recommended but not essential. Specifying them separately also allows greater precision of language and greater clarity. If both articles are included, as recommended, the same percentages should be specified for both, for simplicity and ease of contract administration.

- .1 The Contractor's entitlement to a fee for overhead and profit on the Contractor's expenditures and savings attributable to a Change Directive shall be as follows, as applicable:
  - .1 For work performed by the Contractor's own forces, [ ]% of the Contractor's net increase in costs.
  - .2 For work performed by a Subcontractor, [ ]% of the sum of the Subcontractor's net increase in costs plus the Subcontractor's fee.
- .2 A Subcontractor's entitlement to a fee for overhead and profit on the Subcontractor's expenditures and savings attributable to a Change Directive shall be as follows, as applicable:
  - .1 For work performed by the Subcontractor's own forces, [ ]% of the Subcontractor's net increase in costs.
  - .2 For work performed by a Sub-subcontractor, [ ]% of the sum of the Sub-subcontractor's net increase in costs plus the Sub-subcontractor's fee.
- .4 Where a Change Directive results in net savings on account of work not required to be performed and a net decrease in the Contractor's or Subcontractor's cost, the net savings to the Contractor or Subcontractor shall be calculated without any adjustment for fees for overhead and profit.
- .5 When a Change Directive is ultimately recorded as a Change Order, there shall be no additional entitlement to fees for overhead and profit beyond those specified in this article.

## 1.10 SUPPLEMENTAL INSTRUCTIONS

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



- .2 If the Contractor considers a Supplemental Instruction to require an adjustment in Contract Price or Contract Time, the Contractor shall promptly notify the Consultant and the 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 the General Conditions of Contract, a Notice in Writing of a dispute and instructions to proceed.

END OF SECTION

FOR EDUCATION ONLY

SPEC NOTE: Use this Section to expand on the payment provisions provided in the General Conditions of Contract.

SPEC NOTE: This Section assumes use of a CCDC standard form of contract and unmodified Part 5 Payment. Part 5 Payment includes important contractual provisions. This Section provides additional details and requirements related to payment that are specific to the Project and to facilitate administration of this Contract. Exercise caution when editing this Section to ensure that provisions of the General Conditions of Contract are not duplicated here unnecessarily and that no conflicts are created with the General Conditions.

## 1.1 SCHEDULE OF VALUES

SPEC NOTE: Include this article only for stipulated price contracts, that is CCDC 2 or CCDC 18 with stipulated price option. It may also be applicable to a unit price contract, that is CCDC 4, which may include lump sum items of work, in which case edit this article to suit.

- .1 Prior to the first application for payment, submit for *Consultant's* review an initial schedule of values. Modify the initial schedule of values if and as requested by *Consultant*. Obtain *Consultant's* written acceptance of the initial schedule of values prior to the first application for payment.
- .2 Together with the first and all subsequent applications for payment, submit updated versions of the schedule of values to indicate the values, to the date of application for payment, of work performed and *Products* delivered to *Place of the Work*.

SPEC NOTE: Detailed requirements for the schedule of values may be specified in 1.1.3 below by simply referencing either CCDC 24 or a format to be provided by the Consultant or Owner. Alternatively, detailed requirements may be specified without reference to any particular format, by using the more detailed text in 1.1.4 and following, edited as desired.

- .3 Provide the schedule of values in an electronic spreadsheet format based on [the format provided and content described in latest edition of CCDC 24 – A Guide to Model Forms and Support Documents] [a format provided by [*Consultant*] [*Owner*]].

[OR]

- .4 Provide the schedule of values in an electronic spreadsheet format that provides for inclusion of the following information:
  - .1 Identifying information including title and location of the *Work*, name of *Contractor*, number and date of application for payment, and period covered by the application for payment.

SPEC NOTE: Select one of the following three paragraphs to specify the desired approach.

- .2 A work breakdown structure based on [*Contractor, Subcontractor* and sub-*Subcontractor* work] [*Specification* sections] [and material and labour] breakdown. [Include separate line items for closeout procedures including closeout submittals, demonstration and training, start-up and testing, and commissioning [collectively valued at minimum [ ]% of *Contract Price*].]

[OR]

- .3 A work breakdown structure provided by [*Consultant*] [*Owner*].

[OR]

- .4 A work breakdown structure that is sufficiently detailed and comprehensive to facilitate *Consultant's* evaluation of applications for payment at an appropriate level of detail.
- .5 Provisions for approved *Change Orders* [allowances,] [unit price work] [and] [assignable contracts] so that the breakdown amounts indicated in the schedule of values aggregate to the current total *Contract Price*. Also provide for indicating the estimated value of *Change Directives* within the schedule of values, separately from the current total *Contract Price*.
- .6 For each item in the work breakdown structure, provide as a minimum the following information, under headings as indicated:
- .1 Breakdown Amount: A dollar amount, including an appropriate pro rata portion of *Contractor's* overhead and profit.
  - .2 Performed to Date: The value of *Work* performed and *Products* delivered to *Place of the Work* up to the date of the application for payment, stated as a percentage of the *Contract Price* and in dollars.
  - .3 Previously Performed: The value of *Work* performed and *Products* delivered to the *Place of the Work* for which payment has been previously certified, stated in dollars.
  - .4 Current Period: The value of *Work* performed and *Products* delivered to *Place of the Work* for which *Contractor* is currently applying for payment, stated in dollars.
  - .5 Balance to Complete: The value of *Work* not yet performed and *Products* not yet delivered to *Place of the Work*, stated in dollars.

## 1.2 CASH FLOW PROJECTION

- .1 Prior to the first application for payment submit, for *Consultant's* review, a forecast of approximate monthly progress payments for each month of the *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 the *Contract Price*] [monthly] [when requested by *Consultant*].

## 1.3 WORKERS' COMPENSATION CLEARANCE

- .1 Submit proof of workers' compensation clearance with each application for payment.

## 1.4 STATUTORY DECLARATIONS

SPEC NOTE: This requirement may be included in some CCDC General Conditions of Contract but not in others. Delete this article if included in applicable CCDC contract.

- .1 Submit a statutory declaration in the form of CCDC 9A – Statutory Declaration of Progress Payment Distribution by *Contractor* with each application for payment except the first.

## 1.5 PAYMENT FOR PRODUCTS STORED OFF SITE

SPEC NOTE: This article does not entitle the Contractor to payment for Products stored off site, only that the Owner may consider such payment in extraordinary circumstances, subject to certain conditions being met by mutual agreement. Extraordinary circumstances may include lack of site space, essential to take delivery of Products well before they are needed, and other factors beyond the Contractor's control. If such circumstances are anticipated, consider specifying the conditions for making such payments, e.g. Consultant/Owner approval of and ready access to a secure storage location, insurance, assurance of legal ownership after payment, etc.

- .1 *Owner* may, due to extraordinary circumstances and at *Owner's* sole discretion, make payments for *Products* delivered to and stored at a location other than *Place of the Work*, subject to:
  - .1 a request submitted by *Contractor* in writing, with appropriate justification, and
  - .2 whatever conditions *Owner* or *Consultant* may establish for such payments, as required to protect *Owner's* interests.

## 1.6 RELEASE OF HOLDBACK

SPEC NOTE: Use this article to specify detailed procedures for release of holdback. Depending on the applicable lien legislation, which varies in each province and territory, holdback can potentially be released upon completion of subcontracts, annually, on a phased basis (identify phases here if applicable) or after Substantial Performance of the Work. Where the applicable lien legislation allows options with respect to release of holdback, select and specify the desired option(s) here.

.1 [ ]

.2 [ ]

END OF SECTION

SPEC NOTE: Use this Section to specify requirements for project meeting. If there is a need to expand the content of this section to address other project management and coordination matters, change the section number and name to Section 01 31 00 – Project Management and Coordination.

#### 1.1 CONSTRUCTION START-UP MEETING

- .1 Promptly after *Contract* award, [*Consultant* will] [*Contractor* shall] establish the time and location of a construction start-up meeting to review and discuss administrative procedures and responsibilities. [*Consultant* will] [*Contractor* shall] notify [*Contractor*] [*Consultant*] at least [5] [ ] *Working Days* before the meeting.
- .2 Senior representatives of *Owner*, *Consultant*, [subconsultants,] and *Contractor*, including *Contractor's* project manager and site superintendent, [and major *Subcontractors*,] shall be in attendance.
- .3 [*Consultant's*] [*Contractor's*] representative will chair the meeting and record and distribute the minutes.

SPEC NOTE: Edit the following paragraph to suit project requirements. The recommended agenda items generally follow, in order, the subject matter specified in Div. 01 of the Specifications.

- .4 Agenda will include 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 the site.
  - .5 *Contractor's* use of premises.
  - .6 *Owner-supplied Products*.
  - .7 [Assignable contracts.]
  - .8 Work restrictions.
  - .9 [Cash allowances.]
  - .10 [Substitution procedures.]
  - .11 *Contract* modification procedures.
  - .12 Payment procedures.
  - .13 Construction progress meetings.
  - .14 Construction progress schedule, including long lead time items.
  - .15 Submittals schedule and procedures.
  - .16 [Special procedures.]
  - .17 Quality requirements, including testing and inspection procedures.
  - .18 *Contractor's* mobilization.
  - .19 Temporary utilities.
  - .20 Existing utility services.
  - .21 Construction facilities.
  - .22 Temporary barriers and enclosures.
  - .23 Temporary controls.
  - .24 Field engineering and layout of work.
  - .25 Site safety.
  - .26 Site security.

- .27 Cleaning and waste management.
- .28 Closeout procedures and submittals.
- .29 [Commissioning].
- .30 Other items.

## 1.2 CONSTRUCTION PROGRESS MEETINGS

- .1 Schedule regular [weekly] [bi-weekly] [monthly] construction progress meetings for the duration of the *Work*. [Contractor shall] [Consultant will] prepare meeting agendas, chair the meetings, and record and distribute the minutes.
- .2 Arrange for and provide physical space for meetings.
- .3 [Contractor shall] [Consultant will] record in the meeting minutes significant decisions and identify action items and action dates by attendees or the parties they represent.
- .4 [Contractor shall] [Consultant will] distribute copies of minutes within [three] [ ] Working Days after each meeting to meeting attendees and any affected parties who may not be in attendance.
- .5 Ensure that *Subcontractors* attend as and when appropriate to the progress of the *Work*.
- .6 Agenda for each meeting shall include the following, as a minimum:
  - .1 [Approval of minutes of previous meeting.]
  - .2 Work progress since previous meeting.
  - .3 Field observations, including any problems, difficulties, or concerns.
  - .4 Construction progress schedule.
  - .5 Submittals schedule.
  - .6 Proposed changes in the *Work*.
  - .7 Requests for information.
  - .8 Site safety issues.
  - .9 Other business.

END OF SECTION

SPEC NOTE: This Section assumes use of a CCDC standard form of contract and unmodified Construction Schedule provisions in Part 3 Execution of the Work. The General Conditions of Contract include important provisions related to the construction schedule. This Section provides additional details and requirements specific to the Project and to facilitate administration of this Contract. Exercise caution when editing this Section to ensure that provisions of the General Conditions of Contract are not duplicated here unnecessarily and that not conflicts are created with the General Conditions.

## 1.1 SUMMARY

- .1 This Section specifies *Contractor's* responsibilities for preparation and submission of schedules and other documentation related to tracking construction progress.
- .2 The purpose of submitting progress schedules is to:
  - .1 inform *Owner* and *Consultant* of actual progress versus planned progress, and
  - .2 provide assurance that scheduling issues are being proactively identified and addressed in a timely manner, and that planned progress is being maintained as closely as possible.

## 1.2 CONSTRUCTION PROGRESS SCHEDULE

- .1 Format and Content:

SPEC NOTE: If the Contractor is required to use particular scheduling software, specify in the following paragraphs.

- .1 Prepare schedule in the form of a Critical Path Method (CPM) Gantt chart using [appropriate scheduling software] [ ].
  - .2 Provide 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 date[s] for [*Ready-for-Takeover*] [and] [*Substantial Performance of the Work*].
- .2 Submission:
    - .1 Submit initial schedule to *Owner* and *Consultant* within [10] [15] [ ] *Working Days* after *Contract* award.



SPEC NOTE: The storage and retrieval of electronic information is dependent on the availability and sophistications of software. Software platforms, languages, formats, and versions are constantly changing. Determine the Owner's needs and edit the following paragraph accordingly.

- .2 Submit schedule via [e-mail] [project web site] [ ] as [.pdf] [ ] files.
- .3 *Consultant* will review format and content of initial schedule and request necessary changes, if any, within [5] [10] [ ] *Working Days* after receipt.
- .4 If changes are required, resubmit finalized initial schedule within [5] [10] [ ] *Working Days* after return of review copy.

SPEC NOTE: Edit the following paragraph to specify additional levels of details in the schedule if and as required.

- .5 Submit updated progress schedule [weekly] [bi-weekly] [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].

SPEC NOTE: Consider including the following paragraph where deemed essential for large, complex, projects only, as it could represent a significant additional cost on small projects.

- .6 [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.]

### 1.3 SUBMITTALS SCHEDULE

#### .1 Format and Content:

- .1 Prepare schedule identifying all required *Shop Drawing*, *Product* data, and sample submissions, [including samples required for testing] [and] [including those for *Owner* supplied *Products*].
- .2 Prepare schedule in electronic format.
- .3 Provide a separate line for each required submittal, organized by *Specifications* section names and numbers, and further broken down by individual *Products* and systems as required.
- .4 For each required submittal, show planned [earliest date for initial submittal] [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 *Consultant* within [15] [20] [ ] *Working Days* after *Contract* award.
- .2 Submit schedule via [e-mail] [project web site] [ ] as [.pdf] [ ] files.
- .3 *Consultant* will review format and content of initial schedule and request necessary changes, if any, within [5] [10] [ ] *Working Days* after receipt.
- .4 If changes are required, resubmit finalized schedule within [5] [10] [ ] *Working Days* after return of review copy.
- .5 Submit updated submittals schedule [monthly][ ] to [*Owner* and] *Consultant*..

1.4 SCHEDULE MANAGEMENT

- .1 A schedule submitted as specified and accepted by *Consultant* shall become the baseline schedule and shall be used as the baseline for updates.
- .2 At each regular 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.

1.5 RECORDING ACTUAL SITE CONDITIONS ON AS-BUILT DRAWINGS

SPEC NOTE: Specify whether the Contractor is expected to maintain as-built drawings in hard copy or electronic form by selecting one of the first two paragraphs below. Alternatively, revise the text to give the Contractor the option. If the Contractor will also be responsible for preparing the record drawings in electronic form (as specified in Section 01 78 00 – Closeout Submittals) give the Contractor the option of preparing the as-built drawings in electronic form.

- .1 Obtain a hard copy set of construction *Drawings* for the purpose of creating as-built drawings. Record information and maintain as-built drawings in clean, dry and legible condition.

[OR]

- .2 Obtain from *Consultant* an electronic copy of the construction *Drawings* for the purpose of creating as-built drawings. Record information in electronic form, clearly identifying as-built deviations from the originally obtained construction *Drawings*.

- .3 Clearly label each drawing as “AS-BUILT DRAWING”. Record information concurrently with construction progress. Do not conceal *Work* until required information is recorded.
- .4 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.
- .5 Do not use as-built drawings for construction purposes.

#### 1.6 PROGRESS PHOTOGRAPHS

SPEC NOTE: Consider Owner’s requirements for progress photographs. The following requirements for digital photos assume that if the Owner requires hard copies, the Owner will arrange and pay for those hard copies to be made from the digital files.

- .1 Arrange for periodic digital photography to document and provide a photographic record of the progress of the *Work*.
- .2 [Arrange for final photographs to be taken by a professional photographer.]
- .3 Identify each photograph by project name and date taken.
- .4 Submission: Submit [.jpg] [.bmp] [.tif] [ ] format files in [fine] [standard] resolution [via e-mail] [via project web site] [monthly] [at completion of [excavation] [foundation]] [framing and services before concealment] [ ] [building].
- .5 Do not use progress or any other *Project* photographs for promotional purposes without *Owner*’s written consent.

## 1.7 PROGRESS VIDEO

**SPEC NOTE:** The following may be appropriate for major or special projects. If other forms of progress video are required, e.g. videos of particular installation sequences, specify applicable requirements similar to those for progress photographs.

- .1 Provide internet-capable camera and an active web site, allowing off-site viewing of *Place of the Work* 24/7. Submit web site address and security access codes to *Owner* and *Consultant*.

END OF SECTION

SPEC NOTE: Use this Section to specify general requirements for Contractor submission of Shop Drawings, Product data, and samples, the most commonly required submittals for most Projects. Where necessary, this Section may also be used to specify other types of submittals, but should not be used to specify Closeout Submittals, which are specified in Section 01 78 00 – Closeout Submittals.

SPEC NOTE: This Section assumes use of a CCDC standard form contract and in particular CCDC 2 – 2020. If using a different CCDC contract or a non-CCDC contract, some of the provisions in this Section may be included in the General Conditions of Contract, in which case they should be deleted from this Section. The General Conditions of Contract include important provisions related to Shop Drawings. This Section provides additional details and requirements that are specific to the Project to facilitate administration of the Contract. Exercise caution when editing this Section to ensure that provisions of the General Conditions of Contract are not duplicated here unnecessarily and that no conflicts are created with the General Conditions.

## 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 the *Drawings* and *Specifications*.
- .2 Where required by authorities having jurisdiction, provide submittals to such authorities 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] [imperial] units. Where items or information is not produced in [SI Metric] [imperial] units, converted values are acceptable.
- .5 Review submittals, provide verified field measurements where applicable, and affix *Contractor's* review stamp prior to submission to *Consultant*. *Contractor's* review stamp represents that necessary requirements have been determined and verified, and that the submittal has been checked and coordinated with requirements of the *Work* and *Contract Documents*.
- .6 Verify field measurements and that affected adjacent work is coordinated.
- .7 Submittals not meeting specified requirements will be returned with comments.
- .8 Reproduction of construction *Drawings* to serve as background for *Shop Drawings* is [not] permitted. [If construction *Drawings* are used for this purpose, remove references to *Consultant*.]
- .9 Do not propose Substitutions or deviations from *Contract Documents* via *Shop Drawing*, *Product* data and sample submittals.

## 1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 Indicate *Products*, methods of construction, and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of the *Work*.
- .2 Where *Products* attach or connect to other *Products*, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross-references to *Drawings*, *Specifications* and other already reviewed *Shop Drawings*.
- .3 Accompany submittals with a transmittal information including:
  - .1 Date.
  - .2 *Project* title and number.
  - .3 *Contractor's* name and address.
  - .4 Identification of each submittal item and quantity.
  - .5 Other pertinent data.
- .4 *Shop Drawing* submittals shall include:
  - .1 Date and revision dates.
  - .2 *Project* title and number.
  - .3 Name and address of:
    - .1 *Subcontractor*.
    - .2 *Supplier*.
    - .3 *Manufacturer*.
  - .4 *Contractor's* stamp, date, and signature of *Contractor's* authorized representative responsible for *Shop Drawing* review, indicating that each *Shop Drawing* has been reviewed for compliance with *Contract Documents* and, where applicable, that field measurements have been verified.
  - .5 Details of appropriate portions of the *Work* as applicable:
    - .1 Fabrication.
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .3 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 shall include material safety data sheets (MSDS) for all controlled *Products*.

SPEC NOTE: The following paragraphs offer two forms of Shop Drawing submittal: hard copy or electronic. Multiple hard copies require 'exact' duplicate marking of each copy, which is time consuming. Electronic copies require marking only once, with potentially unlimited copies after review.

SPEC NOTE: Electronic information formats are constantly changing. Determine the Owner's/Consultant's needs and expand the following paragraphs as required if the Contractor is to provide information using particular formats or methods. PDF is common and appropriate.

- .6 Submit [[6] [ ] hard copies] [electronic copy] of *Shop Drawings* where specified in the technical *Specifications*.
- .7 Submit [[6] [ ] hard copies] [electronic copy] of Product data sheets or brochures where specified in the technical *Specifications*.
- .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*.

SPEC NOTE: Coordinate the following sentence with Section 01 32 00 – Construction Progress Documentation. Include reference to submittal schedule only if specified in Section 01 32 00.

- .10 Allow [ ] *Working Days* for *Consultant's* review of each submittal [and incorporate in submittals schedule specified in Section 01 32 00 – Construction Progress Documentation.] Allow additional [ ] *Working Days* where sub-*Consultant* [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 so noted copy 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 the *Contract Price* or *Contract Time*. If *Contractor* considers any *Consultant's* notation to be a change in the *Work*, promptly notify *Consultant* in writing before proceeding with the *Work*.
- .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 SAMPLES

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

END OF SECTION



SPEC NOTE: Use this Section to specify administrative requirements related to specified reference standards and administrative requirements related to inspection, testing, mock-ups, and similar quality control and quality assurance requirements.

SPEC NOTE: This Section assumes use of a CCDC standard form contract and unmodified Review and Inspection of the Work provisions in Part 2 Administration of the Contract. The General Conditions of Contract include important contractual provisions related to review and inspection of the Work. This Section provides additional details and requirements specific to the Project and to facilitate administration of this Contract. Exercise caution when editing this Section to ensure that provisions of the General Conditions of Contract are not duplicated here unnecessarily and that no conflicts are created with the General Conditions.

### 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 code or other regulatory requirement, the regulatory referenced edition or version shall apply.
- .3 Reference standards establish minimum requirements. 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 the most stringent requirement. Refer uncertainties to *Consultant* for clarification.

SPEC NOTE: List all reference standard writing organizations referenced in the Specifications.

- .5 Within the *Specifications*, reference may be made to the following standards writing, testing, or certification organizations by their acronyms or initialisms:

SPEC NOTE: Edit the following list to add and delete names, so that all reference standard writing organizations referenced in the technical Specifications are listed. The list provided does not necessarily include all industry and trade associations that publish standards or have quality testing or certification programs. In particular, it does not include those operating only at the provincial level.

- .1 AA - Aluminum Association
- .2 ACI - American Concrete Institute
- .3 AISC - American Institute of Steel Construction
- .4 ANSI - American National Standards Institute
- .5 ASME - American Society of Mechanical Engineers
- .6 ASTM - American Society for Testing and Materials
- .7 AWMAC - Architectural Woodwork Manufacturers Association of Canada
- .8 AWWA - American Wire Producers Association
- .9 CaGBC - Canadian Green Building Council
- .10 CGSB - Canadian General Standards Board
- .11 CISC - Canadian Institute of Steel Construction
- .12 CPCI - Canadian Prestressed Concrete Institute
- .13 CSA - Canadian Standards Association
- .14 CSSBI - Canadian Sheet Steel Building Institute
- .15 CWB – Canadian Welding Bureau
- .16 ICEA - Insulated Cable Engineers Association
- .17 IEEE - Institute of Electrical and Electronics Engineers
- .18 IGMAC – Insulating Glass Manufacturers Association of Canada
- .19 LEED - Leadership in Energy and Environmental Design
- .20 MPP – Master Painters Institute
- .21 MSS - Manufacturers Standardization Society of the Valve and Fittings Industry
- .22 NAAMM - National Association of Architectural Metal Manufacturers
- .23 NEMA - National Electrical Manufacturers Association
- .24 NFPA - National Fire Protection Association
- .25 NHLA - National Hardwood Lumber Association
- .26 NLGA - National Lumber Grades Authority
- .27 SSPC – The Society for Protective Coatings
- .28 TTMAC - Terrazzo, Tile and Marble Association of Canada
- .29 ULC - Underwriters' Laboratories of Canada

## 1.2 INDEPENDENT INSPECTION AND TESTING AGENCIES

- .1 Except as otherwise specified, *Owner* will retain and pay for independent inspection and testing agencies to inspect, test, or perform other quality control reviews of parts of the *Work*.
- .2 Retain and pay for inspection and testing that is for *Contractor's* own quality control or is required by regulatory requirements.

SPEC NOTE: Delete following clause if not applicable.

- .3 [Section 01 21 00 – Allowances specifies a cash allowance for independent inspection and testing services to be retained and paid for by *Contractor*. Cash allowance excludes any inspection and testing that is for *Contractor*'s own quality control or is required by regulatory requirements.]
- .4 Employment of inspection and testing agencies by *Contractor* or *Owner* does not relieve *Contractor* from responsibility to perform the *Work* in accordance with *Contract Documents*.
- .5 Allow and arrange for inspection and testing agencies to have access to the *Work*, including access to off site manufacturing and fabrication plants.
- .6 For inspection and testing required by *Contract Documents* or by authorities having jurisdiction, provide *Consultant* and inspection and testing agencies with timely notification in advance of required inspection and testing.
- .7 Submit test samples required for testing [in accordance with submittals schedule specified in Section 01 32 00 – Construction Progress Documentation].
- .8 Provide labour, *Construction Equipment* and temporary facilities to obtain and handle test samples on site.

### 1.3 INSPECTION AND TESTING AGENCY REPORTS

- .1 For inspection and testing required by *Contract Documents* or by regulatory requirements, and performed by *Contractor* retained inspection and testing agencies, submit to *Consultant* [and *Owner*] copies of reports. Submit within [ ] days after completion of inspection and testing.
- .2 For inspection and testing performed by *Owner* retained inspection and testing agencies, copies of inspection and testing agency reports will be provided to *Contractor*.

#### 1.4 MOCK-UPS

- .1 Prepare mock-ups of *Work* as specified in the technical *Specifications*. If a mock-up location is not indicated in the *Drawings* or *Specifications*, locate where directed by *Consultant*.
- .2 Modify mock-up as required until *Consultant* approval is obtained.
- .3 Approved mock-ups establish an acceptable standard for the *Work*.
- .4 Protect mock-ups from damage until the *Work* they represent is complete.
- .5 Unless otherwise specified in the technical *Specifications*, approved mock-ups forming part of the *Work* may remain as part of the *Work*.
- .6 Remove mock-ups only when the *Work* they represent is complete or when otherwise directed by *Consultant*.

END OF SECTION

SPEC NOTE: Use this Section to specify temporary utilities necessary to complete the Work but not incorporated into final or permanent Work.

### 1.1 TEMPORARY UTILITIES - GENERAL

- .1 Provide temporary utilities as specified and as otherwise necessary to perform the *Work* expeditiously.
- .2 Remove temporary utilities after use.

### 1.2 TEMPORARY WATER SUPPLY

SPEC NOTE: Select one of the following paragraphs.

- .1 Arrange and pay for a temporary supply of water required during construction.

[OR]

- .1 Connect to and use *Owner's* existing water supply for temporary use during construction, subject to existing available volume and pressure. [Usage at no cost to *Contractor*.] [Reimburse *Owner's* utility costs based on metered usage. Install a sub-meter for this purpose at *Contractor's* cost.]
- .2 Arrange and pay for necessary water supply connections and disconnections.

### 1.3 TEMPORARY HEATING AND VENTILATION

- .1 Arrange and pay for temporary heating and ventilation required during construction.
- .2 [*Contractor* may connect to and use *Owner's* existing supply of [natural gas] [propane] for temporary use during construction, subject to existing available volume and pressure. [Usage at no cost to *Contractor*.] [Reimburse *Owner's* utility costs based on metered usage. Install a sub-meter for this purpose at *Contractor's* cost.]]
- .3 Vent construction heaters in enclosed spaces to the outside or use flameless type of construction heaters.
- .4 Provide temporary heat for the *Work* as required to:
  - .1 Facilitate progress of *Work*.
  - .2 Protect the *Work* against dampness and cold.
  - .3 Prevent moisture condensation on surfaces, freezing, or other damage to finishes or stored *Products*.
  - .4 Maintain specified minimum ambient temperatures and humidity levels for storage, installation and curing of *Products*.
  - .5 After building is enclosed, maintain interior temperature of minimum [10][\_] degrees C.

- .5 Provide temporary ventilation for the *Work* as required to:
  - .1 Prevent accumulations of fumes, exhaust, vapours, gases and other hazardous, noxious, or volatile substances in enclosed spaces, as required to maintain a safe work environment meeting applicable regulatory requirements.
  - .2 [Ensure that hazardous, noxious, or volatile substances do not migrate to *Owner* occupied spaces.]
  - .3 Ventilate temporary sanitary facilities.

SPEC NOTE: Select either the following paragraph or the subsequent paragraph and its sub-paragraphs.

- .6 Do not use permanent building heating and ventilation systems during construction.

[OR]

- .7 New permanent building heating and ventilation systems may be used during construction, at *Contractor's* option. If used during construction:
  - .1 [*Owner* will] [*Contractor* shall] pay utility costs resulting from the use of permanent systems.
  - .2 Operate systems in a non-wasteful and energy efficient manner. Be responsible for any system damage.
  - .3 Just prior to [*Ready-for-Takeover*] [*Substantial Performance of the Work*], [replace filters,] [replace [\_\_\_\_],] [clean [\_\_\_\_] and [\_\_\_\_,] and perform other required maintenance to ensure systems are in as near as new condition as possible.
  - .4 Ensure that systems manufacturers' warranties do not commence until the date of [*Ready-for-Takeover*] [*Substantial Performance of the Work*] or, if manufacturers' warranties do commence earlier when systems are put into use, arrange for necessary extension of manufacturers' warranties or provide equivalent coverage under *Contractor's* warranty.

#### 1.4 TEMPORARY ELECTRICAL POWER AND LIGHTING

SPEC NOTE: Select one of the following paragraphs.

- .1 Arrange and pay for temporary power and lighting required during construction.

[OR]

- .2 Connect to and use *Owner's* existing electrical supply for temporary use during construction. [Usage at no cost to *Contractor*.] [Reimburse *Owner's* utility costs based on metered usage. Install a sub-meter for this purpose at *Contractor's* cost].

SPEC NOTE: When allowing Contractor to use existing power supply, confirm sufficient capacity to accommodate power requirements for anticipated construction work. Give consideration to limiting excessive use of power by Contractor for space heating, etc.

- .3 Existing maximum power supply of [230 V,] [ kVA,] [ phase,] [ Hz,] [ amps,] is available for temporary use during construction.
- .4 Arrange and pay for necessary connections and disconnections of temporary power and lighting in accordance with regulatory requirements.

SPEC NOTE: Select either the following paragraph or the subsequent paragraph and its sub-paragraphs.

- .5 Do not use permanent building [power] [and] [lighting] systems during construction.

[OR]

- .6 New permanent building [power] [and] [lighting] systems may be used during construction, at *Contractor's* option. If used during construction:
  - .1 [*Owner* will] [*Contractor* shall] pay utility costs resulting from the use of permanent systems.
  - .2 Operate systems in a non-wasteful and energy efficient manner. Be responsible for any system damage.
  - .3 [Just prior to [*Ready-for-Takeover*] [*Substantial Performance of the Work*], replace lamps which have been used for more than [ ] months.]
  - .4 Ensure that systems manufacturers' warranties do not commence until the date of [*Ready-for-Takeover*] [*Substantial Performance of the Work*] or, if manufacturers' warranties do commence earlier when systems are put into use, arrange for necessary extension of manufacturers' warranties or provide equivalent coverage under *Contractor's* warranty.

## 1.5 EXISTING BUILDING HEATING, VENTILATION, POWER, AND LIGHTING

SPEC NOTE: For work in an existing building, edit or delete preceding articles and include this article.

- .1 Existing building heating, ventilation, power, and lighting may be relied upon and used during construction [except during hours or days when the building is not operational].
- .2 [Coordinate and make arrangements with the building operator [and pay any costs required] for provision of these services during hours or days when the building is not operational].

END OF SECTION

SPEC NOTE: Use this Section to specify temporary construction facilities not incorporated into the final or permanent Work, including subject matter such as construction aids, site offices and sheds, parking, vehicular access, and project identification signage. Add additional articles as required to address any other special requirements for construction facilities.

### 1.1 CONSTRUCTION FACILITIES - GENERAL

- .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 the duration of the *Work*.
- .3 Remove temporary construction facilities from *Place of the Work* when no longer required.

### 1.2 CONSTRUCTION PARKING

SPEC NOTE: Consult with Owner regarding provisions of on-site parking for construction personnel.

- .1 Limited parking will be permitted at *Place of the Work* [at locations indicated on *Drawings*] [for up to [ ] vehicles] [provided it does not disrupt continuing operation of the facility].

[OR]

- .2 Parking will not be permitted at *Place of the Work*.

### 1.3 VEHICULAR ACCESS

- .1 Provide and maintain adequate access to *Place of the Work*.
- .2 [Build and maintain temporary access roads as required or where indicated on *Drawings*.]
- .3 [Existing roads at *Place of the Work* may be used for access to *Place of the Work*, provided *Contractor* assumes responsibility for any damage caused by construction traffic, and prevents or promptly cleans up any mud tracking or material spillage.]



#### 1.4 SITE OFFICES

- .1 Provide a temperature controlled and ventilated office, with suitable lighting, of sufficient size to accommodate site meetings and furnished with [drawing laydown table] [ ].

SPEC NOTE: Use the following paragraphs for projects only where a Consultant's site office is required.

- .2 *Consultant's* site office:

- .1 Provide minimum [10] [ ] square metres of temporary office space for *Consultant*, either separately or within *Contractor's* site office.
- .2 Provide [at least one operable window] and a lockable door.
- .3 Provide office with temperature control, ventilation, and suitable power and lighting.
- .4 [Provide washroom facilities adjacent to office for *Consultant's* exclusive use.]
- .5 [Equip office with table and chairs to accommodate at least [ ] meeting attendees, [one] [3] drawer filing cabinet, [one] plan rack.]
- .6 Provide [land line telephone] [internet access] [public access wi-fi] [fax machine and paper] [photocopier] [ ].
- .7 Provide [weekly] [bi-weekly] [monthly] cleaning service.

#### 1.5 SANITARY FACILITIES

- .1 Provide sanitary facilities for workers.
- .2 [When permanent water and drain connections are completed, provide temporary water closets and urinals complete with temporary enclosures, inside building.]
- .3 Do not use permanent washroom facilities during construction.
- .4 Keep sanitary facilities clean and fully stocked with the necessary supplies.

#### 1.6 FIRE PROTECTION

- .1 Provide and maintain temporary fire protection systems and equipment during construction.

## 1.7 ELEVATORS

SPEC NOTE: Select either the following paragraph or the subsequent paragraph and its sub-paragraphs.

- .1 Do not use permanent elevators for construction purposes.

[OR]

- .1 Permanent elevators may be used by construction personnel and for transporting Products, at *Contractor's* option. If used during construction:
  - .1 Provide protective coverings for finish surfaces of cars and entrances.
  - .2 Just prior to [*Ready-for-Takeover*] [*Substantial Performance of the Work*], perform required maintenance to ensure elevators are in as near as new condition as possible.
  - .3 Ensure that elevator manufacturer's warranty does not commence until the date of [*Ready-for-Takeover*] [*Substantial Performance of the Work*] or, if manufacturer's warranty does commence earlier when elevators are put into use, arrange for necessary extension of manufacturer's warranty or provide equivalent coverage under *Contractor's* warranty.

## 1.8 USE OF EXISTING ELEVATORS

SPEC NOTE: Use this article for work in an existing building with elevators. Specify additional usage restrictions as required.

- .1 Designated elevators may be used by construction personnel and for transporting Products. Co-ordinate use with [                      ].
- .2 Provide protective coverings for finish surfaces of cars and entrances. Assume responsibility for and make good any damage to existing elevators caused by construction personnel.

## 1.9 PROJECT IDENTIFICATION SIGNS

SPEC NOTE: If no project identification sign is required, delete this article. If signage is required, a detail drawing may be added to this Section, or on the Drawings, illustrating required graphics and text including logos, fonts, colours, etc.).

- .1 Provide [one] [two] [        ] *Project* identification sign[s] [with graphics and text as shown on [attached detail drawing] [the *Drawings*].] [Graphics and text shall indicate name of *Project*, name [and logo] of *Owner*, [*Consultant*], [subconsultants], *Contractor*, [and major *Subcontractors*].] [Graphics and text [will be provided by [*Consultant*] [*Owner*] promptly after *Contract* award.]
- .2 *Project* identification sign[s] shall be [    ] m x [    ] m, of wood frame and plywood construction with graphics produced by a professional sign company.
- .3 Submit *Shop Drawing* for *Project* identification sign graphics and text.

- .4 Erect sign[s] within [three] [ ] weeks of *Contract* award in location[s] directed or approved by *Consultant*.
- .5 No other signs or advertisements, other than safety, warning, or directional signs, are permitted without *Consultant*'s prior approval.

END OF SECTION

FOR EDUCATION ONLY

**SPEC NOTE:** Use this Section to specify requirements for temporary protection of the public and existing building occupants during construction, by means of barriers and enclosures that are not incorporated into the final or permanent work. Edit to delete inapplicable requirements and expand to include additional requirements as necessary to suit the nature of the Work and of the site.

### 1.1 BARRIERS AND ENCLOSURES - GENERAL

- .1 Provide temporary barriers and enclosures necessary to protect the public [and building occupants] 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 the 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.

[OR]

- .1 Erect temporary security and safety site fencing, minimum [ ] m high, using [chain link fencing] [snow fencing] [self-supporting wire fence sections] enclosing entire site. Maintain site fencing in good repair until removed.
- .2 Provide lockable access gates as required to facilitate construction access.

### 1.3 EXTERIOR HOARDING

**SPEC NOTE:** Use this article in lieu of 1.2 Fencing for projects located in dense urban areas or where otherwise required for public safety and security.

- .1 Erect temporary exterior site hoarding to comply with applicable regulatory requirements [and as follows:]
  - .1 Use lumber framing and, minimum [13] [ ] mm thick exterior grade plywood.
  - .2 Paint public side of hoarding [in colour selected by *Consultant*] with one coat primer and one coat exterior paint. Maintain public side of hoarding clean and in good repair until removed.
  - .3 Provide lockable access gates for *Construction Equipment* and lockable pedestrian doors as required to facilitate construction access.
  - .4 Erect and maintain pedestrian walkways including roof and side covers, complete with pedestrian signage and electrical lighting.

#### 1.4 WEATHER ENCLOSURES

- .1 Provide weather tight enclosures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.
- .2 Provide weather enclosures to protect floor areas where walls are not finished and to enclose work areas that require temporary heating.
- .3 Design weather enclosures to withstand wind pressure and snow loading requirements.

#### 1.5 DUST TIGHT [SCREENS] [PARTITIONS]

- .1 Provide dust tight [polyethylene screens] [insulated] [wood stud and plywood] [steel stud and gypsum board] [partitions] to localize interior building areas from dust [and noise] generating activities.
- .2 Erect, maintain, and relocate [screens] [partitions] as required to facilitate construction operations and *Owner's* operational requirements.

#### 1.6 FIRE ROUTES

- .1 Maintain fire access routes, including overhead clearances, for use by emergency response vehicles.

#### 1.7 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

**SPEC NOTE:** Use this Section to specify temporary controls required during construction that are not incorporated into the final or permanent work. Edit to delete inapplicable requirements and expand to include additional requirements as necessary to suit the nature of the Work and of the site. For some projects, significant additional environmental controls may be required on account of applicable federal, provincial, or municipal regulatory requirements.

### 1.1 TEMPORARY CONTROLS - GENERAL

- .1 Provide temporary controls as necessary for performance of the *Work* and in compliance with applicable regulatory requirements.
- .2 Maintain temporary controls in good condition for the 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 on site [and on adjacent properties] where indicated on *Drawings*.
- .2 Protect trees and shrubs susceptible to damage during construction by encasing with protective wood framework from grade to height of [one] [two] [metre[s]].
- .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 and vegetation.

### 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 on site or to adjacent properties.
- .3 Provide temporary enclosures to prevent extraneous materials resulting from sandblasting or similar operations from contaminating air beyond immediate work area.
- .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 DEWATERING

- .1 Provide temporary drainage and pumping as necessary to dewater excavations, trenches, foundations, and other parts of the *Work*. Maintain such areas free of water arising from groundwater or surface run-off, as required to keep them stable, dry, and protected from damage due to flooding.
- .2 Maintain standby equipment necessary to ensure continuous operation of dewatering system.
- .3 Do not pump water containing suspended materials or other harmful substances into waterways, sewers or surface drainage systems. Treat or dispose of such water in accordance with applicable regulatory requirements

#### 1.5 SITE DRAINAGE

- .1 Maintain grades to ensure proper site drainage.
- .2 Prevent surface water runoff from leaving the site [except as otherwise provided by [site grading] [stormwater management] plan].
- .3 Prevent precipitation from infiltrating or from directly running off stockpiled [waste] materials. Cover stockpiled [waste] materials with an impermeable liner during periods of work stoppage including at end of each *Working Day*.
- .4 Control surface drainage from cuts and fills, from borrow and waste disposal areas, from stockpiles, staging areas, and other work areas as required to prevent erosion and sedimentation.
- .5 Control surface drainage by ensuring that gutters are kept open and water is not directed across or over pavements or sidewalks, except through pipes or properly constructed troughs. Ensure that runoff from unfinished areas is intercepted and diverted to suitable outlets.

#### 1.6 EROSION AND SEDIMENT CONTROL

- .1 Minimize amount of bare soil exposed at one time. Stabilize disturbed soils as quickly as practical to minimize erosion. Remove accumulated sediment resulting from construction activity from adjoining surfaces, drainage systems, and watercourses, and repair damage caused by soil erosion and sedimentation.
- .2 Provide and maintain appropriate temporary measures such as silt fences, straw bales, ditches, geotextiles, drains, berms, terracing, riprap, temporary drainage piping, sedimentation basins, vegetative cover, dikes, and other measures that may be required to prevent erosion and migration of silt, mud, sediment, and other debris.
- .3 Do not disturb existing embankments or embankment protection.
- .4 Periodically inspect erosion and sediment control measures to detect evidence of erosion and sedimentation. Promptly take corrective measures when necessary.

- .5 If soil and debris from site accumulate in ditches or other low areas, remove accumulation and restore area to original condition.

#### 1.7 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 on site, 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, and
  - .3 *Owner and Consultant.*
- .4 Contact manufacturer of pollutant, if known and applicable, to obtain material safety data sheets (MSDS) and ascertain hazards involved and precautions and measures required in cleanup or mitigating actions.
- .5 Take immediate action to contain and mitigate harmful effects of the spill or release.

END OF SECTION



**SPEC NOTE:** Use this Section to specify requirements that are common to most or all Product requirements specified in technical Specification Sections, thus negating the need to repeat these types of requirements in technical Sections.

### 1.1 GENERAL

- .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.
- .2 Unless otherwise specified, maintain uniformity of manufacture for like items throughout.
- .3 [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.]

### 1.2 PRODUCT OPTIONS

- .1 Subject to the provisions of Section 01 25 00 –Substitution Procedures:
  - .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 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.

### 1.3 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 provide direction.
  - .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.

#### 1.4 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 bundled *Products* in original and undamaged condition with manufacturer's seals and labels intact. Do not remove from packaging or bundling until required in *Work*.
- .4 Comply with the requirements of the workplace hazardous materials information system (WHMIS) regarding use, handling, storage, and disposal of hazardous materials, including requirements for labeling and the provision of material safety data sheets (MSDS).
- .5 Store *Products* subject to damage from weather in weatherproof enclosures.
- .6 Store sheet *Products* on flat, solid, supports and keep clear of ground. Slope to shed moisture.
- .7 Remove and replace damaged *Products*.

END OF SECTION

**SPEC NOTE:** Use this Section to specify requirements for survey, utility locate, and other preparatory work before commencement of construction. Also use this Section to specify examination and preparation requirements that are common to most or all technical Specifications Sections, thus negating the need to repeat these types of requirements in technical Sections.

#### 1.1 SURVEYOR QUALIFICATIONS

- .1 Engage a registered land surveyor, licensed to practice in *Place of the Work*.

#### 1.2 SUBMITTALS

- .1 Submit name and address of registered land surveyor performing survey work.
- .2 Submit to [*Owner*] [and] [*Consultant*] the survey of the *Work* prepared and issued by a registered land surveyor [on completion of the building footings and foundations] [as required by authorities having jurisdiction] [ ] and on completion of the *Work*.

#### 1.3 SURVEY REFERENCE POINTS

- .1 Locate and confirm permanent reference points prior to starting site work. Preserve and protect permanent reference points on site during construction.
- .2 Do not change or relocate reference points without prior written notice to *Consultant*.
- .3 Report to *Consultant* when a reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations. Require registered land surveyor to replace reference points in accordance with original survey.

#### 1.4 SURVEY REQUIREMENTS

- .1 Establish sufficient permanent benchmarks on site, referenced to established benchmarks by survey control points.
- .2 Confirm that existing survey reference points are in accordance with *Owner's* survey and property limits.
- .3 Establish initial lines and levels for building layout.
- .4 Maintain a complete, accurate log of control and survey work as it progresses. Record locations with horizontal and vertical data in project record documents.

### 1.5 EXISTING UTILITIES AND STRUCTURES

- .1 Before commencing excavation, drilling or other earthwork, establish or confirm location and extent of all existing underground utilities and structures in work area.
- .2 Promptly notify *Consultant* if underground utilities, structures, or their locations differ from those indicated in *Contract Documents* or in available project information. *Consultant* will provide appropriate direction.
- .3 Record locations of maintained, re-routed and abandoned utility lines.

### 1.6 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 the 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 the existing conditions.
- .2 Verify that 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 that substrate surfaces are clean, dimensionally stable, cured and free of contaminants.
- .4 Notify *Consultant* in writing of unacceptable conditions.

END OF SECTION

SPEC NOTE: Use this Section to specify requirements that are common to most or all technical Specifications sections, thus negating the need to repeat these types of requirements in technical Sections.

### 1.1 SUMMARY

- .1 Except where otherwise specified in technical *Specifications* or otherwise indicated on *Drawings*, comply with requirements of this Section.

### 1.2 MANUFACTURER'S INSTRUCTIONS

- .1 Install, erect, or apply *Products* in strict accordance with manufacturer's instructions.
- .2 Notify *Consultant*, in writing, of conflicts between *Contract Documents* and manufacturer's instructions where, in *Contractor's* opinion, conformance with *Contract Documents* instead of the manufacturer's instructions may be detrimental to the *Work* or may jeopardize the manufacturer's warranty.
- .3 Do not rely on labels or enclosures provided with *Products*. Obtain written instructions directly from manufacturers.
- .4 Provide manufacturer's representatives with access to the *Work* at all times. Render assistance and facilities for such access so that manufacturer's representatives may properly perform their responsibilities.

### 1.3 CONCEALMENT

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

### 1.4 FASTENINGS - GENERAL

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials.
- .2 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.
- .3 Use non-corrosive fasteners and anchors for securing exterior work [and in spaces where high humidity levels are anticipated].
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage.

- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Do not use fastenings or fastening methods that may cause spalling or cracking of material to which anchorage is made.

#### 1.5 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.

#### 1.6 FIRE RATED ASSEMBLIES

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

#### 1.7 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 to provide 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.

#### 1.8 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 Promptly remove, replace, clean, or repair, as directed by *Consultant*, work damaged as a result of inadequate protection.
- .3 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*.

#### 1.9 REMEDIAL WORK

- .1 Notify *Consultant* of, and perform remedial work required to, repair or replace defective or unacceptable work. Ensure that properly qualified workers perform remedial work. Coordinate adjacent affected work as required.

END OF SECTION

**SPEC NOTE:** Use this Section to specify requirements for incidental cutting, fitting, and patching required to complete the Work and make its many parts fit together properly.

### 1.1 REQUEST 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 contractors.
  - .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 otherwise specified, when replacing existing or previously installed *Products* in the course of cutting and patching work, use replacement *Products* of the 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 in accordance with Section 01 25 00 - Substitution Procedures.

### 1.3 PREPARATION

- .1 Inspect existing conditions in accordance with Section 01 71 00 - Examination and Preparation.
- .2 Provide supports to ensure structural integrity of surroundings; provide devices and methods to protect other portions of the *Work* from damage.
- .3 Provide protection from elements for areas that may be exposed by uncovering work.

#### 1.4 EXISTING UTILITIES

- .1 When breaking into or connecting to existing services' utilities, execute the *Work* at times directed by local governing authorities, with a minimum of disturbance to the *Work*, pedestrian and vehicular traffic, and ongoing *Owner* operations.

[OR]

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

#### 1.5 CUTTING, PATCHING, AND REMEDIAL WORK

- .1 Coordinate and perform the *Work* to ensure that cutting and patching work 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 mechanical and electrical work.
- .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 approval.
- .8 Ensure that 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 material to full depth or with suitably rated devices.

END OF SECTION

FOR EDUCATION ONLY

SPEC NOTE: Use this Section to specify requirements for progressive and final cleaning of the Work and waste management and disposal.

#### 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 the cleaning process.
- .4 Notify the *Consultant* of the need for cleaning caused by *Owner* or other contractors.

#### 1.3 PROGRESSIVE CLEANING AND WASTE MANAGEMENT

- .1 Maintain the *Work* in a 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 indicated on *Drawings*].]
- .3 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.
- .4 Remove waste materials and recyclables from *Place of the Work* [daily] [weekly] [at regular intervals].
- .5 Clean interior building areas prior to start of finish work and maintain free of dust and other contaminants during finishing operations.
- .6 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly finished surfaces nor contaminate building systems.

SPEC NOTE: Include the following sentence only where the Contractor will have care, custody and control of a site with adjacent public sidewalks.

- .7 [Clear snow and ice from public sidewalks as required to comply with applicable municipal regulatory requirements.]

#### 1.4 FINAL CLEANING

- .1 Before final cleaning, arrange a meeting at *Place of the Work* to determine the acceptable standard of cleaning. Ensure that [*Owner,*] *Consultant, Contractor* [and cleaning company] 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.

SPEC NOTE: Edit the following paragraphs to suit project specific conditions.

- .3 Provide professional cleaning by a qualified, 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 *Owner* occupancy.
- .6 Remove stains, spots, marks, and dirt from finished surfaces, electrical and mechanical fixtures, furniture fitments, walls, floors [and] [\_\_\_\_\_].
- .7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, [\_\_\_\_\_] and all 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, behind grilles, louvres and screens, [above suspended ceiling tiles] [\_\_\_\_\_].
- .10 Clean mechanical, electrical, and other equipment. Replace filters for mechanical equipment if equipment is used during construction.
- .11 Remove waste material 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 Clean and sweep roofs, [clear roof drains,] [clean gutters and downspouts,] [sunken wells,] [\_\_\_\_\_].
- .15 [Sweep clean] [power wash] [remove snow and ice from] exterior [sidewalks,] [steps,] [driveways,] [roads,] [parking lots,] and other paved surfaces.
- .16 Use leaf blowers to clean landscaped surfaces.

## 1.5 WASTE MANAGEMENT AND DISPOSAL

SPEC NOTE: If the project involves removal of hazardous materials or designated substances such as asbestos, lead paint, PCBs, etc., this article is inadequate. Specify additional requirements in this section or in other sections.

- .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.

END OF SECTION

SPEC NOTE: Use this Section to specify administrative processes associated with the attainment of closeout milestones at the completion of the Work.

SPEC NOTE: This Section assumes use of CCDC 2 – 2020 standard form contract and unmodified closeout related provisions in that contract. This Section provides additional details and requirements that are specific to the Project and to facilitate administration of this Contract. This Section is not intended to be used with CCDC contracts that do not address Ready-for-Takeover and contain General Conditions that address procedures related to Substantial Performance of the Work instead. In order to use this Section with other CCDC contracts and to avoid duplication or conflict with the Conditions of Contract and the applicable lien legislation, either the other CCDC contracts would need to be significantly modified by means of Supplementary Conditions to align with CCDC 2 – 2020 or alternatively this Section would need to be significantly modified.

SPEC NOTE: Exercise caution when editing this Section to ensure that provisions of the General Conditions of Contract are not duplicated here unnecessarily and that no conflicts are created with the General Conditions.

## 1.1 READY-FOR-TAKEOVER

SPEC NOTE: This article specifies the contractual prerequisites for attaining the Ready-for-Takeover milestone identified in CCDC 2 – 2020.

- .1 The prerequisites to attaining *Ready-for-Takeover* of the *Work* are described in the General Conditions of the *Contract*.

## 1.2 INSPECTION AND REVIEW BEFORE READY-FOR-TAKEOVER

SPEC NOTE: This article specifies the inspection and review procedure for attaining the Ready-for-Takeover milestone identified in CCDC 2 – 2020.

- .1 *Contractor's* Inspection: Before applying for the *Consultant's* review to establish *Ready-for-Takeover* of the *Work*:
  - .1 Ensure that the specified prerequisites to *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 Provide an anticipated schedule and costs for items to be completed or corrected.

**SPEC NOTE:** Select one of the following two paragraphs depending of whether the Consultant wishes to review the Work independently or jointly with the Contractor. In both cases there should be only one deficiency list and the Contractor should be responsible for maintaining it.

- .2 *Consultant's Review:* Upon receipt of the *Contractor's* application for review, together with the *Contractor's* list of items to be completed or corrected, the *Consultant* will review the *Work*. The *Consultant* will advise the *Contractor* whether or not the *Work* is *Ready-for-Takeover* and will provide the *Contractor* with a list of items, if any, to be added to the *Contractor's* list of items to be completed or corrected. Provide the *Consultant* with a copy of the *Contractor's* revised list.

[OR]

- .3 *Consultant's Review:* Upon receipt of the *Contractor's* application for review, together with the *Contractor's* list of items to be completed or corrected, the *Consultant* and the *Contractor* shall arrange a mutually satisfactory agreed date and time to jointly review the *Work*. The *Consultant* will advise the *Contractor* whether or not the *Work* is *Ready-for-Takeover*. Add additional items, if any, to the *Contractor's* list of items to be completed or corrected. Provide the *Consultant* with a copy of the revised list.
- .4 Maintain the list of items to be completed or corrected and promptly correct or complete defective, deficient and incomplete work. The *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 the *Contractor's* list of items to be completed or corrected.
- .5 When the *Consultant* determines that the *Work* is *Ready-for-Takeover*, the *Consultant* will notify the *Contractor* and the *Owner* in writing to that effect.

### 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 the General Conditions of Contract:
  - .1 Correct or complete all remaining defective, deficient, and incomplete work.
  - .2 Remove from the *Place of the Work* all remaining surplus *Products, Construction Equipment, and Temporary Work*.
  - .3 Perform final cleaning and waste removal necessitated by the *Contractor's* work performed after *Ready-for-Takeover*, as specified in Section 01 74 00 – Cleaning and Waste Management.

### 1.4 PARTIAL USER OCCUPANCY

**SPEC NOTE:** Include this article if partial user occupancy is specified in Section 01 14 00 – Work Restrictions.

- .1 If partial *Owner* occupancy of a part of the *Work* is required before the date of *Ready-for-Takeover* of the entire *Work* of the *Contract*, the provisions of this Section shall apply, to the extent applicable, to that part of the *Work* that the *Owner* intends to occupy.

## 1.5 SUBSTANTIAL PERFORMANCE OF THE WORK

SPEC NOTE: In the past, CCDC contracts have in effect combined the Owner's takeover with substantial performance of the Work, or similar such milestone provided for in the applicable lien legislation. The purpose of this milestone in the lien legislation is primarily to trigger release of the statutory lien holdback. However, lien legislation differs in each province and territory. Hence the prerequisites to, and the procedures for, attaining substantial performance also differ and they cannot be overridden by the contract. CCDC 2 – 2020 therefore no longer defines substantial performance of the Work nor includes any provisions dealing with the process for attaining substantial performance of the Work. It only addresses payment of the lien holdback, which comes after substantial performance of the Work, or similar milestone. CCDC 2 – 2020 assumes that this is an independent milestone that is not necessarily related to the Owner's takeover. Substantial performance of the Work for lien legislation purposes could potentially be certified before, at the same time as, or after, Ready-for-Takeover.

SPEC NOTE: The following paragraph simply refers to the applicable lien legislation for the process of attaining substantial performance of the Work or similar milestone.

- .1 The prerequisites to, and the procedures for, attaining substantial performance of the *Work*, or similar such milestone as provided for in the lien legislation applicable to the *Place of the Work*, shall be:
  - .1 independent of those for attaining *Ready-for-Takeover* of the *Work*, and
  - .2 in accordance with the lien legislation applicable to the *Place of the Work*.

END OF SECTION

SPEC NOTE: This Section specifies procedures for closeout submittals, including supply of spare parts and maintenance materials at or near completion of construction. Section 01 33 00 - Submittal Procedures specifies submittals during construction.

SPEC NOTE: Additional requirements may be needed if the Owner decides to implement a voluntary sustainability certification program. Such additional submittal requirements should be addressed in a separate Div. 01 section (not included in the CCDC Master Specification for Div. 01).

#### 1.1 OPERATION AND MAINTENANCE MANUAL

- .1 Prepare a comprehensive operation and maintenance manual, in the language[s] of the *Contract*, using personnel qualified and experienced for this task.
- .2 Submit an initial draft of the 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 the draft manual in writing.
- .3 Submit final version to *Owner* in [hard copy] [and] [electronic] format. [Provide [ ] [four] hard copies.]

#### 1.2 OPERATION AND MAINTENANCE MANUAL FORMAT

- .1 Organize data in the form of an instructional manual.
- .2 Binders: vinyl, hard covered, three D-rings, loose leaf, 216 x 279 mm, with spine and face pockets.
- .3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.
- .4 Cover: Identify each binder with typed or printed title "Operation and Maintenance Manual", name of Project or facility, and subject matter of contents.
- .5 Arrange content [by systems,] [process flow,] under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed fly leaf for each separate *Product* or system, with typed description of *Product* and major component parts of equipment.
- .7 Text: Manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.



SPEC NOTE: The storage and retrieval of electronic information is dependent on the availability and sophistication of software. Software platforms, languages, formats and versions are constantly changing. Determine the Owner's needs and edit the following paragraph when requiring the Contractor to provide the information electronically.

- .9 Provide electronic copy of manual in PDF format.
- .10 Provide electronic copy of Shop *Drawings* in manual as [1:1] [ ] scaled CAD files in [.dxf] [.dwg] [ ] format on [CD-ROM] [DVD-ROM] [USB flash drive] [electronic media acceptable to *Owner*].

### 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.
  - .3 Schedule of *Products* and systems indexed to content of volume.
  - .4 For each *Product* or system, include complete contact information for *Subcontractors*, *Suppliers* and manufacturers, including local sources for supplies and replacement parts.
  - .5 *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.
  - .6 Reviewed *Shop Drawings*.

SPEC NOTE: Edit the following paragraph to incorporate relevant certificates issued by the authorities having jurisdiction, as required by safety code legislation and occupational health and safety requirements.

- .7 Permits, certificates, letters of assurance and other relevant documents issued by or required by authorities having jurisdiction.
- .8 Warranties.
- .9 Operating and maintenance procedures, incorporating manufacturer's operating and maintenance instructions, in a logical sequence.
- .10 Training materials as specified in Section 01 79 00 - Demonstration and Training].

#### 1.4 OPERATION AND MAINTENANCE MANUAL - EQUIPMENT AND SYSTEMS CONTENT

SPEC NOTE: Ensure that this article is reviewed by mechanical, electrical, and other specialty equipment and systems specifiers to avoid duplication or conflict with other divisions of the Specifications. If necessary, delete and specify in other technical sections with a reference to this Section.

- .1 Each Item of Equipment and Each System: include description of unit or system and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- .2 Panel Board Circuit Directories: provide electrical service characteristics, controls, and communications.
- .3 Include installed colour coded wiring diagrams.
- .4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, 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 Provide 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 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- .10 Provide installed control diagrams by controls manufacturer.
- .11 Provide *Contractor's* coordination drawings, with installed colour coded piping diagrams.
- .12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- .13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- .14 Include testing and balancing reports.
- .15 Include additional content as specified in technical *Specifications* sections.

1.5 OPERATION AND MAINTENANCE MANUAL - PRODUCTS AND FINISHES  
CONTENT

- .1 Include *Product* data, with catalogue number, options selected, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured *Products*.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Include an outline of requirements for routine and special inspections and for regular maintenance to ensure that on-going performance of the building envelope will meet the initial building envelope criteria.
- .4 Include additional content as specified in technical *Specifications* sections.

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 that documents are in proper form and contain full information. Ensure that warranties are for the correct duration and are in *Owner's* name.
- .4 [Include maintenance bond(s)].

1.7 CONTRACTOR'S AS-BUILT DRAWINGS

SPEC NOTE: If the Contractor is required to maintain as-built drawings as specified in Section 01 32 00, include this article regardless of who is responsible for producing the project record drawings.

- .1 Submit final as-built drawings in the form specified in Section 01 32 00 – Construction Progress Documentation to [*Owner*] [*Consultant*].

1.8 PROJECT RECORD DRAWINGS

SPEC NOTE: Most commonly the Consultant will be responsible for transferring as-built information from the as-built drawings maintained by the Contractor to the permanent project record drawings, in which case this article should be deleted. Include this article only if the Owner had determined that the Contractor, and not the Consultant, will be responsible for creating the project record drawings.

- .1 Transfer all information marked up on the as-built drawings during the progress of the *Work* to a master set of record drawing files provided by *Consultant*, in [ ] electronic format.
- .2 Mark revised drawings as "RECORD DRAWINGS".
- .3 Submit completed record drawings in [hard copy] [and] [electronic] form to [*Owner*] [*Consultant*]. Provide [four] [ ] hard copy sets.

### 1.9 SPARE PARTS, MAINTENANCE MATERIALS, AND SPECIAL TOOLS

- .1 Supply spare parts, maintenance materials, and special tools in quantities specified in technical *Specifications* sections.
- .2 Ensure spare parts and maintenance materials are new, not damaged nor defective, and of same quality, manufacturer, and batch or production run as installed *Products*.
- .3 Provide 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 all items and submit to *Consultant* an inventory listing organized by *Specifications* section. Include *Consultant* reviewed inventory listing in operation and maintenance manual.

### 1.10 BUILDING INFORMATION MODEL (BIM) AND COMPUTER AIDED FACILITY MANAGEMENT (CAFM)

SPEC NOTE: If BIM is used for the project, and the Owner wishes to utilize the BIM as the basis for CAFM, specify the detailed particulars of the Contractor's submittal obligations at closeout. It may be appropriate to refer to the BIM Contract Appendix published by the Institute for BIM in Canada (IBC) in this regard.

- .1 [ ]
- .2 [ ]

END OF SECTION

SPEC NOTE: Use this Section to specify requirements for systems manufacturers, Suppliers and installers to demonstrate Products, equipment and systems to Owner's personnel.

### 1.1 SUMMARY

- .1 Demonstrate and provide training to *Owner's* personnel on operation and maintenance of [equipment] [building envelope] [and] [systems] prior to scheduled date of [*Ready-for-Takeover of the Work*] [*Substantial Performance of the Work*].
- .2 *Owner* will provide list of personnel to receive training and will coordinate their attendance at agreed upon times.
- .3 Coordinate and schedule demonstration and training provided 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, or time as may be specified in technical *Specifications*.
- .2 *Consultant* and *Owner* will review submittal and advise *Contractor* of any necessary revisions.
- .3 Submit report(s) 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, and
  - .3 including a list of attendees.
- .4 [Submit video record of demonstration and training together with report.]

### 1.3 PREREQUISITES TO DEMONSTRATION AND TRAINING

- .1 Testing, adjusting, and balancing has been performed in accordance with *Contract Documents*.
- .2 Equipment and systems are fully operational.
- .3 Copy of completed operation and maintenance manual is available for use in demonstration and training.
- .4 Conditions for demonstration and training comply with requirements specified in technical *Specifications*.

#### 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 information in operation and maintenance manual if required.

END OF SECTION

FOR EDUCATION ONLY

SPEC NOTE: Use this Section to specify Contractor, commissioning agency, Consultant, and Owner responsibilities related to commissioning. This Section assumes that either the Owner or the Contractor will retain and pay for the services of a third party commissioning agency to do the commissioning. Select either option in article 1.1. In cases where both the Owner and the Contractor may retain separate commissioning agencies for particular types of commissioning, specify their respective responsibilities in more detail. Specify more detailed system or Product specific requirements for Contractor performed testing, adjusting, and balancing and other commissioning related requirements in the applicable technical Specifications Sections.

#### 1.1 COMMISSIONING AGENCY

- .1 *Owner* will retain and pay for an independent commissioning agency to provide commissioning services for the *Project*.

[OR]

- .1 *Contractor* shall retain and pay for a commissioning agency to provide commissioning services for the *Project*.

#### 1.2 CONTRACTOR RESPONSIBILITIES

- .1 Prepare each system ready for commissioning. Verify systems installation is complete and in operation.
- .2 Coordinate commissioning with and assist commissioning agency.
- .3 Perform and document verification, performance testing, adjusting, and balancing operations.
- .4 Cooperate with commissioning agency and provide access to equipment and systems.
- .5 Provide personnel and operate systems at designated times, and under conditions required for proper commissioning.
- .6 Make instruments available to commissioning agency to facilitate spot checks during commissioning.
- .7 Participate in commissioning meetings.
- .8 Complete commissioning forms as requested by commissioning agency.
- .9 Correct deficiencies identified in commissioning process.
- .10 Incorporate commissioning data into operation and maintenance manual.
- .11 Ensure that commissioning agency participates in demonstration and training as specified in Section 01 79 00 – Demonstration and Training.
- .12 [Provide instruments necessary for commissioning.]

### 1.3 COMMISSIONING AGENCY RESPONSIBILITIES

- .1 The commissioning agency [will] [shall]:
  - .1 Prepare a commissioning plan, including systems to be commissioned, forms, checklists and responsibilities of commissioning team members.
  - .2 Implement the commissioning plan and lead the commissioning team through start-up, verification, performance testing, training, and document preparation.
  - .3 Convene, chair, prepare and distribute minutes of commissioning meetings.
  - .4 Supervise commissioning activities and witness inspections and tests.
  - .5 Make periodic site visits for the purpose of selective checking of accuracy of commissioning form submissions, witness testing, and review of mock-ups.
  - .6 Review content of operations and maintenance manual.
  - .7 [Provide instruments necessary for commissioning.]

### 1.4 CONSULTANT RESPONSIBILITIES

- .1 *Consultant* will:
  - .1 Participate in commissioning meetings.
  - .2 Coordinate commissioning agency's involvement in *Shop Drawing* review process.
  - .3 Review verification and performance test results and direct *Contractor* to correct defects or deficiencies in the *Work*.
  - .4 Initiate *Change Orders* or *Change Directives* identified as necessary by the commissioning process.
  - .5 Review final commissioning report.

### 1.5 OWNER RESPONSIBILITIES

- .1 *Owner* will:
  - .1 Assign operations and maintenance personnel to participate in meetings, and witnessing of demonstration, and training.
  - .2 Designate a person to acknowledge receipt of reports.



1.6 SCHEDULE OF EQUIPMENT AND SYSTEMS TO BE COMMISSIONED

SPEC NOTE: Use this article to provide a comprehensive list of all equipment and systems to be commissioned. Ensure that individual technical Specification Sections include more detailed commissioning related requirements, as necessary.

.1 Division [ ] – [ ]

.1 [ ]

.2 [ ]

.3 [ ]

.2 Division [ ] – [ ]

.1 [ ]

.2 [ ]

.3 [ ]

.3 Division [ ] – [ ]

.1 [ ]

.2 [ ]

.3 [ ]

END OF SECTION

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