TECHNICAL SPECIFICATIONS FOR :

PROJECT: # WASHROOM RENOVATIONS TO ASSUMPTION CATHOLIC SECONDARY SCHOOL

CLIENT: HALTON CATHOLIC DISTRICT SCHOOL BOARD

PROJECT No.: 24116

TENDER No.:

DATE: MARCH 2025

BINDER: # SPECIFICATIONS

CONSULTANTS:

HOSSACK
ARCHITECTURE

105 - 1939 IRONOAK WAY
OAKVILLE ON L6H 3V8
(905) 815-8284 admin@hossackarch.com

RCEI

REGAL CONSULTING ENGINEERS INC.
2359 Royal Windsor Dr Suite 201, Mississauga, ON L5J 4S9

KALOS ENGINEERING

300 York Boulevard, Hamilton, ON L8R 3K6 905-333-9119

PROJECT NAME

Renovations to Assumption Catholic Secondary School
3230 Woodward Avenue,
Burlington, ON L7N 3P1

PROJECT OWNER

HALTON CATHOLIC DISTRICT SCHOOL BOARD
802 Drury Lane
Burlington, ON L7R 2Y2

CONSULTANTS

ARCHITECT
HOSSACK ARCHITECTURE
105-1939 Ironoak Way
Oakville, ON L6H 3V8
Tel.: 905 815-8284

MECHANICAL & ELECTRICAL ENGINEER
REGAL CONSULTING ENGINEERS INC.
208 Wyecroft Road, Suite 200
Oakville, ON L6K 3S3
Office: 905 844-3913
Cell: 905 465-5581

STRUCTURAL ENGINEER
KALOS ENGINEERING INC.
300 York Boulevard
Hamilton, ON L8R 3K6
Tel.: 905 333-9119

END OF SECTION

No. of Pages

SPECIFICATIONS

INTRODUCTORY INFORMATION

00 00 05	Consultants	1
00 00 10	Table of Contents	8

THE BID DOCUMENTS

00 21 13	Instructions to Bidders	7
00 31 00	Available project information	2
00 41 03	Cost Plus Fee Bid	4
00 52 03	Cost-Plus Agreement	2
00 52 11	Subcontract Agreement	1
00 71 03	Cost-Plus Contracting Definitions	2
00 71 11	Subcontracting Definitions	1
00 72 03	General Conditions	1
00 72 11	Subcontract Conditions	1
00 73 03	Supplementary Conditions	8
00 73 11	Supplementary Subcontractor Conditions	7

DIVISION 1- General Requirements

01 11 00	Summary of Work	26
01 12 00	Multiple Contract Summary	8
01 22 00	Meetings and Progress Reports	3
01 25 00	Substitution Procedures	4
01 26 00	Contract Modification Procedures	2
01 31 00	Project Management and Coordination	5
01 33 00	Submittal Procedures	5
01 35 23	Site Safety Protocols for Occupied Buildings	8
01 35 30	Health and Safety Requirements	4
01 35 43	Environmental Procedures	2
01 45 00	Quality Control	4
01 51 00	Temporary Utilities	3
01 52 00	Construction Facilities	3
01 56 00	Temporary Barriers and Enclosures	3
01 73 03	Execution Requirements	4
01 74 11	Cleaning	3
01 77 00	Closeout Procedures	2
01 78 00	Closeout Submittals	7
01 78 10	Sample Guarantee/Warranty form	2

DIVISION 2- Existing Conditions

02 10 00	Existing Site Photos	6
02 41 15	Selective Demolition & Removals	4

No. of Pages

DIVISION 3- Concrete
No items

DIVISION 4- Masonry
Information provided on large format structural drawings.

DIVISION 5- Metals
Structural Metal Framing
Information provided on large format structural drawings.
05 50 00 Metal Fabrications 3

DIVISION 6- Wood, Plastics and Composites
06 10 11 Rough Carpentry 3
06 47 00 Plastic Laminates 3

DIVISION 7- Thermal and Moisture Protection
07 92 10 Joint Sealants 3

DIVISION 8- Openings
08 11 14 Steel Doors and Frames 15
08 11 15 Door Schedule 1
08 14 10 Flush Wood Doors 3
08 71 10 Finish Hardware – General 6
08 80 50 Glazing 7

DIVISION 9-Finishes
09 21 16 Gypsum Board Assemblies 8
09 22 16 Non-Structural Metal Framing 3
09 30 13 Ceramic Tiling 9
09 51 13 Acoustical Panel Ceilings 4
09 65 16 Resilient Sheet Flooring 4
09 91 22 Painting 8
09 91 27 Finishes and Colour Notes 2
09 91 30 Room Finish Schedule 1

DIVISION 10- Specialties
10 28 10 Washroom Accessories 6

DIVISION 11, 12, 13 & 14 - Equipment, Furnishings, Special Construction & Conveying Systems
No items

DIVISION 20, 21, 22, 23, 25 Mechanical
Information provided on large format mechanical drawings.

DIVISION 26 Electrical
Information provided on large format electrical drawings.

No. of Pages

DIVISION 31, 32 & 33- Earthworks, Exterior Improvements & Utilities
No items

DRAWING SET

Drawing No. Title 30" x 42" format

Architectural Drawings

A01 SITE PLAN
A02 FIRE SEPARATION KEY PLANS, OBC MATRIX, SCHEDULES & NOTES
A03 PARTIAL SECOND FLOOR DEMOLITION & PROPOSED FLOOR AND FLOOR FINISH PLANS
A04 PARTIAL SECOND FLOOR DEMOLITION & PROPOSED REFLECTED CEILING PLANS
A05 PARTIAL THIRD FLOOR DEMOLITION & PROPOSED FLOOR, RCP AND FLOOR FINISH PLANS
A06 INTERIOR ELEVATIONS AND SCHEDULES

Structural Drawings

S1.0 PLANS, SECTIONS & DETAILS

Mechanical Drawings

M1.0 LEGENDS, GENERAL NOTES, EQUIPMENT SCHEDULE
M1.1 KEY PLANS
M2.0 DEMOLITION PLUMBING AND DRAINAGE LAYOUT - PARTIAL GROUND FLOOR REFLECTED CEILING PLAN
M2.1 DEMOLITION HVAC LAYOUT - PARTIAL GROUND FLOOR REFLECTED CEILING PLAN
M2.2 DEMOLITION SPRINKLERS LAYOUT - PARTIAL GROUND FLOOR REFLECTED CEILING PLAN
M3.0 DEMOLITION PLUMBING AND DRAINAGE LAYOUT - PARTIAL SECOND FLOOR PLAN
M3.1 DEMOLITION HVAC LAYOUT - PARTIAL SECOND FLOOR PLAN
M3.2 DEMOLITION SPRINKLERS LAYOUT - PARTIAL SECOND FLOOR PLAN
M3.3 DEMOLITION HVAC LAYOUT - PARTIAL SECOND FLOOR LIBRARY WORK ROOM & WASHROOM
M3.4 DEMOLITION SPRINKLER LAYOUT - PARTIAL SECOND FLOOR LIBRARY WORK ROOM & WASHROOM
M4.0 DEMOLITION PLUMBING AND DRAINAGE LAYOUT - PARTIAL THIRD FLOOR PLAN
M4.1 DEMOLITION HVAC LAYOUT - PARTIAL THIRD FLOOR PLAN
M4.2 DEMOLITION SPRINKLERS LAYOUT - PARTIAL THIRD FLOOR PLAN
M5.0 PROPOSED PLUMBING AND DRAINAGE LAYOUT - PARTIAL GROUND FLOOR REFLECTED CEILING PLAN
M5.1 PROPOSED HVAC LAYOUT - PARTIAL GROUND FLOOR REFLECTED CEILING PLAN
M5.2 PROPOSED SPRINKLER LAYOUT - PARTIAL GROUND FLOOR REFLECTED CEILING PLAN

No. of Pages

M5.3 PROPOSED HVAC LAYOUT - PARTIAL SECOND FLOOR LIBRARY WORK ROOM & WASHROOM
M5.4 PROPOSED SPRINKLER LAYOUT - PARTIAL SECOND FLOOR LIBRARY WORK ROOM & WASHROOM
M6.0 PROPOSED PLUMBING AND DRAINAGE LAYOUT- PARTIAL SECOND FLOOR PLAN
M6.1 PROPOSED HVAC LAYOUT - PARTIAL SECOND FLOOR PLAN
M6.2 PROPOSED SPRINKLERS LAYOUT - PARTIAL SECOND FLOOR PLAN
M7.0 PROPOSED PLUMBING AND DRAINAGE LAYOUT - PARTIAL THIRD FLOOR PLAN
M7.1 PROPOSED HVAC LAYOUT - PARTIAL THIRD FLOOR PLAN
M7.2 PROPOSED SPRINKLERS LAYOUT - PARTIAL THIRD FLOOR PLAN
M8.0 MECHANICAL DETAILS
M9.0 MECHANICAL SPECIFICATIONS – 1
M9.1 MECHANICAL SPECIFICATIONS - 2

Electrical Drawings

E1.0 ELECTRICAL LEAD SHEET, DETAILS, KEY PLANS & PANEL SCHEDULE
E2.0 DEMOLITION GROUND & SECOND FLOOR LIGHTING PLAN
E2.1 DEMOLITION SECOND FLOOR POWER AND LIGHTING PLAN
E2.2 DEMOLITION THIRD FLOOR POWER AND LIGHTING PLAN
E3.0 PROPOSED GROUND & SECOND FLOOR POWER PLAN
E3.1 PROPOSED SECOND FLOOR POWER AND LIGHTING PLAN
E3.2 PROPOSED THIRD FLOOR POWER AND LIGHTING PLAN
E4.0 ELECTRICAL SPECIFICATIONS

End of Table of Contents

Part 1 Invitation

1.1 BID CALL

.1 Offers to perform Contract C00, signed under seal, executed, and dated will be received by the Architect by email at **admin@hossackarch.com** on or before **2:00:00 pm** local time, on the **8th day of April 2025.**

.2 Offers to perform Subcontract SC01 through SC06, signed under seal, executed, and dated will be received by the Architect by email at **admin@hossackarch.com** on or before **2:00:00 pm** local time, on the **8th day of April 2025.**

.3 The Bidder shall submit their Electronic Submission in only one (1) email containing all the bid submission requirements to the email address above. Email attachments should be limited to 10MB in size (total).

.4 Proponents are cautioned that the timing of their Proposal Submission is based on when the Bid is received by the Architect at the email address above, not when a proposal is submitted by a Bidder, as Bid transmissions can be delayed in an "Internet Traffic Jam" due to file transfer size, transmission speed, etc.

.5 For the above reasons, the Purchaser recommends that Proponents allow sufficient time to email their Bid Submission and attachment(s) and to resolve any issues that may arise. The closing time and date shall be determined by the Purchaser's internal server clock.

.6 Include the Project Name clearly in the email subject field.

.7 Amendments to the submitted offer will be permitted if received at the email address above prior to bid closing and if endorsed by the same party or parties who signed and sealed the offer.

.8 Bids are by invitation only from lists of pre-selected bidders. Bids submitted by unsolicited bidders will not be received by the Owner and will be returned unopened.

1.2 INTENT

.1 The intent of this bid call is to obtain offers to perform identified portions of the Work to complete the construction of the RENOVATIONS TO ASSUMPTION CATHOLIC SECONDARY SCHOOL located at:

3230 Woodward Avenue, Burlington ON L7N 3P1

.2 Contract C00 is identified as a Canadian Construction Documents Committee (CCDC) CCDC 3 - 2016 Cost Plus a Fee Contract based on the Contract Documents.

.3 Subcontracts SC01 through SC06 are identified as Canadian Construction Association (CCA) CCA 1- 2008 Stipulated Sum Subcontracts. Successful Subcontractors will enter into written agreements with the successful Contractor holding Contract C00, based on the Contract Documents.

.4 Contract C00 and Subcontract SC01 will be awarded to a single Contractor.

.5 Substantial Performance of the Work is required before the date identified in Section 01 12 00 Multiple Contract Summary.

1.3 CONTRACT DOCUMENTS IDENTIFICATION

.1 The Contract Documents are identified as Project No.: 24116 as prepared by Hossack Architecture located at 105-1939 Ironoak Way, Oakville Ontario.

Part 2 Contract and Bid Documents

2.1 DEFINITIONS

.1 Contract Documents: As defined in the Contract.

.2 Bid Documents: As defined in Document 00 71 03.

.3 Bid, Offer, or Bidding: Defined as the act of submitting an offer under seal.

.4 Bid Price: Defined as the monetary sum identified by the Bidder in the Bid Form.

2.2 AVAILABILITY

.1 One set of Bid Documents may be obtained electronically by each bidder from the Consultant.

.2 Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not confer a license or grant for other purposes.

2.3 EXAMINATION

.1 Upon receipt of Bid Documents verify that documents are complete; notify Consultant should the documents be incomplete.

.2 Immediately notify the Consultant upon finding discrepancies or omissions in the Bid Documents.

2.4 QUERIES AND ADDENDA

.1 Direct all queries in writing by email to:

Alexander Mayhew at Hossack Architecture
Email: **amayhew@hossackarch.com & admin@hossackarch.com**

Please include the following in the email question subject line:

24116 Renovations to Assumption Catholic Secondary School

.2 Addenda may be issued during the bidding period. All addenda become part of the Contract Documents. Include costs in Bid Price.

.3 Verbal answers are only binding when confirmed by written addenda.

.4 Clarifications requested by bidders must be in writing not less than 5 Working Days before date set for receipt of bids. The reply will be in the form of an addendum, a copy of which will be forwarded to known bidders no later than 2 Working Days before receipt of bids.

2.5 PRODUCT / SYSTEM OPTIONS

.1 Where Bid Documents stipulate a particular Product, requests for substitutions will not be considered by the Consultant less than 4 days before receipt of bids.

.2 When a request to substitute a Product is made, the Consultant may approve the substitution and will issue an Addendum to known bidders.

.3 When requesting a substitution to specified Products, include any changes required in the Work to accommodate such substitutions. A later claim by the bidder for an addition to the Contract Price resulting from changes in the Work necessitated by use of substituted Products will not be considered.

.4 Product or system substitutions recommended by Bidders at the time of receipt of bids may be considered by Consultant if submitted as an attachment to the Bid Form. Substitutions not approved in writing by the Consultant prior to the receipt of bids shall not be included in the base Bid Price. Refer to Section 01 25 00.

.5 Requests for Product or system substitutions submitted with the Bid Form will be evaluated and will be either included in, or excluded from, the Contract. The Consultant will be the sole judge as to their acceptability.

.6 Provide sufficient information to enable the Consultant to determine acceptability of such Product or system substitutions.

.7 Provide complete information on required revisions to other work to accommodate each Product or system substitution, the dollar amount of additions to or reductions from the Bid Price, including revisions to other work.

.8 Unless requests for substitutions are submitted prior to, or as part of the bid submission, and subsequently accepted, provide the specified Products.

.9 Prior approval to submit requests for substitutions is not required.

Part 3 Site Assessment

3.1 PRE-BID SITE EXAMINATION

.1 A non-mandatory pre-bid site examination at the school located at 3230 Woodward Avenue, Burlington ON L7N 3P1, will be held at **4:00 pm** local time on **Thursday March 20, 2025.**

.2 Only invited **General, Mechanical** or **Electrical** contractors may attend.

.3 Meet outside at the school's front entrance.

.4 No claims for extra payment to the successful Contractor will be allowed for the execution of additional work or difficulties encountered due to conditions at the Place of

the Work which were visible or reasonably inferred from an examination of the Place of the Work and the available project information prior to receipt of the Bids.

Part 4 Qualifications

4.1 INVITED GENERAL CONTRACTORS

.1 Allies Contracting
.2 Anacond Contracting Inc.
.3 Design 4 General Contracting Ltd.
.4 Golden Gate Contracting Inc.
.5 Kessab General Contracting Ltd.
.6 Norfield Construction Inc.
.7 Starfleet Construction
.8 TRP Construction

4.2 INVITED MECHANCIAL CONTRACTORS

.1 Anvi Services Ltd.
.2 Besseling Mechanical Inc.
.3 CEC Mechanical Ltd.
.4 Kirk Mechanical Ltd.
.5 L.J. Barton Mechanical Inc.
.6 Mattina Mechanical Ltd.
.7 Mechfield Canada
.8 Mekcon Mechanical Services

4.3 INVITED ELECTRICAL CONTRACTORS

.1 Best Electric Co.
.2 CEC Services
.3 Gremar Electrical Ltd.
.4 Indcon Inc.
.5 Elite Electrical
.6 JMR Electric
.7 L.J. Barton Inc.
.8 North Star Electric
.9 PHE Contractors

4.4 SUBCONTRACTORS

.1 The Owner reserves the right to reject a proposed Subcontractor for reasonable cause. Upon such rejection, the bidder will be required to propose an alternate subcontractor with a resulting change to the Bid Price. This change can effect the status of the low bid, and may result in a different bid becoming low.

.2 Refer to CCDC 3, GC 3.8 - Subcontractor and Supplier; and CCA 1, SCC 3.4 - Sub-subcontractors.

Part 5 Bid Submission

5.1 BID INELIGIBILITY

.1 Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind shall, at the discretion of the Owner, be declared non-compliant.

.2 Bids with Bid Forms and enclosures which are missing, incomplete or improperly prepared shall, at the discretion of the Owner, be declared non-compliant.

.3 Bids that fail to include the consent of surety (where applicable) or WSIB requirements shall, at the discretion of the Owner, be declared non-compliant.

.4 Bids based upon prices seeming to be so unbalanced as to adversely affect the interests of the Owner shall, at the discretion of the Owner, be declared non-compliant.

.5 Bids based upon an unreasonable period of time for completion of the Work shall, at the discretion of the Owner, be declared non-compliant.

5.2 SUBMISSIONS

.1 Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.

.2 Submit one copy of the properly executed offer on the Bid Forms provided, together with the required bid form supplements and attachments, in a closed opaque envelope, clearly identified with the:

.1 Project name and address,
.2 Owner's name and address,
.3 Bidder's name and address, and
.4 Relevant Contract or Subcontract number and title.

.3 Bidders wishing to submit prices for more than one Contract or Subcontract may do so on separate bid forms, submitted separately as described above. Do not combine information pertaining to multiple Contracts or Subcontracts on a single bid form.

.4 Subcontract bids must include the appropriate reference to the Subcontract number and title. Refer to Section 01 12 00 for the summary of Subcontract numbers and titles.

.5 An abstract of submitted bids will be made available to bidders following bid opening.

Part 6 Bid Enclosures and Requirements

6.1 CONSENT OF SURETY

.1 Subcontractors who are required to acquire bonding shall submit with the Bid Form a Consent of Surety, stating that the identified surety is willing to supply the Performance Bond and Labour & Materials Payment Bond required.

.2 Include the cost of the Consent of Surety in the Bid Price.

.3 General Contractors are to submit ‘Consent of Surety’ with the Bid Form stating that the identified surety is willing to supply the 50% Performance Bond and 50% Labour & Materials Payment Bond for a construction value of one million dollars ($1,000,000).

6.2 PERFORMANCE ASSURANCE

.1 Specified Subcontractors will be required to acquire and submit a Performance Bond and a Labour & Materials Payment Bond as described in the Supplementary Subcontract Conditions.

.2 Include the cost of bonds in the Bid Price.

6.3 WORKPLACE SAFETY AND INSURANCE BOARD

.1 Provide a signed confirmation from the Workplace Safety and Insurance Board (WSIB) that, at the date of the letter, the bidder maintains an account with the WSIB, and is in good standing.

6.4 TAXES

.1 Unless specifically excluded by the Contract, include all applicable government taxes in the base Bid Price.

.2 The General Conditions of the Contract specifically excludes Value Added Taxes, such as the Harmonized Sales Tax, from the Contract Price.

.3 Refer to Supplementary Conditions for inclusion of taxes and procedures for tax rebate claims by the Owner.

6.5 BID FORM REQUIREMENTS

.1 The bidder, in submitting an offer, agrees to complete the Work by the date indicated in the Contract Documents.

.2 The Owner requires that the Work be completed as quickly and expeditiously as possible.

6.6 BID SIGNING

.1 Sign and seal the Bid Form prior to submission using the most appropriate of the following methods:

.1 Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature.

.2 Partnership: Signature of all partners in the presence of a witness who will also sign.

.3 Limited Company: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the President and Secretary of the company, or the President-Secretary-Treasurer of the company, a copy of the by-law resolution of the Board of Directors authorizing them to do so, must also be submitted with the Bid in the Bid envelope.

.4 Joint Venture: Each party of the joint venture shall execute the Bid under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

6.7 SUPPLEMENTS TO THE BID FORM

.1 The following Bid Form Supplements must be submitted with the Bid:

.1 Bid Form Supplement A - List of Bid Documents: A complete listing of all documents and information issued, from which the Bid Price was derived.

6.8 SUPPLEMENTS TO THE SUBCONTRACT BID FORM

.1 The following Bid Form Supplements must be submitted with the Bid:

.1 Bid Form Supplement A - List of Bid Documents: A complete listing of all documents and information issued, from which the Bid Price was derived.

Part 7 Offer Acceptance Or Rejection

7.1 DURATION OF OFFER

.1 Bids shall remain open to acceptance and shall be irrevocable for a period of 60 days after the bid closing.

7.2 ACCEPTANCE OF OFFER

.1 The Owner reserves the right to accept or reject any or all offers.

.2 The Owner will award Contract C00 and Subcontract SC01 to the same bidder. In this instance, the lowest bidder will be determined by the aggregate sum of the Contractor's Fee identified for Contract C00 and the Subcontract Price for Subcontract SC01.

.3 The Owner reserves the right to negotiate with the lowest acceptable bidder to verify their Bid, undertake value engineering and consider the benefit of dividing the Work into multiple Subcontracts for the different Phases. The Owner may, at their sole discretion, reject a bid during such negotiations if sufficient information and cost breakdowns are not forthcoming within a reasonable time frame.

.4 After acceptance by the Owner, the Consultant, on behalf of the Owner, will issue to the successful bidder a written bid acceptance.

.5 After a bid has been accepted, all rejected bids will be returned to the respective bidders with submitted bid securities and other requested enclosures.

END OF SECTION

Part 1 General

1.1 THIRD-PARTY DOCUMENTS

.1 In addition to the Drawings and the Specifications, the Owner may also distribute a collection of reports, surveys and similar types of documents relevant to the Place of the Work that have been prepared by third-parties and are intended strictly as additional information for consideration by the bidders.

.2 Such reports have been prepared primarily for use by the Consultant. Recommendations contained therein are not considered a requirement of this Contract unless also stated as such, either specifically or by reference, in the Contract Documents.

.3 Bidders are cautioned that such documents, by their nature, cannot reveal all conditions that exist or can occur at the Place of the Work.

.4 Should conditions at the Place of the Work, in the opinion of the Consultant, be found to substantially vary from those identified in the third-party documents, then changes in the Work may need to be made, with appropriate adjustments being made to the Contract Price and Contract Time.

.5 Direct questions pertaining to third-party documents by contacting the authoring organization.

1.3 DESIGNATED SUBSTANCE SURVEYS AND AUDITS

.1 A copy of the existing building audits is available to bidders upon request.

.2 Such reports identify locations and types of designated substances present at the Place of the Work and may include recommendations for their safe removal and disposal.

1.4 DOCUMENTS DESCRIBING THE EXISTING FACILITY

.1 Documents describing the existing facility are available for viewing by bidders at the Owner's office.

.2 These documents were prepared by others and neither the Owner nor the Consultant can take responsibility for the accuracy of the information nor verify that they represent the actual conditions at the Place of the Work.

END OF SECTION

COST-PLUS FEE BID

Project No.: 24116

Project: Construction of the
RENOVATIONS TO
ASSUMPTION CATHOLIC SECONDARY SCHOOL

Located At: 3230 Woodward, Burlington, ON L7N 3P1

For: The Halton Catholic District School Board
802 Drury Lane, Burlington, Ontario L7R 2Y2

Bidder
Legal Name: _____
(Company Name)

Address: _____
(Business Address)

_____
(City, Province, Postal Code)

Bid Price

Having examined the Bid Documents as listed in Bid Form Supplement A, and Addenda No. _____to _____inclusive, all as issued by Hossack & Associates Architects and having visited the Place of the Work; we hereby offer to enter into a Contract to perform the Work required by the Bid Documents for the Cost of the Work, plus:

A fixed fee of: _____Dollars

and _____cents ($_____)

in Canadian funds, which price excludes Value Added Taxes (such as HST).

Appendices to Bid: This fee is to include the Cash Allowance amount outlined in Section 01 11 00 Summary of Work, item 1.37. When requested, information on Subcontractors, Unit Prices, Alternative Prices, Separate Prices and Itemized Prices is provided in the attached Appendices and forms an integral part of this Bid. These prices do not include Value Added Taxes.

Interest:
Should either party fail to make payments as they become due under the terms of the Contract or in an award by arbitration or court, interest payments on such unpaid amounts as stated in Article A-8 PAYMENT shall also become due and payable until payment. The prime rate shall be the rate of interest quoted by:

_____
(Insert name of chartered lending institution whose prime rate is to be used)

for prime business loans as it may change from time to time.

Declarations:

We hereby declare that:

(a) We agree to perform the Work in compliance with the required completion schedule stated in the Bid Documents;

(b) No person, firm or corporation other than the undersigned has any interest in this Bid or in the proposed Contract for which this Bid is made;

(c) This Bid is open to acceptance for a period of Sixty (60) days from the date of bid closing.

Signatures

SIGNED AND SUBMITTED for and on behalf of:

_____
(name of bidder)

_____
(signature)

_____ Witness
(name and title of person signing)

_____ _____
(signature) (signature)

_____ _____
(name and title of person signing) (name and title of person signing)

Date: _____

N.B. W here legal jurisdiction or Owner requirement calls for:
a) proof of authority to execute this Bid, attach such proof of such authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign this Bid for and on behalf of the Corporation or Partnership; or
b) the affixing of a corporate seal, this Bid should be properly sealed.

Project: Construction of the
RENOVATIONS TO
ASSUMPTION CATHOLIC SECONDARY SCHOOL

Located At: 3230 Woodward, Burlington, ON L7N 3P1

Bidder: _____
(Company Name)

LIST OF BID DOCUMENTS

The following is the list or description of the Bid Documents referred to in the Bid for the above named Project:

DRAWINGS: As listed on the Cover Sheet of the Drawings

SPECIFICATIONS: As listed in 00 01 10 - TABLE OF CONTENTS

ADDITIONAL INFORMATION: As described in Section 00 31 00 - AVAILABLE PROJECT INFORMATION.

STIPULATED PRICE SUBCONTRACT BID

Project No.: 24116

Subcontract No. SC -_____

Project: Construction of the
ASSUMPTION CATHOLIC SECONDARY SCHOOL

Located At: 3230 Woodward, Burlington, ON L7N 3P1

For: The Halton Catholic District School Board
802 Drury Lane, Burlington, Ontario L7R 2Y2

Subcontract Bidder
Legal Name: _____
(Company Name)

Address: _____
(Business Address)

_____
(City, Province, Postal Code)

Subcontract Bid Price

Having examined the Bid Documents as listed in Bid Form Supplement A, and Addenda No. _____to _____inclusive, all as issued by Hossack & Associates Architects Inc. and having visited the Place of the Work; we hereby offer to enter into a Subcontract to perform the Work of Subcontract SC-_____ required by the Bid Documents for the stipulated price of:

_____Dollars

and _____cents ($_____)

in Canadian funds, which price excludes Value Added Taxes (such as HST).

Interest:
Should either party fail to make payments as they become due under the terms of the Contract or in an award by arbitration or court, interest payments on such unpaid amounts as stated in Article A-8 PAYMENT shall also become due and payable until payment. The prime rate shall be the rate of interest quoted by:

_____
(Insert name of chartered lending institution whose prime rate is to be used)
for prime business loans as it may change from time to time.

Declarations:

We hereby declare that:

(a) We agree to perform the Subcontract Work in compliance with the required completion schedule stated in the Bid Documents, or if no schedule is stated, to attain Substantial Performance of the Subcontract Work within _____ weeks from commencement of the Work;

(b) No person, firm or corporation other than the undersigned has any interest in this Bid or in the proposed Contract for which this Bid is made;

(c) We agree to enter into a Subcontract Agreement, as identified in the Contract Documents, with the successful Contractor;

(d) This Bid is open to acceptance for a period of Sixty (60) days from the date of bid closing.

Signatures

SIGNED AND SUBMITTED for and on behalf of:

_____
(name of bidder)

_____
(signature)

_____ Witness
(name and title of person signing)

_____ _____
(signature) (signature)

_____ _____
(name and title of person signing) (name and title of person signing)

Date: _____

N.B. W here legal jurisdiction or Owner requirement calls for:

a) proof of authority to execute this Bid, attach such proof of such authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign this Bid for and on behalf of the Corporation or Partnership; or

b) the affixing of a corporate seal, this Bid should be properly sealed.

Project: Construction of the
RENOVATIONS TO
ASSUMPTION CATHOLIC SECONDARY SCHOOL

Located At: 3230 Woodward, Burlington, ON L7N 3P1

Subcontract Bidder: _____
(Company Name)

LIST OF BID DOCUMENTS

The following is the list or description of the Bid Documents referred to in the Bid for the above named Project:

DRAWINGS: As listed on the Cover Sheet of the Drawings

SPECIFICATIONS: As listed in 00 01 10 - TABLE OF CONTENTS

ADDITIONAL INFORMATION: As described in Section 00 31 00 - AVAILABLE PROJECT INFORMATION.

Part 1 General

1.1 AGREEMENT

.1 The CCDC 3-2016 Cost Plus Contract, as amended below, forms the basis of Agreement between the Owner and the Contractor.

1.2 AMENDMENTS TO THE AGREEMENT

.1 Article A-4 - Cost of the Work

.1 Delete Paragraph A-4.1 in its entirety and replace with the following: "The Cost of the Work, which excludes Value Added Taxes, shall be comprised of the stipulated sum costs of subsequently awarded Subcontracts, as nominated by the Owner, and the following:

.1 deposits lost;

.2 the costs to the Contractor that result from any Subcontractor's or Supplier's insolvency or failure to perform;

.3 royalties, patent license fees and damages for infringement of patents and cost of defending suits therefor subject always to the Contractor's obligations to indemnify the Owner as provided in paragraph 10.3.1 of GC 10.3 - PATENT FEES;

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

.5 legal costs, incurred by the Contractor, in relation to the performance of the Work provided that they are not caused by negligent acts or omissions of the Contractor and the Work is performed in accordance with the Contract Documents; and

.6 the cost of auditing when requested by the Owner.

Notwithstanding the foregoing and any provisions contained in the General Conditions of the Contract, it is the intention of the parties that the Cost of the Work referred to herein shall cover and include any and all contingencies other than those which are the result of or occasioned by any failure on the part of the Contractor to exercise reasonable care and diligence in the Contractor's attention to the Work. Any cost due to failure on the part of the Contractor to exercise reasonable care and diligence in the Contractor's attention to the Work shall be borne by the Contractor."

.2 Article A-5 - Contractor's Fee
.1 Delete Paragraph A-5.1.1 in its entirety.

.3 Article A-7 - Options
.1 Delete Paragraph A-7.2 in its entirety.
.2 Delete Paragraph A-7.3 in its entirety.

.4 Article A-8 - Payment
.1 Revise Subparagraph A-8.1.1 to insert the phrase "... make progress payments to Contractor subject to GC 5.4 - Progress Payment...".

END OF SECTION

Part 1 General

1.1 AGREEMENT

.1 The CCA 1-2008 Stipulated Price Subcontract, as amended below, forms the basis of Agreement between the Contractor and the Subcontractor.

1.2 AMENDMENTS TO THE AGREEMENT

.1 Delete Article 1B in its entirety.

.2 Delete Article 2B in its entirety.

.3 Delete Article 3B in its entirety.

.4 Article 5 - SUBCONTRACT PRICE, delete Paragraph 5.5 in its entirety.

.5 Article 6 - PAYMENT, Paragraph 6.2, Third Sentence; revise to read as follows: "The Contractor shall pay the Subcontractor, in accordance with the payment procedures required
by the Contract Documents, no later than thirty (30) days after the date of the Consultant's
certificate of payment, 90 percent of the amount applied for or such other amount as the Consultant determines to be properly due."

.6 Article 6 - PAYMENT, Paragraph 6.4; revise to read as follows: "... and for which the Contractor or Owner might in any way be held responsible ..."

.7 Article 6 - PAYMENT, Paragraph 6.4; delete Subparagraph 6.4.2 in its entirety.

END OF SECTION

Part 1 General

1.1 AGREEMENT

.1 The CCDC 3-2016 Cost Plus Contract, includes the Definitions of specific words and terms.

1.2 SUPPLEMENTARY DEFINITIONS

.1 Amend the Definition of the term Contract Documents by inserting the words "in writing" after the words "agreed upon".

.2 Amend the Definition of the term Contractor's Fee by adding the following: "... and including amounts for all overhead and profit, bond and insurance premiums, and any costs for labour and Products required by the Contractor to undertake portions of the Work identified in the Contract Documents and not included in an Owner-nominated Subcontract."

.3 Delete the Definition of the term Guaranteed Maximum Price ("GMP") in its entirety.

.4 Delete the Definition of the term Target Contract Price in its entirety.

.5 Add a new Definition for Bid Documents, as follows: "The Bid Documents shall consist of the Contract Documents, Instructions to Bidders, Bid Form, and other available project information issued for the benefit of bidders."

END OF SECTION

Part 1 General

1.1 AGREEMENT

.1 The CCA 1-2008 Stipulated Price Subcontract includes the Definitions of specific words and terms.

1.2 SUPPLEMENTARY SUBCONTRACT DEFINITIONS

.1 Add a new Definition for Bid Documents, as follows: "The Bid Documents shall consist of the Contract Documents, Instructions to Bidders, Bid Form, and other available project information issued for the benefit of bidders."

END OF SECTION

Part 1 General

1.1 GENERAL CONDITIONS

.1 CCDC 3-2016, The General Conditions of the Cost Plus Contract is the General Conditions between the Owner and Contractor.

1.2 SUPPLEMENTARY CONDITIONS

.1 Refer to Supplementary Conditions for amendments and supplements to the General Conditions.

END OF SECTION

Part 1 General

1.1 SUBCONTRACT CONDITIONS

.1 CCA 1-2008, The Subcontract Conditions of the Stipulated Price Subcontract are the Subcontract Conditions between the Contractor and the Subcontractors.

1.2 SUPPLEMENTARY SUBCONTRACT CONDITIONS

.1 Refer to Supplementary Subcontract Conditions for amendments and supplements to the Subcontract Conditions.

END OF SECTION

Part 1 Supplements to General Conditions

1.1 GC 1.1 - CONTRACT DOCUMENTS

.1 Delete Paragraph 1.1.8 and replace with the following: "The Contractor will be given two hard-copy sets and one electronic-copy set of the Contract Documents without charge. The Contractor may produce as many additional hard-copy sets of the Contract Documents from the electronic-copy as they deem necessary to undertake the Work, at their own expense."

.2 Add new Paragraph 1.1.11 as follows: "The location of fixtures, outlets, conduit, piping and any other locations shown or specified but not dimensioned shall be considered approximate. The actual location shall be as approved by the Consultant and as required to suit job conditions."

1.2 GC 2.2 - ROLE OF THE CONSULTANT

.1 Add new Subparagraph 2.2.7.1 as follows: "Verbal instructions, regardless of the source, will not be binding on the parties to the Contract, unless otherwise confirmed in writing by the Owner or the Consultant ."

1.3 GC 2.4 - DEFECTIVE WORK

.1 Add new Paragraph 2.4.3 as follows: "Where defective work or work not performed as provided in the Contract Documents is the responsibility of a Subcontractor or Supplier, the Contractor shall require the responsible Subcontractor or Supplier to Make Good the defective work or work not performed as provided in the Contract Documents so as to conform with the Contract Documents."

1.4 GC 3.2 - CONSTRUCTION BY OWNER OR OTHER CONTRACTORS

.1 Delete Paragraph 3.2.2 in its entirety.

.2 Add new Subparagraph 3.2.2.5 as follows: "Notify the Contractor no later than 2 Working Days prior to any other contractor or their own forces being on site. The Contractor will make all necessary arrangements to accommodate access and maintain compliance with applicable health and construction safety legislation at the Place of the Work".

.3 Revise Subparagraph 3.2.3.4 to read as follows: "Assume overall responsibility for the separate contractors and Owner's own forces and for compliance with applicable health and construction safety legislation at the Place of the Work".

1.5 GC 3.5 - CONSTRUCTION SCHEDULE

.1 Add new Paragraph 3.5.2 as follows: "Where portions of the Work are performed by Subcontractors or Suppliers, the Contractor shall coordinate with, and arrange for the Subcontractors and Suppliers to provide detailed construction schedules for their portion of the Work, to be submitted along with the construction schedule described herein."

.2 Add new Paragraph 3.5.3 as follows: "No change in Contract Time resulting from a change in the Work will be accepted, if, in the Consultant's opinion, such change in the Work can reasonably be accommodated within the approved schedule."

.3 Amend Paragraph 3.5.1.1 by deleting the phrase "... the first application for payment ..." and replacing it with "... commencing the work ...".

1.6 GC 3.7 - SUBCONTRACTORS AND SUPPLIERS

.1 Revise Subparagraph 3.7.1.1 to read as follows: "enter into contracts or written agreements with Subcontractors or Suppliers, including those nominated by the Owner, to require them to perform their work as provided in the Contract Documents;

.1 The Consultant will prepare the written agreements between the Contractor and each Subcontractor or Supplier, based upon a modified CCA 1-2008, Stipulated Price Subcontract, similar in content and intent of this Contract."

.2 Add new Subparagraph 3.7.1.4 as follows: "immediately notify the Consultant of any acts or omissions of Subcontractors or Suppliers and of persons directly or indirectly employed by them."

.3 Add new Subparagraph 3.7.2.1 as follows: "The Contractor shall not change or terminate Subcontractors or Suppliers without the prior written permission of the Owner."

.4 Add new Paragraph 3.7.6 as follows: "The Owner may direct the Contractor to terminate the contract of a Subcontractor or Supplier and the Owner shall nominate a replacement Subcontractor or Supplier to complete that part or portion of the Work. The Contractor shall enter into a contract with the nominated Subcontractor or Supplier for the completion of that portion of the Work. In the event of such an instance, the Contract Time and the Contractor's Fee is to be adjusted by an appropriate amount. The Contractor may reasonably refuse to terminate the contract of a Subcontractor or Supplier if to comply with the Owner's direction would result in a breach of any of the Contractor's obligations under GC 9.4 - CONSTRUCTION SAFETY."

.5 Add new Paragraph 3.7.7 as follows: "The Contractor shall involve the Consultant in any communications with the Subcontractors or Suppliers related to GC 3.5 – CONSTRUCTION SCHEDULE and PART 6 - CHANGES IN THE WORK. The Consultant may discuss issues directly with the Subcontractors and Suppliers related to GC 3.5 – CONSTRUCTION SCHEDULE and PART 6 - CHANGES IN THE WORK , however, the Consultant shall not direct or supervise the Work."

.6 Add new Paragraph 3.7.8 as follows: "The Contractor shall enter into contracts or written agreements with Subcontractors for the Subcontracts identified in the Contract Documents. Such Subcontractors may be union or non-union affiliated. The Contractor shall not be party to any agreement that would prevent them from entering into such Subcontracts."

1.7 GC 3.8 - LABOUR AND PRODUCTS

.1 Add new Paragraph 3.8.3 as follows: "The Contractor will cooperate with the Owner to avoid labour complications and will employ workers whose presence and work will be acceptable to, and be in harmony with, other workers employed on the Work, and under

conditions satisfactory to the Owner. In the event of labour difficulties resulting from the employment of workers by the Contractor or by the presence of the Contractor on the Project, the Contractor will make any necessary arrangements as required by the Owner in order to prevent delays and additional expense to the Owner."

.2 Add new Paragraph 3.8.4 as follows: "The Contractor is responsible for the safe on-site storage of Products and their protection (including Products supplied by the Owner) in such a way to avoid dangerous conditions or contamination to the Products or other person or property."

1.8 GC 4.1 - CASH ALLOWANCES

.1 Delete Paragraph 4.1.1 in its entirety.

.2 Revise Paragraph 4.1.6 by deleting the phrase "... and the Guaranteed Maximum Price ...".

.3 Add new Paragraph 4.1.8 as follows: "Unexpended Cash Allowances will be deducted from the Contract Price."

1.9 GC 5.2 - ACCOUNTING AND AUDIT

.1 Revise Paragraph 5.2.1 by replacing the phrase "... Cost of the Work as in accordance with Article A-3 - CONTRACT DOCUMENTS." with "... payments under the Contract."

.2 Revise Paragraph 5.2.2 by replacing the phrase "... Cost of the Work ..." with "... payments under the Contract ...".

1.10 GC 5.3 - APPLICATIONS FOR PROGRESS PAYMENT

.1 Revise Paragraph 5.3.1 to read as follows: "The Contractor shall make monthly applications for payment on account as provided in Article A-8 of the Agreement - PAYMENT as the Work progresses."

1.11 GC 5.4 - PROGRESS PAYMENT

.1 Revise Subparagraph 5.4.1.3 to read as follows: "The Owner shall make payment to the Contractor on account as provided in Article A-8 of the Agreement - PAYMENT no later than fourteen calendar days after the date of a certificate for payment by the Consultant."

.2 Add a new Paragraph 5.4.2 as follows: "The Contractor shall make payments to the Subcontractors and Suppliers in the amounts certified as payable by the Consultant, no later than twenty calendar days after the date of the certificate for payment."

1.12 GC 5.5 - SUBSTANTIAL PERFORMANCE OF THE WORK

.1 Add new Paragraph 5.5.4 as follows: "The Contractor's application for a Certificate of Substantial Performance of the Work shall, without limiting the foregoing, include the following:

.1 A written statement to the Owner and the Consultant stating that:

.1 The Contract is substantially performed,

.2 The performance of the balance of the Contract is in process, and identifying the date when this Work will be completed. Where portions of the Contract can not be completed forthwith for reasons beyond the Contractor's control, the Contractor shall indicate completion dates for each outstanding portion of the Work."

.2 A statement showing the amount of holdback monies due for release and payment following the issue of the Certificate of Substantial Performance of the Work.

.3 A statement of completion with the cost value of:

.1 the portion of the Work to be completed, including any defective work or work not performed as provided in the Contract Documents.

.2 portions of the Work which can not be performed for reasons beyond the control of the Contractor.

.4 The submission of all data, operating instructions, maintenance manuals, record drawings, spare parts and materials, evidence of all tests, instructions to Owner's representatives, warranties and any other such documents to enable the Owner to operate and maintain the Project."

.2 Add new Paragraph 5.5.5 as follows: "When making an application for Substantial Performance of the Work, the Contractor shall submit to the Consultant all specified warranties, bonds, maintenance manuals, records, certificates and a Statutory Declaration in a form acceptable to the Consultant, signed by the Contractor, stating that all material, work and services in connection with the Contract have been paid in full, up to the holdback, and that no liens exist, including a receipt from each Subcontractor and Supplier, stating that it has been paid in full up to the holdback for all services and materials supplied in connection with this Contract, and such other statements as the Owner and Consultant may require."

1.13 GC 5.8 - FINAL PAYMENT

.1 Revise Paragraph 5.8.4 by replacing the words "... five calendar days ..." to read "... fourteen calendar days ...".

.2 Add new Paragraph 5.8.5 as follows: "Subject to the lien legislation applicable to the Place of the Work, the Contractor shall make payments to the Subcontractors and Suppliers in the amounts certified as payable by the Consultant, no later than twenty calendar days after the date of the certificate for payment."

1.14 GC 6.2 - CHANGE ORDER

.1 Revise Paragraph 6.2.1 by deleting the phrase "... GMP or the Target Contract Price; ..." and replacing it with "... Contract Price; ...".

.2 Revise Paragraph 6.2.2 by deleting the phrase "... GMP, Target Contract Price, ..." and replacing it with "... Contract Price ...".

.3 Add new Paragraph 6.2.3 as follows: "The value of a change to the Contractor's Fee shall be charged as a percentage of the actual increase to the Cost of the Work, as follows:

.1 On additional work performed by the Contractor's own forces: 5 percent;

.2 On additional work performed by Owner-Nominated Subcontractors and Suppliers: 0 percent; and

.3 On additional work performed by Contractor-appointed Subcontractors and Suppliers: 5 percent."

1.15 GC 6.3 - CHANGE DIRECTIVE

.1 Revise paragraph 6.3.1 by deleting the phrase "... in the GMP, in the Target Contract Price, ..." and replacing it with "... in the Contract Price, ...".

.2 Revise paragraph 6.3.7 by deleting the phrase "... to the GMP, to the Target Contract Price, ..." and replacing it with "... to the Contract Price, ...".

.3 Add new Paragraph 6.3.8 as follows: "The value of a change to the Contractor's Fee shall be charged as a percentage of the actual increase to the Cost of the Work, as follows:

.1 On additional work performed by the Contractor's own forces: 5 percent;

.2 On additional work performed by Owner-Nominated Subcontractors and Suppliers:0 percent; and

.3 On additional work performed by Contractor-appointed Subcontractors and Suppliers: 5 percent."

1.16 GC 7.2 - CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

.1 Add new Paragraph 7.2.6 as follows: "If the Contractor stops the Work or terminates the Contract as provided for in the preceding paragraphs, he shall ensure that the Place of the Work and the Work are left and maintained in a secure and safe condition as required by authorities having jurisdiction and these Contract Documents."

1.17 GC 9.1 - PROTECTION OF WORK AND PROPERTY

.1 Add new Paragraph 9.1.5 as follows: "Should there be a stoppage of the Work, for any cause, the Contractor shall assume all responsibility for protecting the Work and Provide and maintain security to the Work and the Place of the Work during such periods, with appropriate adjustments being made to the Contractor's Fee and Contract Time when it can be proven that the stoppage of the Work was not caused by any action or lack of action on the part of the Contractor."

1.18 GC 9.4 - CONSTRUCTION SAFETY

.1 Amend Paragraph 9.4.1 by deleting the phrase "Subject to paragraph 3.2.3.4 of GC 3.2 - CONSTRUCTION BY OWNER OR OTHER CONTRACTORS".

.2 Add new Paragraph 9.4.2 as follows: "The Contractor shall comply and cause all of its subcontractors and Suppliers to comply with all applicable provisions, requirements, and safety standards of the Ontario Occupational Health and Safety Act and regulations thereto.

The Contractor shall be designated and hereby accepts the responsibilities and designation as "constructor" under the Occupational Health and Safety Act on the project and hereby assumes all liabilities and obligations imposed on a "constructor" by the Occupational Health and Safety Act".

.3 Add new Paragraph 9.4.3 as follows: "Prior to commencement of the Work, the Contractor shall submit to the Owner:

.1 Documentation of a valid Workplace Safety and Insurance Board clearance certificate and confirmation of the Contractor's WSIB CAD-7 performance rating.

.2 Documentation of the Contractor's insurance coverage.

.3 Documentation of the Contractor's safety-related programs for the Project.

.4 A copy of the Notice of Project filed with the Ministry of Labour."

.4 Add new Paragraph 9.4.4 as follows: "The Contractor hereby represents and warrants to the Owner that appropriate health and safety instruction and training has been provided and will be provided to the Contractor's employees before the Work is commenced and agrees to provide to the Owner and Consultant satisfactory proof of such instruction and training. The Contractor further undertakes to verify that other contractors and the Owner's own forces have received appropriate health and safety instruction and training in accordance with GC 3.2."

.5 Add new Subparagraph 9.4.4.1 as follows: "The Contractor shall require proof from the Subcontractors and Suppliers that appropriate health and safety instruction and training has been provided to the Subcontractor's and Supplier's employees before the Work is commenced. This information will be kept on file at the site."

.6 Add new Paragraph 9.4.5 as follows: "The Contractor shall tour the appropriate area to familiarize itself with the job site prior to the commencement of the Work",

.7 Add new Paragraph 9.4.6 as follows: "The Contractor shall never work in a manner that may endanger anyone".

.8 Add new Paragraph 9.4.7 as follows: "The Contractor shall indemnify and save harmless the Owner, together with the Owner's agents, officers, directors, employees, consultants, successors and assigns, from and against any and all safety infractions under the Ontario Occupational Health and Safety Act, and regulations thereto including the payment of all legal fees on a solicitor and client basis."

.9 Add new Paragraph 9.4.8 as follows: "The Contractor shall ensure that its employees, Subcontractors and Suppliers comply with the foregoing conditions".

1.19 GC 10.1 - TAXES AND DUTIES

.1 Add new Paragraph 10.1.2 as follows: "With respect to taxes and duties, the Contractor shall, at the request of the Owner, assist, join in, or at the Owner's expense, make application on behalf of the Owner for any exemption, recovery or refund. The Contractor shall provide the Owner with copies, or, where required original of records, invoices, purchase orders or other documentation as may be necessary to support such application."

.2 Add new Paragraph 10.1.3 as follows: "Any amount included in the Contract or any Subcontract for tax or duty, whether or not paid, which is found to be inapplicable or for which a refund is obtained shall become the sole and exclusive property of the Owner."

1.20 GC 10.2 - LAWS, NOTICES, PERMITS & FEES

.1 Add to Paragraph 10.2.2 as follows: “The Contractor shall take all necessary steps to obtain the occupancy permit, including delivering any notice of completion of the building required by the authorities having jurisdiction.”

.2 Add new Paragraph 10.2.8 as follows: "The Contractor's or its Subcontractor's or Supplier's compliance with statutes or regulations made thereunder or by-laws shall not relieve them of obligations set out in the Contract Documents which may be more extensive than the requirements of those statutes, regulations or by-laws."

1.21 GC 11.1 - INSURANCE

.1 Delete Subparagraph 11.1.1.1 in its entirety and replace with the following: "General liability insurance shall be in the joint names of the Contractor, the Owner, the Consultant, and any and all Subcontractors and subconsultants involved in the Work, with limits not less than $5,000,000 per occurrence and with a property damage deductible not exceeding $5,000. The insurance coverage shall include at least the following extensions: Premises, Property and Operations; Occurrence basis, Owners/Contractors protective, Products and Completed Operations; Blanket Contractual; Employees as Additional Insureds; Broad Form Property Damage; Broad Form Loss of Use; Personal Injury; Incidental Malpractice; Contingent Employers Liability; Cross Liability/Severability of Interests; Non-Owned Automobile Liability including Endorsement Form 96; Intentional Injury to protect persons or property, X-plate/unlicensed/specially licensed vehicles; Attached Machinery; Hostile fire exception to any pollution exclusion; Voluntary Medical Payments. To achieve the desired limit, umbrella or excess liability insurance may be used. All liability coverage shall be maintained for the completed operations hazard from the date of Substantial Performance of the Work, for 24 months following. The Policy shall be endorsed to provide the named insured with not less than 30 days notice in writing in advance of any cancellation or change or amendmentrestricting coverage."

.2 Delete Subparagraph 11.1.1.2 in its entirety.

.3 Delete Subparagraph 11.1.1.3 in its entirety.

.4 Delete Subparagraph 11.1.1.4 in its entirety.

.5 Delete Subparagraph 11.1.1.5 in its entirety.

.6 Delete Subparagraph 11.1.1.6 in its entirety.

.7 Delete Subparagraph 11.1.1.7 in its entirety.

.8 Add new Paragraph 11.1.7 as follows: "Notwithstanding the fact that a claim has been made under any insurance policy described in GC 11.1, the Contractor shall continue to perform its obligations under the Contract ."

1.22 GC 12.3 - WARRANTY

.1 Add new Paragraph 12.3.7 as follows: "Should the Work be delayed due to conditions beyond the control of the Contractor, the warranty period shall commence at the time of acceptance of the Work by the Owner."

.2 Add new Paragraph 12.3.8 as follows: "Where warranty repairs on such parts or portions of the Work become necessary, the Consultant will notify the Contractor which Subcontractor or Supplier is responsible to rectify the defective work or work not performed as provided in the Contract Documents."

END OF SECTION

Part1 Supplements to Subcontract Conditions

1.1 SCC 1.1 – DOCUMENTS

.1 Delete Subparagraph 1.1.7.2 in its entirety.

.2 Revise Paragraph 1.1.8 as follows: "The Consultant shall provide the Subcontractors, without charge, ..."

.3 Add new Paragraph 1.1.9 as follows: "The location of fixtures, outlets, conduit, piping and any other locations shown or specified but not dimensioned shall be considered approximate. The actual location shall be as approved by the Consultant and as required to suit job conditions."

1.2 SCC 2.2 - REVIEW AND INSPECTION OF THE WORK

.1 Revise Paragraph 2.2.2 as follows: "... the Subcontractor shall give the Contractor and Consultant timely notice requesting inspection."

1.3 SCC 2.3 - DEFECTIVE WORK

.1 Revise Paragraph 2.3.1 as follows: "The Subcontractor shall within 5 Working Days remove from the Place of the Work and Make Good defective work that has been rejected by the Contractor or Consultant as failing to conform to the Contract Documents ...".

1.4 SCC 3.4 - SUB-SUBCONTRACTORS

.1 Revise Subparagraph 3.4.1.3 as follows: "be as fully responsible to the Contractor, Owner and Consultant for acts and omissions of Sub-Subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the Subcontractor."

.2 Revise Paragraph 3.4.6 as follows: "The Contractor or Consultant may provide to a Sub-Subcontractor information as to the percentage ...".

1.5 SCC 3.5 - SHOP DRAWINGS

.1 Revise Paragraph 3.5.2 as follows: "The Consultant shall determine the number of copies of Shop Drawings ...the Subcontractor shall notify the Contractor and Consultant in writing of any deviations ...".

1.6 SCC 3.7 - CUTTING AND REMEDIAL WORK

.1 Revise Paragraph 3.7.3 as follows: "... nor alter the work of any others without the Contractor's and Consultant's written consent, where such member, existing work or other work is apparent from the Subcontract Documents, reasonable examination or instruction of the Consultant."

.2 Add a new Paragraph 3.7.6 as follows: “Each Subcontractor shall make allowances in his own work to accommodate other Subcontractor's work. The Contractor shall coordinate the cutting and remedial work amongst Subcontractors such that all pieces come together

properly."

1.7 SCC 4.1 - CASH ALLOWANCES

.1 Revise Paragraph 4.1.3 to read as follows: "Expenditures under cash allowances shall be authorized by the Consultant."

1.8 SCC 5.1 - APPLICATIONS FOR PAYMENT

.1 Revise Paragraph 5.1.2 as follows: "The Subcontractor shall submit to the Contractor for the Consultant's approval before the first application ..."

.2 Revise Paragraph 5.1.3 as follows: "... supported by such evidence as the Consultant may reasonably direct and when accepted by the Contractor, with the approval of the Consultant, shall ..."

.3 Add new Paragraph 5.1.6 as follows: "Each application for payment must include the Subcontractor's GST Registration number."

.4 Add new Paragraph 5.1.7 as follows: "The Subcontractor shall submit with every application for payment, a "Certificate of Standing" from the Workplace Safety & Insurance Board (WSIB) stating that the Subcontractor has complied with the requirements of the Workers' Compensation Act and is in good standing as of the date of the Certificate."

1.9 SCC 6.1 - CONTRACTOR'S RIGHT TO MAKE CHANGES

.1 Revise Paragraph 6.1.1 as follows: "The Contractor, with the approval of the Consultant, and without invalidating the Subcontract, may make changes ...".

.2 Add new Paragraph 6.1.3 as follows: "The Subcontractor shall respond to requests for information pertaining to Changes within 10 Working Days of receipt of such requests."

1.10 S CC 6.2 - CHANGE ORDER

.1 Revise Paragraph 6.2.2 as follows: "When the Contractor, with the approval of the Consultant, and the Subcontractor agree ..."

.2 Add new Paragraph 6.2.3 as follows: "The value of a change shall be determined by actual credits and cost to the Subcontractor. Where additional work is required, the value of the change shall be the actual cost plus a percentage covering overhead and profit, after all credits included in the change have been deducted. The following percentage fee for overhead and profit shall be applied to additional work:

.1 On work performed by the Subcontractor's own forces: the Subcontractor may charge a maximum of 5 percent combined percentage for overhead and profit;

.2 On work performed by Sub-Subcontractors, the Sub-Subcontractors may charge a maximum of 5 percent combined percentage for overhead and profit; and

.3 On work performed by Sub-Subcontractors, the Subcontractor may charge a maximum of 5 percent combined percentage for overhead and profit on work performed by the Sub-Subcontractors."

1.11 SCC 6.3 - CHANGE DIRECTIVE

.1 Revise Paragraph 6.3.1 as follows: Insert "... prior to the Contractor receiving the approval of the Consultant..."

.2 Revise Paragraph 6.3.6 as follows: "The value of a change shall be determined by actual credits and cost to the Subcontractor. Where additional work is required, the value of the change shall be the actual cost plus a percentage covering overhead and profit, after all credits included in the change have been deducted. The following percentage fee foroverhead and profit shall be applied to additional work:

.1 On work performed by the Subcontractor's own forces: the Subcontractor may charge a maximum of 5 percent combined percentage for overhead and profit;
.2 On work performed by Sub-Subcontractors, the Sub-Subcontractors may charge a maximum of 5 percent combined percentage for overhead and profit; and
.3 On work performed by Sub-Subcontractors, the Subcontractor may charge a maximum of 5 percent combined percentage for overhead and profit on work performed by the Sub-Subcontractors."

.3 Revise Subparagraph 6.3.7.1 as follows: "... under a salary or wage schedule approved by the Contractor and the Consultant, or in the absence ..."

.4 Revise Paragraph 6.3.12 as follows: "If the Contractor, does not have the approval of the Consultant or the Contractor and the Subcontractor do not agree ...".

.5 Revise Paragraph 6.3.13 as follows: "When the Contractor, with the approval of the Consultant, and the Subcontractor reach an agreement on the adjustment to the Subcontract Price and to the Subcontract Time...."

1.12 SCC 6.4 - CONCEALED OR UNKNOWN CONDITIONS

.1 Revise Paragraph 6.4.1 as follows: "... shall notify the other party and the Consultant ...".

.2 Revise Paragraph 6.4.2 as follows: "The Contractor and the Consultant will promptly investigate such conditions and the Consultant will make a finding.... "

.3 Revise Paragraph 6.4.3 as follows: "If the Consultant finds that the conditions ... are not materially different ... the Consultant shall report the reasons for his finding to the Contractor and Subcontractor in writing."

1.13 SCC 6.5 – DELAYS

.1 Revise Paragraph 6.5.1 as follows: "... then the Subcontract Time shall be extended for such reasonable time as the Contractor, with the approval of the Consultant and the Subcontractor shall agree that the Subcontract Work was delayed. The Subcontractor shall be reimbursed for reasonable costs incurred by the Subcontractor as a result of such delay."

.2 Revise Paragraph 6.5.2 as follows: "... then the Subcontract Time shall be extended for such reasonable time as the Contractor, with the approval of the Consultant and Subcontractor shall agree that the Subcontract Work was delayed. The Subcontractor shall be reimbursed for reasonable costs incurred by the Subcontractor as a result of such delay."

.3 Revise Paragraph 6.5.4 as follows: "... unless notice in writing of claim is given to the Contractor and Consultant not later than ...".

.4 Revise Paragraph 6.5.5 as follows: "... no request for extension shall be made as a result of failure of the Contractor or Consultant to furnish instructions ...".

1.14 SCC 7.2 - SUBCONTRACTOR'S RIGHT TO STOP THE SUBCONTRACTS WORK OR TERMINATE THE SUBCONTRACTS

.1 Revise Paragraph 7.2.1 as follows "...terminate the Subcontract and such notice shall be provided to the Consultant."

.2 Revise Paragraph 7.2.2 as follows: "...terminate the Subcontract and such notice shall be provided to the Consultant."

.3 Revise Paragraph 7.2.3 to read as follows: "The Subcontractor may notify the Contractor in writing that the Contractor is in default of their contractual obligation if payment is not received as stated in Article 4 of the Subcontract Agreement - PAYMENT and the Subcontractor shall provide a copy of such notice to the Consultant"

.4 Revise Paragraph 7.2.4 by deleting the phrase "... to the Contractor ...". Add a new Sentence to read as follows: "The Owner may remedy the Contractor's default and the Subcontractor agrees to continue to complete the Subcontract Work for the Owner or a new Contractor nominated by the Owner".

1.15 SCC 9.2 - TOXIC OR HAZARDOUS SUBSTANCES AND MATERIALS

.1 Revise the last sentence in Paragraph 9.2.2 as follows: "The expert's report shall be delivered o the Consultant, the Contractor and the Subcontractor."

.2 Revise Subparagraph 9.2.3.3 as follows: "extend the Subcontract Time for such reasonable time as the Contractor, with the approval of the Consultant, and in consultation with the Subcontractor ...".

1.16 SCC 9.4 - CONSTRUCTION SAFETY

.1 Add new Paragraph 9.4.2 as follows: "Prior to commencement of the Work, the Subcontractor shall submit to the Contractor:

.1 Documentation of a valid Workplace Safety and Insurance Board clearance certificate and confirmation of the Subcontractor's WSIB CAD-7 performance rating.
.2 Documentation of the Subcontractor's insurance coverage.
.3 Documentation of the Subcontractor's safety-related programs for the Project.
.4 A copy of the Subcontractor's Form of Notification."

1.17 SCC 9.5 – MOULD

.1 Revise the last sentence in Subparagraph 9.5.1.3 as follows: "The expert's report shall be delivered to the Consultant, the Contractor and the Subcontractor."

.2 Revise Subparagraph 9.5.2.3 as follows: "extend the Subcontract Time for such reasonable time as the Contractor, with the approval of the Consultant, and in consultation with the Subcontractor ...".

1.18 SCC 10.1 - TAXES AND DUTIES

.1 Add new Paragraph 10.1.3 as follows: "With respect to taxes and duties, the Subcontractor shall, at the request of the Contractor, assist, join in, or at the Contractor's expense, make application on behalf of the Contractor for any exemption, recovery or refund. The Subcontractor shall provide the Contractor with copies, or, where required original of records, invoices, purchase orders or other documentation as may be necessary to support such application."

.2 Add new Paragraph 10.1.4 as follows: "Any amount included in the Subcontract for tax or duty, whether or not paid, which is found to be inapplicable or for which a refund is obtained shall become the sole and exclusive property of the Contractor."

1.19 SCC 10.2 - LAWS, NOTICES, PERMITS & FEES

.1 Revise Paragraph 10.2.5 as follows: "... the Subcontractor shall notify the Contractor and Consultant in writing requesting direction immediately upon such variance or change becoming known. The Consultant will make the changes required to the Contract Documents...".

.2 Revise Paragraph 10.2.6 as follows: "If the Subcontractor fails to notify the Contractor and the Consultant in writing; and ...".

.3 Add new Paragraph 10.2.8 as follows: "The Contractor's and Subcontractor's compliance with statutes or regulations made thereunder or by-laws shall not relieve them of obligations set out in the Contract Documents which may be more extensive than the requirements of those statutes, regulations or by-laws."

1.20 SCC 11.1 – INSURANCE

.1 Revise Paragraph 11.1.1 as follows: "Without restricting the generality of SCC 12.1 - INDEMNIFICATION, the Contractor will arrange for a project specific 'Wrap-up Liability' policy in the amounts of not less than $5,000,000 per occurrence with a property damage deductible not exceeding $5,000 on behalf of, and indemnification of the Owner, the Consultants, the Contractor, the Subcontractors, and any other parties as instructed by the Owner. The Subcontractor shall be responsible for the following insurance policies:

.1 "Subcontractor's Equipment Insurance covering construction machinery and equipment used by the Subcontractor for the performance of the Work. Such insurance shall be on an 'all risks' basis and be endorsed to provide the Consultant

and the Owner with not less than 30 days notice in writing in advance of any cancellation, and of any change or amendment restricting coverage.

.2 "Automobile liability insurance in respect of licensed vehicles with limits of not less than $5,000,000 inclusive per occurrence for bodily injury, death and damage to property, and covering all licensed vehicles owned or leased by the Subcontractor. This automobile liability insurance shall be endorsed to provide the Consultant and the Owner with not less than 30 days notice in writing in advance of any cancellation, and of any change or amendment restricting coverage. Where the policy has been issued pursuant to a government-operated automobile system, the Subcontractor shall provide the Owner with confirmation of automobile insurance coverage for all automobiles registered in the name of the Subcontractor."

1.21 SCC 11.2 - CONTRACT SECURITY

.1 Delete Paragraph 11.2.2 in its entirety.

.2 Add new Paragraph 11.2.3 as follows: "Those Subcontractors listed in Paragraph 11.2.5 shall provide a Performance Bond in the joint names of the Contractor and the Owner (as dual obligees) for Fifty Percent (50%) of the Subcontract Price, to assure the faithful performance of the Contract, including corrections to the Work required under GC 12.2 - Warranty; on
Performance Bond Form, CCDC 221."

.3 Add new Paragraph 11.2.4 as follows: "Those Subcontractors listed in Paragraph 11.2.5 shall also provide a Labour and Material Payment Bond in the joint names of the Contractor and the Owner (as dual obligees) for Fifty Percent (50%) of the Subcontract Price, to assume faithful payment of monies by the Subcontractor to its suppliers of labour and material ; on
Labour and Material Payment Bond Form, CCDC 222."

.4 Add new Paragraph 11.2.5 as follows: "The following Subcontractors are to provide the specified bonding:

.1 SC02 - Mechanical, and

.2 SC03 - Electrical."

1.22 SCC 12.1 – INDEMNIFICATION

.1 Add new Paragraph 12.1.7 as follows: "The Subcontractor shall indemnify and hold harmless the Contractor, the Owner, and the Consultant, their agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings (hereinafter called "claims"), suffered or incurred on account of any obligation or a provision in the Subcontract Documents, or attributable to, the Subcontractor's performance of the Subcontract. The Subcontractor assumes towards the Contractor all the obligations and responsibilities that Contractor assumes towards Owner as set forth in the Contract Documents, insofar as applicable, generally or specifically, to the materials to be furnished and the Work to be performed under this Subcontract".

1.23 SCC 12.3 – WARRANTY

.1 Add new Paragraph 12.3.7 as follows: "Should the Work be delayed due to conditions beyond the control of the Subcontractor, the warranty period shall commence at the time of acceptance of the Work by the Owner."

END OF SECTION

Part 1 General

1.0 SECTION INCLUDES

1.1 Precedence
1.2 Relations of Trades
1.3 Additional Drawings
1.4 Existing Site Conditions
1.5 Work within an Existing Occupied Building
1.6 Construction Sequencing
1.7 Temporary Construction Fencing
1.8 Contractor Parking
1.9 Bylaws, Permits and Approvals
1.10 Organization
1.11 Seismic Design Requirements
1.12 Canadian Products and Local Labour
1.13 Materials and Workmanship
1.14 Quality Control
1.15 Protection of Other Work
1.16 Fastenings
1.17 Supply and Install
1.18 Occupation Before Completion
1.19 General Requirements
1.20 Coordination
1.21 Access to the Project
1.22 Subtrade Awards
1.23 Safety Data Sheets
1.24 Regulating Documents
1.25 Site Superintendents and Project Managers
1.26 General Contractor's Responsibilities
1.27 Manufacturers' Instructions
1.28 Air and Vapour Seal
1.29 Fire Safety
1.30 Construction Safety
1.31 Independent Tests and Inspections
1.32 Periodic Cleaning
1.33 Temporary Protection
1.34 Completion
1.35 Guarantees
1.36 Contingency Allowance
1.37 Cash Allowances
1.38 Allowances Carried in Divisions 15 and 16
1.39 Schedule of Allowances
1.40 Polychlorinated Biphenyl (PCB)
1.41 Use of Consultant's Digital Drawings
1.42 Building Dimensions
1.43 Setting of the Work & Required Surveys
1.44 Layout of Work
1.45 Documents Required: Start, During & Close Out.

1.1 PRECEDENCE

.1 This Section contains Articles prepared which represent the Owner standards and policies. In all cases this Section is intended to be read in conjunction with and to coordinate with all other Sections. In the case of discrepancy between this Section and other Sections to more stringent Articles of any applicable Section shall apply.

1.2 RELATIONS OF TRADES

.1 The Contract Specifications have been generally divided into trade sections for the purpose of ready reference.

.2 The Contractor is responsible for coordinating all trades. He is solely responsible for determining the lines of demarcation between Contractor and/or trades. Neither the Consultant nor the Owner, assume any responsibility for any such determination or for any dispute arising concerning it. No extras will be considered due to any such dispute concerning either labour or materials.

.3 Specifications and drawings form an integral part of the Contract Documents. Any subject or item omitted from one, but which is mentioned or reasonably implied in the other, shall be considered as properly and sufficiently specified and will be part of the Work.

1.3 ADDITIONAL DRAWINGS

.1 Consultant may furnish additional drawings to assist proper execution of the Work. These drawings will be issued for clarification only. Such drawings, however, shall have the same meaning and intent as if they were included with plans referred to in the Contract Documents.

1.4 EXISTING SITE CONDITIONS

.1 Existing photos have been provided for convenience only. Refer to Section 02 10 00. It remains the Contractor's responsibility to examine the site during the tender period. A site meeting has been arranged as noted in the tender documents.

.2 Ascertaining the specific site and building conditions as they relate to the project is the responsibility of the contractor. Notwithstanding this overriding responsibility the consultant has made every effort to properly represent existing site conditions as they are evident at the time of tender.

.3 The Contractor shall assume the work site based on the existing conditions as shown on the drawings and visible on the job site at the time of the closing of the tender.

1.5 WORK WITHIN AN EXISTING OCCUPIED BUILDING

.1 Refer also to *Section 01 35 23 – 'Site Safety Protocol for Occupied Buildings'*.

.2 The contractor is reminded that work to these projects shall begin during the months of the active school year. Access restrictions to portions of the work apply and are outlined within this section under Construction Sequencing. Therefore, precise scheduling and sequencing of the various work areas is required as addressed herein. Refer also to drawings for locations as described.

.3 At all times it is the Owner of the school who is the authority responsible for the well-being of the school occupants. As such, the Contractor's Site Superintendent must establish a working rapport with the Owner or his/her designee, suitable to provide daily notification of proposed construction timing and activities.

.4 During the occupied school year absolutely no contracting personnel are allowed in the school building during operating hours other than in those work areas designated within this Section under Construction Sequencing, or by express permission of the Owner and under the direct supervision of the Contractor's Site Superintendent.

.5 During the school year, the General Contractor shall designate a full-time flag person to control construction traffic access and egress to any construction access points and at times as stipulated in articles in this Section and elsewhere in these specifications. Costs for compliance to execute work under these terms is to be carried by all trades as part of the base contract price.

.6 Connection of any services must be made after hours and in such a way that it leaves no disturbance to materials or systems, nor any exposed construction conditions within the operating school area.

.7 The General Contractor shall maintain construction fencing and hoarding and through access to fire routes at all times.

.8 Catering trucks are not permitted on the school site whatsoever.

.9 During the school year, the Contractor shall minimize nuisances to the school operation such as loud noise, percussion sounds from power tools, dust, odours. Due to noxious fumes, roofing and asphalt paving shall be done after hours (after 4:00 p.m., or during the weekends). Hot asphalt kettles may not be heated until after 4:00 p.m. on weekdays without prior permission from the school Owner and Owner Project Manager.

.10 *Refer also to Section 01 52 00- 'Construction Facilities' and Section 01 56 00- 'Temporary Barriers and Enclosures'*

1.6 CONSTRUCTION SEQUENCING

.1 Completion Dates:

.1 Complete the work so that the work is *Fit for Occupancy/Substantially Performed* by the required date for occupancy in the Contract.
.2 Following *Substantial Performance* complete deficiencies to renovations to the existing building such that project Total Completion is achieved by the required date.

.2 Sequencing

.1 A detailed sequencing strategy shall be **coordinated on site for deployment of both labour and materials**, as agreed upon jointly between the owner, consultants and contractor. The sequence is briefly described in point form below:

.1 Mobilize on site immediately once school has finished for the summer break (July 2, 2025).

.2 All work is to be performed during the school summer break, and completed for students to return to school on September 2, 2025.

.3 Any unfinished work after September 1, 2025 is to be performed outside of school hours.

Contract Award to July 1, 2025

.4 <u>ORDER Equipment and Materials</u>

.1 prepare shop drawings for approval immediately upon award of contract. This is especially critical in order to have windows, mechanical, electrical equipment, doors, lockers, flooring and roofing material on site and ready for installation on July 2, 2025.

July 2, 2025 to September 1, 2025

.5 <u>Interior Renovations, Reroofing & Mechanical Upgrades</u>

.1 demolition and renovation to areas indicated in documents.

.2 construction to be completed prior to new 2025 school year on September 2, 2025.

.3 Demolition and Construction activities during the school year will be subject to noise and odour restrictions as outlined in this Section and *Section 02 41 16 – 'Structure Demolition'*.

.4 Coordinate sequencing with all trades and advise sub-trades of these sequencing requirements prior to the close of Tenders.

1.7 TEMPORARY CONSTRUCTION FENCING

.1 THIS PROJECT HAS BEEN DESIGNATED AS BEING IN A BUILT-UP SUBDIVISION.

.2 For the sake of safety to the neighbours and users of the school in which this project is being constructed, the Owner insists that fencing and hoarding be provided for every construction project, as described below.

.3 At the locations shown on drawings, provide temporary, 6'-0" high (1.8 m) wood hoarding and chain link fencing complete with main and truck gates around entire perimeter of work area, as shown on drawings. Gates shall be locked when no work is in progress, and located as shown on the Site drawings, unless approved by the consultant.

.4 The Owner requires that the installation of this construction fencing be accomplished as the first task of the General Contractor when he moves onto the site.

.5 Ensure for the duration of the contract that surrounding the work site, the construction fencing, siltation fencing and man and truck gates, are provided and maintained. This fence shall be locked when no work is in progress and located as shown on the site plan drawing.

1.8 CONTRACTOR PARKING

.1 Refer to section 01 52 00 Construction Facilities.

1.9 BYLAWS, PERMITS AND APPROVALS

.1 Nothing indicated on the Drawings or Specifications is intended to be in conflict with any law, by-law or regulation of Municipal, Provincial, or similar Authority Having Jurisdiction.

.2 Work of this Contract must conform with such laws, by-laws and/or regulations. Any required variation to, or deviation from, the drawings and specifications, shall be performed in accordance with the Contract contained in these specifications.

.3 Furnish inspection certificates and/or permits as may be applicable as evidence that the installed Work conforms with laws, by-laws and regulations of Authorities Having Jurisdiction.

.4 Each subtrade shall obtain and pay for all permits and licenses required by Municipal, Provincial, or other authorities having Jurisdiction, particular to their trade.

.5 It is the final responsibility of the General Contractor to obtain all the required approvals and permits, which the exception of the Building Permit, which has been applied for by the Consultant and paid for by the Owner.

.6 Any revisions or deviations to Contract Documents required by any Authorities Having Jurisdiction must be reviewed by the Consultants before implementation.

1.10 ORGANIZATION

.1 Organize the Work of each section as required for satisfactory and expeditious completion of the Work. Take field dimensions required for the Work. Fabricate and install work to suit field dimensions and conditions.

.2 If applicable, take into account existing work to ensure best arrangements of components in available space. Contact the Consultant prior to commencing Work in critical locations and interface with other Contractors' Work.

.3 Provide all forms, templates, anchors, sleeves, inserts and accessories required to be installed in the Work. Set in place or instruct the applicable subtrade as to their location. Pay costs of extra work, if required, as a result of a failure to comply with these requirements at the proper time.

.4 Before starting his work and from time to time as the work progresses, each Subcontractor shall examine the work and materials installed by the other Subcontractors insofar as it effects his own work, and the General Contractor shall promptly notify the Consultant IN WRITING, if any condition exists that will prevent any Subcontractor from giving a satisfactory result in his own work.

.5 Should any Subcontractor start his own work without such notification, it shall be construed as an acceptance by him of all preceding work and as a waiver of all claims or questions as to its suitability for receiving his work.

1.11 SEISMIC DESIGN REQUIREMENTS

.1 This project requires adherence to seismic design requirements as stipulated in OBC 2012, Div. B, Part 4. The General Contractor shall be responsible to coordinate all

disciplines to ensure compliance with these requirements for all applicable building components.

.2 All disciplines including Mechanical & Electrical shall make reference to individual specification section and the seismic lateral load table on Drawing S01 which outlines components requiring compliance with seismic design.

.3 As a minimum standard, design for all connections to meet seismic forces shall be included in base bid whether specifically stated in specific specification sections or not.

.4 Shop drawings shall clearly include seismic design compliance calculations for all building components within scope of OBC 2012, Div. B, Part 4 requirements.

.5 Refer to Structural Drawing for a table of applicable building components and Section 13 05 41 – 'Seismic Restraint for Non-structural Components'.

1.12 CANADIAN PRODUCTS AND LOCAL LABOUR

.1 To the extent that the same are available and consistent with the proper economy and expeditious completion of the Contract, Canadian equipment, materials, products and other such applicable items are preferred by the Owner to be used in the Work, wherever possible and practical.

1.13 MATERIALS AND WORKMANSHIP

.1 All materials shall be new and the best of their respective kinds, where a specific grade or brand is not indicated. Pre-packaged materials shall be delivered and stored in unopened containers.

.2 All work performed under this Contract shall be done by mechanics skilled in their respective trades. They shall make use of such templates, jigs or special tools as may be required for the operation involved.

.3 The acceptance of any materials or workmanship shall not be a bar to their subsequent rejection, if found defective.

.4 Adequate, dry storage facilities shall be provided and all stored materials shall be protected from damage and theft.

.5 All Contractors will do Work in accordance with the best industry practice of the type of work specified, unless the Contract Documents stipulate more precise requirements, in which case, the more precise requirements shall govern.

.6 Do Work in a neat, plumb & square manner. Ensure that various work components are properly installed, forming tight joints and appropriately aligned junctions, edges and surfaces, free of warps, twists, waves, or other such irregularities.

.7 Wherever indicated on the drawings or specifications, or in the manufacturers' / suppliers' written instructions, arrange to have manufacturers' / installer's representatives inspect the Work which incorporates their materials, products or items.

.8 Do not permit materials to come in contact with other materials such conditions may result in corrosion, staining, discolouration or deterioration of the completed Work. Provide compatible, durable separators where such contact is unavoidable.

.9 The design of the Work is based on the full interaction of its component parts. No provisions have been made for conditions occurring during construction. Ensure that no part of the Work is subjected to a load which will endanger its safety or which might cause permanent deformation.

.10 Conceal pipes, ducts, conduit, wiring and other such items requiring concealment preferably in, wall or ceiling construction of all finished areas. If in doubt as to method of concealment, or intent of the Contract Documents in this regard, request clarification from the Consultant before proceeding with the Work.

.11 Lay out mechanical and electrical work well in advance of concrete placement and furring installation to allow for proper concealment. Test and inspect Work before applying pipe covering and before it is concealed.

.12 Provide and maintain control lines and levels required for the Work. Lay out the Work in accordance with these lines and levels and dimensions indicated on the drawings.

.13 Verify lines, levels and dimensions and report any errors or inconsistencies on the drawings to the Consultants.

.14 Final responsibility of satisfactory completion of all the Work, however, lies with the General Contractor.

1.14 QUALITY CONTROL

.1 Refer also to Section 01 45 00.

.2 The Consultants and authorized Owner staff shall have access to all areas of the Work, including any off site construction facilities.

.3 The General Contractor shall give timely notice requesting inspection if Work is designated for special tests, inspections, or approvals by the Consultants, or any other authorized Owner staff or testing and Inspection Company.

.4 If the General Contract covers, or permits to be covered Work that has been designated as outlined above, he shall uncover such work, have the inspections and tests satisfactorily completed and make good such work at no additional cost to the Owner.

.5 The Consultants or the authorized Owner Staff may order any part of the Work to be examined, if such Work is suspected not to be according to the Contract Documents. If, upon examination, such work is found not to be in accordance with the Contract Documents, then the General Contractor shall correct such Work and pay for cost of examinations and correction. If such Work is found to be in full accordance with the Contract Documents, the Owner shall pay for the cost of examination and making good.

.6 If defects are revealed during inspection and/or testing, the appointed agency may request additional inspection and/or testing to ascertain the full degree of defects. The General Contractor shall correct the defects and irregularities as reported by the inspection and/or

testing agency, at no additional cost to the Owner and the General Contractor shall pay all associated costs for retesting and reinspection.

.7 The General Contractor shall provide any tools, materials or equipment that may be required by the inspection and/or testing agencies in retesting the Work (*e.g.* Video camera rental to reinspect incorrectly installed sewer lines.)

.8 The employment of inspection and/or testing agencies does not, in any way, affect the General Contractor's responsibility to perform the Work in strict accordance with the Contract Documents.

.9 The General Contractor shall remove all defective work, whether the result of poor workmanship by him or his subtrades, use of defective or damaged products, whether or not incorporated into the Work and any Work that has been rejected by the Consultants or authorized Owner Staff as failing to conform to the Contract Documents. Replacement and execution of the affected Work shall be done in full accordance with the Contract Documents, making good other trades' work damaged by such removals or replacements at no additional charge to the Owner.

.10 If, in the opinion of the Consultant and/or the authorized Owner Staff, it is not expeditious to correct the defective Work, or Work not performed in accordance with the Contract Documents, the Owner, may, at its sole discretion, deduct from the Contract Price, the difference in value between the work performed and that required by the Contract Documents, the amounts of which shall be determined by the Consultant.

.1 The notable exception to the above item is a faulty installation of base and asphalt paving. If, the inspection agency, after performing random test holes to determine compaction and thickness of sub base, base and asphalt, determines that either one or both, are not according to what was specified in the Contract Documents, the Owner will not accept credits for such inconsistencies but rather, demand that any such installation be removed and redone in its entirety, at the pleasure and convenience of the Owner, but within the first year of the warranty period.

1.15 PROTECTION OF OTHER WORK

.1 Each trade shall avoid damage to other trades and shall take all measures necessary and provide all masking and materials necessary, to provide adequate protection.

.2 Each Subcontractor shall be held responsible for all damage to work installed by others that is caused by this work or by anyone employed by him.

.3 Patching and repairing of damaged work shall be done by the Contractor who installed the work, as directed by the Consultant, but the cost of same, shall be paid for by the Contractor who is responsible for the damage.

1.16 FASTENINGS

.1 All fastenings must be permanent, of same metal, or compatible with any metals with which they are in contact, of adequate size and spacing, to ensure permanent anchorage against load or shear.

.2 Exposed fastenings must be evenly spaced, neatly laid out and must not mar surfaces of prefinished materials.

.3 No ram-setting or similar techniques will be permitted, without prior written approval of the Consultant.

1.17 SUPPLY AND INSTALL

.1 Unless specifically noted, "*supply only*", any reference to supply intends the **supply and installation** of material or item so noted.

1.18 OCCUPATION BEFORE COMPLETION

.1 If the General Contractor, for any reason, does not have the Project completed by the specified completion date and the Owner, of necessity, is forced to occupy any part of the building before the whole of the Work is completed, the Contractor will not be entitled to any indemnity for interference with his operation.

1.19 GENERAL REQUIREMENTS

.1 All Contractors shall examine carefully all drawings and specifications to inform themselves fully of all conditions and limitations pertaining to the work of the contract.

.2 All Contractors shall co-operate and co-ordinate their work for the proper completion of the work, including co-ordination of delivery dates and commencement of subtrades work.

.3 The responsibility and costs for all work, including temporary structures, shoring, shoring design (if applicable) and erection shall at all times rest with the General Contractor and his Subcontractors. The Consultant will review construction methods and shop drawings for general arrangements only. The method of obtaining the results contemplated by the Contract Documents shall be determined by the General Contractor.

.4 The undertaking of period site review by the Consultant or Owner Representative shall not be construed as supervision of actual construction, nor make them responsible for providing a safe place for work, visit, use, access, travel, or occupancy of the Consultant's or Owner's employees or agents.

.5 The General Contractor shall be fully responsible for coordinating and expediting the work of all Subcontractors and shall employ the necessary and qualified personnel to provide the required quality of labour and materials and to prevent delays in the progress of the project. Each trade shall be afforded all reasonable opportunities for the installation of its work and for the storage and handling of its materials.

1.20 COORDINATION

.1 The General Contractor shall coordinate all work and preparation on which subsequent work depends to facilitate mutual progress, and to prevent any conflict.

.2 The General Contractor shall ensure that each trade makes known, for the information of the General Contractor and other trades, the environmental and surface conditions

required for the execution of its work; and that each trade makes known the sequence of others' work required for installation of its work.

.3 The General Contractor shall ensure that each trade, before commencing work, knows the requirements for subsequent work and that each trade is assisted in the execution of its preparatory work by trades whose work depends upon it.

.4 The General Contractor shall ensure that shop and layout drawings, templates, and all information necessary for the location and installation of materials, openings, inserts, anchors, accessories, fastenings, connections and access panels are provided by each trade whose work requires cooperative location and installation by other trades and that such information is communicated to the applicable installer.

.5 The General Contractor shall ensure that delivery of materials supplied by one trade to be installed by another is well before the installation begins.

.6 The General Contractor shall inform all trades that giving installation information in error, or too late to incorporate in the work, shall be responsible for any extra work caused thereby, unless impractical and where required, cutting shall be done by each respective trade, and patching shall be done by the general contractor.

1.21 ACCESS TO THE PROJECT

.1 The General Contractor for this Work shall, at all times allow the Consultants, the Owner, or any other Owner commissioned contractor or their employees, access into the building or around the premises, undisturbed, whether union or non-union, as may be required in the execution of other portions of the building work and installation of equipment, etc.

.2 The General Contractor shall cooperate fully with any and all Owner commissioned Contractors.

1.22 SUBTRADE AWARDS

.1 The Contractor shall, on notice of award of the contract, obtain the Consultants approval of a complete list of all persons or firms to which he proposes to sublet any part of the work, the trades or divisions of work which are to be sublet to each, and the amount of each trade. The General Contractor shall provide to the Consultant a financial breakdown showing all divisions of the work amounting to the full sum of the contract. Mechanical and Electrical trades shall be further broken down as specified in Divisions 26 and 33.

1.23 SAFETY DATA SHEETS

.1 The General Contractor shall ensure that the following material and safety data sheets are submitted prior to commencing installation and application of at least the following:

.1 Lead-free solder
.2 Resilient flooring
.3 Painting and finishing
.4 Fertilizers
.5 Glues and adhesives

.6 Pesticides

.7 Herbicides

.8 Any other product which may give off air borne particles after installation.

.9 Sealants and caulking

.2 The General Contractor and all of his Subcontractors must note that specifically, Asbestos and Asbestos containing materials solder for piping containing lead, and Painting & Coatings containing lead and/or mercury must be excluded from any part of the Work.

.3 Contractor The General must submit Certificates of Compliance, prior to the application for Substantial performance, for each of the following items:

.1 An affidavit relative to the use of Lead-free solder for all domestic water lines, regardless of location.

.2 Products for which Material Safety Data Sheets have been submitted and accepted.

.3 Other Work/Products identified in the Contract Documents as requiring a Certificate of Compliance.

.4 Each Certificate of Compliance must indicate names and addresses of the project, the Owner, the date of Issue, produce description including name, number, manufacturer, with a statement verifying that the Work/Product installed meets specified requirements and, if applicable, complies with the submitted and accepted Material Safety Data Sheets.

.5 Each Certificate of Compliance must be issued on the trade's letterhead, properly executed, under whose work the respective Work/Product has been provided.

.6 Each Certificate of Compliance must be endorsed by the General Contractor with his authorized stamp/signature.

.7 The Completion Security Account will not be paid to the Contractor without submission of all required affidavits and requested material and safety data sheets.

1.24 REGULATING DOCUMENTS

.1 The General Contractor and all of his Subcontractors, Suppliers/Installers etc., must conform to the latest editions in force at the time of tender of each and all of the following: Ontario Building Code, Canadian Electrical Code (CEC), The Occupational Health and Safety Act, Ontario, the National Fire Code, the local Municipal Fire Code, and all other applicable Codes and Building By-Laws. All must also conform to the requirements of the Authorities Having Jurisdiction, such as Public Utilities. Where required under the Occupational Health and Safety Act, engage a Professional Engineer to design hoarding, scaffolding and shoring, formwork and falsework for concrete.

.2 Contract forms, codes, standards and manuals referred to in these specifications are the latest published editions at the date of close of tenders. The General Contractor and all of his Subcontractors, Suppliers/Installers must meet or exceed the requirements of specified standards.

.3 Provide, on site, copies of documents referred to in the Specification for joint use of Contractor and Consultant.

1.25 SITE SUPERINTENDENTS AND PROJECT MANAGERS

.1 It is the requirement under the work to this Contract that the Contractor provide on-site, full-time, *Site Superintendent* for the entire project duration through to the end of Deficiency completion. Superintendent shall have qualifications of previous experience with similar projects. Superintendent shall remain assigned full time to the project until completion of all deficiencies. This is a base bid requirement and the Contractor shall include this cost in the Tender Amount.

1.26 GENERAL CONTRACTOR'S RESPONSIBILITIES

.1 The list of General Contractor's responsibilities identified below is by no means comprehensive, nor is it in any priority or critical order. It is here, merely to identify the most often forgotten or ignored responsibilities of the General Contractor and is reproduced only as a reminder. The Consultants and the Owner advise the General Contractor that it is he who is responsible for all aspects and facets of the Project, from start to completion, from compliance with Occupational Health and Safety regulations to compliance with all codes and statutes.

.1 The General Contractor will be responsible to take all necessary steps to protect personnel (workers, visitors, general public, etc.) and property from any harm during the course of the contract.

.2 All equipment shall be in safe operating condition and appropriate to the task.

.3 Only competent personnel will be permitted on site. During the site introduction, *only the Consultant* will determine who is competent. The General Contractor will cause to remove from the site any persons not observing or complying with safety requirements.

.4 The General Contractor shall comply with, and shall ensure that all of his Subcontractors, Suppliers, Installers etc., comply with all Federal, Provincial and Municipal Safety Codes and Regulations and the Occupational Health and Safety Act.

.5 The General Contractor shall supply competent personnel to implement his safety program and ensure that all Subcontractors comply with the Owner's standards, and those of the Occupational Health and Safety Act.

.6 The Owner will provide periodic monitoring to ensure that safety requirements are met, and that safety records are properly kept and maintained. Continued disregard for safety standards can cause the Contract to be canceled and the General Contractor removed from the site.

.7 The Owner may hire Commissioners to perform inspections of building systems at the closing stages of the work of this contract. If so contracted and identified in the *Instructions to Bidders*, the General Contractor shall cooperate with and coordinate the work of the Owner's Commissioners on site.

.8 The General Contractor will report to the Owner and Jurisdictional Authorities any accident or incident involving personnel and/or property of the Contractor, Owner, or Public, arising from the General Contractor's or any of his Subcontractors' execution of the work.

.9 The General Contractor will include all provisions of this contract in any agreement with Subcontractors, and hold them equally responsible for safe work performance.

.10 If the General Contractor is responsible for a delay in the progress of the work due to an infraction of legislation or Owner Health and Safety requirements, the Contractor will, without additional cost to the Owner, work such overtime, and acquire and use for the execution of the work such additional labour and equipment as to be necessary in the sole opinion of the Owner's Representative and Consultant, to avoid delay in the final completion of the work or any operations thereof.

1.27 MANUFACTURERS' INSTRUCTIONS

.1 Unless otherwise specified, the General Contractor and all his Subcontractors shall comply with manufacturer's latest printed instructions for materials and installation methods.

.2 The General Contractor shall notify the Consultant in writing of any conflict between the Specifications and Manufacturer's Instructions and have same clarified.

1.28 AIR AND VAPOUR SEAL

.1 The General Contractor shall ensure that exterior walls, windows, floor and roof surfaces provide an air-tight and vapour-tight membrane to prevent problems due to building vapour migration.

.2 In general, the air/vapour barrier must be achieved on the interior side of the thermal insulation.

1.29 FIRE SAFETY

.1 The General Contractor and all of his Subcontractors must comply with requirements of standard for Building Construction Operations FC No. 301-1982, issued by the Fire Commissioner of Canada.

.2 The appropriate clauses of the Ontario Building Code relating to fire protection shall be strictly followed.

.3 The General Contractor shall provide and maintain free access to temporary or permanent fire hydrants acceptable to local fire department.

1.30 CONSTRUCTION SAFETY

.1 Refer also to *Section 01 35 23 – 'Site Safety Protocol for Occupied Buildings'*

.2 The General Contractor and all his trades must observe and enforce construction safety measures required by Canadian Construction Safety Code, Workplace Safety & Insurance Owner, and Municipal statutes. In particular, the Ontario Construction Safety Act, the regulations of the Ontario Department of Labour and Ontario Hydro Safety Requirements shall be strictly enforced. In event of conflict between any provisions of above authorities the most stringent provisions will apply.

.3 The General Contractor is reminded, once again, that it is he who is responsible for Occupational Health and Safety on this Project. The items listed below are only guidelines of the Owner's expectations in this regard and not to be construed to be comprehensive or total in nature.

.4 The Owner will take every reasonable precaution to prevent injury or illness to students, employees and the public, participating in Owner activities, or performing their duties. This shall be accomplished by providing and maintaining a safe, health working environment by providing the education necessary to perform these activities or duties safely.

.5 The Owner is vitally interested in the health and safety of all Contractors and their workers performing work for the Owner. Cooperation and support of the General Contractor in the protection of workers from injury or occupational disease is a major, continuing object of the Owner. To achieve these goals, the Owner, in concert with the Contractors, will endeavor to make every effort to ensure that the Contractors provide a work site which is a safe and healthy work environment. The Owner insists that all Contractors and their workers are dedicated to the continuing objective of reducing risk and injury.

.6 The General Contractor covenants and agrees to comply with all statutory and other obligations, including, without limitation, the provisions of the Occupational Health and Safety Act (Ontario) and all Regulations thereto, and all amending and successor legislation, including without limitation, Bill 208 (the "Act") in connection with all work performed by either the Contractor, Subcontractors, or any Other Contractor on, or in connection with, the Project.

.7 Without limiting the foregoing, for the purposes of this Contract, the General Contractor agrees that **he** shall be the "constructor" of the Project within the meaning of the Act, and as such, shall assume all the obligations and responsibilities, and observe all construction safety requirements and procedures, and duties of inspection imposed by the Act on the "constructor", as therein defined, for all work and services performed by the General Contractor, Subcontractors and Other Contractors on or in connection with the Project.

.8 The General Contractor further covenants and agrees that the Owner and its existing and former officers, trustees, employees and agents, and their respective heirs, executors, administrators, successors and assigns (hereinafter collectively referred to as the "Owner") shall be released from any obligations or liabilities otherwise imposed on the Owner, or on any of them, pursuant to the Act in connection with the Project, and that the General Contractor shall assume all liability and responsibility in connection with same.

.9 The General Contractor agrees to save harmless and indemnify the Owner from any losses, damages, costs and expenses of any kind, or nature whatsoever, including all legal expenses, and all defense costs and related expert or consulting fees, incurred by the Owner, or any of them, arising in connection with the failure, default, or inability of the General Contractor of the Owner, or any of them, to comply with any of the aforementioned statutory, or other legal requirements, or arising in connection with any breach by the General Contractor of any of its covenants, agreements and obligations under this Contract.

.10 The General Contractor shall inform and instruct Other Contractors that they, while performing work on this project, are under the authority of the Contractor. Other Contractors are to discuss and co-ordinate with, and follow instructions from, the General Contractor on all matters of site access, vehicles, deliveries, storage, temporary facilities, coordination with the work of other subcontractors, work methods, scheduling, labour conditions, construction safety, environmental protection, security and all other matters which relate to the safe and proper execution of construction work.

.11 The General Contractor shall ensure that all supervisory personnel on job site are fully aware of the procedures and requirements outlined above and comply with all requirements specified.

.12 All Contractors are responsible to ensure that all machinery and/or equipment are/is safe and that the workers perform their tasks in compliance with established safe work practices or procedures. Workers must receive adequate training in their specific work tasks to protect their health and safety.

.13 The General Contractor shall be responsible for all persons and companies performing work, including Other Contractors, on this project, at all times, up to and including, the date of Substantial Performance of the Work. Authority for coordination and instructions relating to all matters which relate to the safe and proper execution of construction work shall rest with the General Contractor. The Contract Price must include the General Contractor's fees for the coordination and supervision of the work of all Other Contractors.

.14 In addition to the responsibility of all contractors as outlined above, Subcontractors will be held accountable for the health and safety of workers under their supervision.

.15 Every worker must protect his/her own health and safety by working in compliance with the law and with safe work practices and procedures established by the authorities having jurisdiction.

.16 All sections of the Occupational Health and Safety Act for Industrial Establishments, latest edition, and the Occupational Health and Safety Act for Construction projects, latest edition, shall be enforced, by the General Contractor, in their entirety, throughout the duration of the construction project.

.17 The General Contractor shall provide the Consultant with the telephone number where the General Contractor or his representative can be reached at any time, day or night, for the duration of the contract.

.18 Where an accident, explosion, or fire causes a person injury at the work place, and the worker is disabled from performing the usual task, the General Contractor shall prepare a written notice and shall forward same to the Ministry of Labour within four days of the occurrence with a copy to the Owner's Representative, who shall copy and inform the Owner's Supervisor of Health and Safety and/or the Owner's Joint Health and Safety Committee, containing such information and particulars as may be described.

.19 Where a person is killed or critically injured from any cause at the work place, the General Contractor shall immediately call the Ministry of Labour. A written notice from the General Contractor shall be given to the Ministry of Labour within forty-eight hours after the occurrence, containing such information and particulars as may be prescribed, with copies to the Architect and the Owner's Representative.

.20 The General Contractor is advised that the accident scene is under the jurisdiction of the Ministry of Labour and no wreckage, articles, etc., shall be interfered with, disturbed, destroyed, altered or carried away at the scene, or connected with the occurrence, until the Ministry of Labour has given permission.

1.31 INDEPENDENT TESTS AND INSPECTIONS

.1 The Contractor shall appoint inspection firms as directed by the Consultant and make payments from the cash allowances specified in Division noted, except for the following, which shall be included in the contract:

.1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.

.2 Inspection and testing performed exclusively for Contractor's convenience.

.3 Testing, adjustment and balancing of mechanical and electrical equipment and systems.

.4 Mill tests and certificates of compliance.

.5 Re-testing as already described in *Quality Control* of this Section.

.2 The Consultant will authorize payment of inspection services from specified cash allowances.

.3 The General Contractor shall furnish labour and facilities to:

.1 Provide access to work to be inspected and tested.

.2 Facilitate inspections and tests.

.3 Make good work disturbed by inspection and test.

.4 Pour concrete test cylinders and store as directed by Inspection Firm.

.4 The General Contractor shall notify Inspection Firms sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.

.5 Where materials are specified to be tested, the General Contractor shall deliver representative samples in required quantity to testing laboratory.

1.32 PERIODIC CLEANING

.1 Refer also to Section 01 74 11.

.2 As part of the Tender, the General Contractor shall provide all necessary garbage bins through the duration of the project. The General Contractor shall ensure that the following is accomplished:

.1 Keep all areas of the Work clean and orderly, free from accumulation of dirt, debris, garbage, oily rags, excess material, or such other trash items. Remove such items for all areas of the Work on a daily basis.

.2 Vacuum and/or broom interior building areas when ready to receive painting and other finishes. Continue cleaning on an "as needed" basis until the building is ready for inspection and takeover.

.3 Schedule cleaning operations so that resulting dust and other contaminants do not affect wet, newly painted surfaces.

.4 In preparation for Substantial Performance and Occupancy, conduct inspections of all exposed interior and exterior surfaces.

.5 Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from all exposed interior and exterior finishes, including glass and other polished surfaces.

.6 Remove all protective film from switch plates and hardware, particular kick plates.

.7 Clean lighting reflectors, lenses and other lighting surfaces.

.8 Broom clean paved surfaces and rake clean other disturbed surfaces in the area of the Work, to remove site debris caused by the Work of this Contract. Inspect for damage and make good.

.9 Remove debris and surplus materials from the roof areas and accessible concealed spaces.

.10 Replace heating, ventilation and/or air conditioning filters through the entire building to the extent that they supply or return from the work areas, whether or not, the units were operated during construction operations.

.11 Refer to "cleaning" sections of the specifications for additional specific periodic and final clean up requirements.

.3 The General Contractor must note the Owner insists that tiled (VCT) and sheet floors (vinyl or linoleum) be broom swept only. Wet mopping and waxing/polishing will be done by the Owner's Caretaking Staff.

.4 Do not provide sealants and waxes on terrazzo, ceramic and other hard surfaced floors without reviewing products and methods of application with the Owner's Caretaking Staff. Failure to comply with this requirement will result in the contractor stripping these floors in their entirety.

.5 The contractor shall also ensure that the appropriate measures including a stone mud mat are installed and maintained at all construction entrances, to avoid contamination of City roads and sewers. It is the Contractor's responsibility and not the Owner's to ensure that site entrances and roadways in front of the site are maintained in clean condition acceptable to the municipality or Subdivision Engineer, as the case may be for un-assumed subdivisions.

1.33 TEMPORARY PROTECTION

.1 Refer also to Articles 1.8, in this Section.

.2 The General Contractor to provide temporary dustproof and fire resistant barricades, screens or barriers to separate all work areas from other parts of the building and/or as directed by the Consultant and/or authorized Owner Representative, for the safety of persons, or for dividing the Work from portion or portions of the building or site that may be required for use by the school, or others.

.3 Properly protect the Work from any damage by the elements. In cold weather cover all exterior openings in the work areas likely to cause water damage.

.4 During off hours and/or stages of suspended operations for whatever reasons, the General Contractor must assume all responsibility for protection against the elements, theft and/or vandalism. This applies to all work in progress and to any materials, products, tools, equipment, or other such items left at the work site.

.5 Properly protect floors and roofs from any damage. Take special precautions when moving heavy loads or equipment over floors and roofs.

.6 The General Contractor must keep floors free of oils, grease or other such materials likely to discolour them and/or affect bonding of applied surfaces.

.7 The General Contractor must ensure that no part of the Work is loaded greater than it was designed for, when completed. Make any temporary support as strong as the permanent support. Place no load on concrete structure until it has sufficient strength to safely bear such load.

.8 Protect glass and other finishes against heat, slab and weld splatters, using appropriate protective shields and covers.

.9 The General Contractor must provide and maintain, in good working order, appropriately labeled ULC fire extinguishers, to the approval of Authorities Having Jurisdiction.

.10 The General Contractor must provide a minimum of two safety helmets on site at all times for the use of the Consultant and any other Owner authorized visitors to the site. It is the General Contractor's responsibility to make certain that any such visitors wear the protective headgear and any other safety gear which may be necessary at that particular time of construction.

1.34 COMPLETION

.1 Upon completion of the Work, all protection erected shall be removed, all damage to the Work and adjoining Work due to the lack or failure of such protection shall be made good and all debris, surplus materials tools equipment shall be removed from the work areas and the site, and the Project shall be left clean and tidy to the full and complete satisfaction of the Consultant and Owner Staff. The General Contractor shall give written notice to the Consultant, requesting final inspection of the completed Project.

.2 Refer to the pertinent sections of the Specifications for requirements with respect to submission of *Record Documents, Maintenance Materials, Special Tools* and *Spare Parts.*

1.35 GUARANTEES

.1 The following is a summary of the guarantees (in number of years) required by the contract. Refer to individual specifications sections for additional information on warrantees. In the event an extended warranty is listed in the specific Section, that section will have precedence over this list. If no extended warranty is listed, this list will govern:

.1	General Contract	1
.2	Finish Carpentry	2
.3	Caulking	2
.4	Finish Hardware	3
.5	Panic Devices and Door Closers	5
.6	Acoustic Ceilings	2
.7	Built Up Roofing (installation)	2
.8	Built Up Roofing (manufacturer's)	10

.9	Sheet Metal Flashing and Siding	5
.10	Concrete Floors	3
.11	Ceramic Tile	5
.12	Resilient Tile	3

.2 The guarantee period shall start on the date of issue of the Certificate of Substantial Performance of the Contract by the Consultant.

1.36 CONTINGENCY ALLOWANCE

.1 No Contingency Allowance is to be included in the Base Bid.

1.37 CASH ALLOWANCES

.1 Include in the Cost Plus Fee Bid, a Cash Allowance in the amount of **Forty thousand dollars, ($40,000.00) not including HST.**

.2 Cash Allowances, unless otherwise specified, cover the net cost to the General Contractor of services, products, construction, machinery and equipment, freight, handling, unloading, storage installation and other authorized expenses incurred in performing the Work.

.3 The Contract Price, *and not the Cash Allowance*, includes the General Contractor's profit and coordination costs in connection with all Cash Allowance expenditures.

.4 The Contract Price will be adjusted by written order by the Consultant to provide for an excess or deficit to each Cash Allowance. Any unused portions of these allowances shall be returned to the Owner on the conclusion of the Contract.

.5 A schedule shall be prepared jointly by the Consultant and the General Contractor to show when items called for under Cash Allowances, so that the progress of the Work is not delayed.

.6 Exclusive of Deposits, which are the contractor's sole responsibility to provide as required of Authorities Having Jurisdiction, the following is a summary of the scope Cash Allowances to be included in the contract:

.7 Expend both Cash Allowances as directed by the Consultant in writing. Allowances will be adjusted to actual cost with no adjustment to Contractor's charges. Cash expenditure must identify the H.S.T. separately.

.8 Cash Allowance Breakdown of Items

.1 Finish Door Hardware (Supply & Install)
.2 Testing and Inspections (requested by Consultant, Owner or imposed by Authorities)
.3 Interior signage (if required - supply and install)

1.38 ALLOWANCES CARRIED IN DIVISIONS 15 AND 16

.1 Refer to Divisions 15 and 16 for any additional Cash Allowances to be carried by the Sub-Contractor.

1.39 SCHEDULE OF ALLOWANCES

.1 Material Allowances shall include the following:

.1 Net cost of Material
.2 Applicable taxes and duties
.3 Delivery to site

.2 For Material Allowance, the contract shall include:

.1 Handling at site, including unloading, uncrating, storage and hoisting
.2 Protection from elements, from damage
.3 Labour, installation and finishing
.4 Other expenses required to do cash allowance work (i.e. contract co-ordination)
.5 Overhead and profit

.3 Material and Installation Allowances shall include the following:

.1 Net cost of material
.2 Applicable taxes and duties
.3 Deliver to site
.4 Handling at site, including unloading, uncrating, storage and hoisting
.5 Labour, installation and finishing

1.40 POLYCHLORINATED BIPHENYL (PCB)

.1 Conform to the Environmental Protection Act and Regulations, Ontario Regulation 11/82 as amended.

1.41 USE OF CONSULTANTS'S DIGITAL DRAWINGS

.1 Where a contractor wishes to obtain a digital copy of consultant drawings for shop drawings or survey purposes, the consultant may elect to provide this drawing for a nominal fee. As this is the consultants' option, the contractor shall not anticipate provision of these digital drawings to meet the contract schedule.

1.42 BUILDING DIMENSIONS

.1 Ensure that all necessary job dimensions are taken and all trades are co-coordinated for the proper execution of the work. Assume complete responsibility for the accuracy and completeness of such dimensions, and for co-ordination.

.2 Verify that all work, as it proceeds, is executed in accordance with dimensions and positions indicated which maintain levels and clearances to adjacent work, as set out by requirements of the drawings, and ensure that work installed in error is rectified before construction resumes.

.3 Check and verify all dimensions referring to the work and the interfacing of all services. Verify all dimensions, with the trade concerned when pertaining to the work of other trades. Be responsible to see that Subcontractors for various trades co-operate for the proper performance of the Work.

.4 Avoid scaling directly from the drawings. If there is ambiguity or lack of information, immediately inform the Consultant. Be responsible for any change through the disregarding of this clause.

.5 All details and measurements of any work which is to fit or to conform with work installed shall be taken at the building.

.6 Advise Consultant of discrepancies and if there are omissions on drawings, including layout of items which affect aesthetics, or which interfere with services, equipment or surfaces. DO NOT PROCEED without direction from the Consultant.

.7 Prepare interference drawings AND SUBMIT AS SHOP DRAWINGS IN ADVANCE OF PRODUCTION to properly co-ordinate the work in all ceiling spaces and where necessary. Coordinate these drawings with all Divisions. Refer also to Section 013300.

1.43 SETTING OF WORK AND REQUIRED SURVEYS

.1 As part of the base tender amount, provide and pay for the services of a Land Surveyor acceptable to the Consultant, registered in the Province of Ontario to establish the property boundaries and the location of the site alternations.

.2 Lay out building lines for the work and provide substantial stakes or monuments to preserve lines and levels.

.3 Verify on the site all grades, lines, levels, dimensions and location of hydrants, existing structures, manholes, overhead and buried utilities, existing trees, roadways, sidewalks and the like, shown on the drawings, and report omissions, errors, or inconsistencies, before commencing work.

.4 Upon completion of layout work and before commencement of any excavation, give ample notification to allow for inspection of lines and levels. Such inspection does not in any way mitigate the Contractor's responsibility for accuracy of layout.

.5 Provide the consultant with a Surveyor’s Certificate describing the location of all perimeter foundation walls relative to property lines before construction proceeds on those walls.

1.44 LAYOUT OF WORK

.1 Layout work with respect to the work of all trades. Arrange mechanical and electrical work such as piping, ducts, conduits, panels, equipment and the like to suit the architectural and structural details.

.2 Alterations necessary due to conflict and interference between trades, to be executed at no cost to the Owner unless notification is given in writing before Tender Closing Date.

1.45 DOCUMENTS REQUIRED AT START, DURING & CLOSE-OUT OF CONSTRUCTION

.1 At Commencement of Contract

.1 Supply Performance Bond and Labour and Material Bond, in accordance with Section 00 21 13, Instructions to Bidders.

.2 Supply Public Liability and Property Damage Insurance Certificates, also Builder's Risk and Boiler Insurance as required of the Contract.

.3 Supply Certificates of good standing from WSIB for the General Contractor and all Subcontractors.

.4 Supply a complete Contract Sum Breakdown of all subtrades or parts of work and general expense items for approval by all consultants. Include Mechanical and Electrical Breakdowns for review and acceptance by Consultants.

.5 Supply a competent detailed Construction Schedule that has been reviewed and approved by major subtrades. Identify critical milestone dates for Addition, Renovations and Sitework.

.6 Supply Cash Flow schedule of monthly progress payments in coordination with the Construction Schedule and plot as 'S' curve chart.

.7 Supply Schedule of Shop Drawing Submissions and identify list of long-lead items.

.8 Apply for and post and supply a copy of Notice of Project.

.9 Supply a copy of Health & Safety policy as well as post at the job site.

.10 Supply Shoring Designs of all load bearing areas if any required of the construction sequence or if required by the Structural Engineer.

.11 Supply interference drawings for all areas requested by the Architect, Mechanical Engineer or Electrical Engineer.

.2 During Construction

.1 Maintain as-built record drawings in clean condition.

.2 Organize regular Trade Coordination meetings.

.3 Organize separate, regular Owner and Consultant Job Meetings in accordance with Section 012200.

.4 Maintain a copy of up to date records on site including, but not limited to Permit Sets, Contract Documents updated with all addenda, all Changes and Supplementary Instructions issued by Consultants.

.3 Monthly with Each Progress Payment Application

.1 Supply Monthly Progress Reports and Construction Schedule in accordance with Section 012200.

.2 Adjust Allowances, as required.

.3 Current WSIB Form

.4 Confirm that payments are being made to subcontractors and suppliers by submission of original copies of the current versions of Statutory Declarations with the second and subsequent Progress Payment Application. Include both Statutory Declarations Form CCDC-9A for the General Contractor and CCDC-9B from subcontractors with each monthly Progress Payment Application. No payment will be made for unincorporated material on the site, unless Bill of Sale in proper format is provided.

.4 Prior to Substantial Completion

.1 Provide detailed Completion Schedule a minimum of 90 days prior to Substantial Completion. Schedule to illustrate all trades and sequences required for

completion and legal occupancy. Issue to Consultants and upon acceptance, to all trades.

.2 Coordinate Completion Schedule with Building Commissioner at least 60 days prior to substantial completion or as directed by Consultant.

.3 Prior and as a requirement of owner acceptance of Substantial Completion of the work the following to be observed, executed and submitted:

.1 DEFICIENCIES ARE LISTED: prior to Substantial Completion, the contractor shall prepare a room by room deficiency list in electronic format on an MS Excel spreadsheet provided by the Consultant. Contractor shall print and review on site with consultants at a site meeting and post on each room or area. Contractor shall reissue back to Consultant, when updated, in Excel electronic format. This list will be acted upon by all trades and coordinated and updated weekly as a minimum by the General Contractor to ensure all deficiencies are addressed by the date required for Total Performance. Confirm in writing to the Architect when and on what dates each deficiency has been completed in a satisfactory manner. The Consultant's site review will be final approval.

.2 Acceptable preliminary submissions of all Mechanical and Electrical Operations and Maintenance Manuals have been reviewed by Consultants.

.3 Acceptable preliminary submissions of all Warranty and Shop Drawing Records have been reviewed by Consultants.

.4 All final clean-up to have been executed, as specified in Section 01 74 11.

.5 Complete preliminary balancing and provide preliminary Balancing Reports.

.4 Failure to comply with these requirements shall have amounts withheld on Progress Payments and delay issuance of Certificate of Substantial Completion.

.5 Note that Prior to the Release of Holdback, a similar Progress Claim is required, and must include current Statutory Declaration Forms CCDC-9A for the General Contractor and CCDC-9B from subcontractors updated to refer to the Previous Certificate of Payment.

.5 Upon Completion (Refer also to 01 78 00 Close-Out Submittals)

.1 Upon completion of work before the Final Certificate of Payment is issued, the following to be observed, executed and submitted:

.2 DEFICIENCIES ARE COMPLETE. Confirm in writing to the Architect when and on what dates each deficiency has been completed in a satisfactory manner. The Consultant's site review will be final approval.

.3 Finishing Hardware, Inspection and Verification. Note requirements for qualified installation and inspection in Section 08 71 10- Door Hardware. Inspection only is paid for from Cash Allowances.

.4 Organize a Final Inspection tour at which to be present: the Owner's authorized representative; the Architectural, Structural, Mechanical and Electrical Consultants, and their supervisory personnel, if any; the Contractor and his superintendent.

.5 Where the above procedure is impossible or where any deficiencies remain outstanding, the Owner's representative and the Consultant concerned, to inspect and accept the affected work and/or material upon notification by the Contractor, that all deficiencies involving this Consultant have been made good.

.6 A complete release of all liens arising out of this Contract, other than his own. If a subcontractor or supplier refuses to furnish a release of such a lien, furnish a bond satisfactory to the Owner to indemnify him against any claim under such a lien.

.7 Certificates of good standing from the WSIB, for the General Contractor and all Subcontractors.

.8 All reference records, as specified, under Section 01 78 00.

.9 Certificate of Inspection from Mechanical and Electrical Engineers.

.10 Copies of all Lists of Deficiencies with each Deficiency verified when complete by only this project's job Superintendent. The Final List of Deficiencies to be signed, completed by all concerned, if accepted.

.11 Statement of Completion from General Contractor.

.12 Final adjustment of all Allowances.

.13 Certificates required by Provincial, Municipal and other authorities having jurisdiction. Including signed Building Permit.

.14 Final Balancing Reports showing completed adjustments

.15 2 sets of marked up prints of complete Architectural, Structural, Mechanical and Electrical drawings in addition to the digital copies required below.

.16 Digital copy of Site Services, Architectural, Structural, Mechanical and Electrical and 2 sets As-Built Drawings – paid from Cash Allowance.

.17 Final copies of all Maintenance Manuals.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 PROJECT DESCRIPTION

.1 Work of the Contractor package and several separate Subcontract packages to be performed under a single Cost Plus Contract comprises the Project,
Construction of the:

Renovations to Assumption Catholic Secondary School
3230 Woodward Avenue,
Burlington, Ontario L7N 3P1
and further identified as Project No.: 24116

1.2 CONTRACT DOCUMENTS

.1 Refer to CCDC 3, GC 1.1 and CCA 1, SCC 1.1.

.2 The Contract Documents were prepared by the Consultant for the account of the Owner. The material contained herein reflects the Consultant's best judgement in light of the information available to him at the time of preparation. Any use which a third party makes of the Contract Documents, or any reliance on or decisions to be made based on them, are the responsibility of such third parties. The Consultant accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on the Contract Documents.

.3 These specifications are written in imperative mood in an abbreviated form. The imperative language of the technical sections is directed to the Contractor, unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall", "the Contractor shall", and "shall be", and similar mandatory phrases by inference in the same manner as they are applied to notes on the drawings. The words "shall be" will be supplied by inference where a colon (:) is used within sentences and phrases. Except where worded to the contrary, fulfill and perform all indicated requirements whether stated imperatively or otherwise.

1.3 CONTRACT METHOD

.1 Single Construction Contract: The Contractor shall construct the Work under a CCDC 3, Cost Plus contract.

.2 Throughout the execution of the Project, the Consultant may bid portions of the Project and nominate Subcontractors, whose parts or portions of the Project will be incorporated as part of this Contract to make up the Work.

.3 The Consultant will prepare stipulated price CCA 1 Subcontracts for execution between the Contractor and the Subcontractors.

.4 Refer to the Supplementary Conditions and Supplementary Subcontract Conditions for information pertaining to the contractual relationship between the Contractor and the Subcontractors.

.5 Sections listed as part of a particular Subcontract package may include work described under other Sections. When referenced as a Related Section, include such portions of the Work as part of that particular Subcontract.

1.4 ADMINISTRATIVE / PROCEDURAL SECTIONS APPLICABLE TO ALL CONTRACTS AND SUBCONTRACTS

01 11 00	Summary of Work
01 12 00	Multiple Contract Summary
01 22 00	Meetings and Progress Reports
01 33 00	Submittal Procedures
01 35 30	Health and Safety Requirements
01 35 23	Site Safety Protocols for Occupied Buildings
01 35 43	Environmental Procedures
01 45 23	Testing & Inspection
01 45 00	Quality Control
01 73 03	Execution Requirements
01 74 11	Cleaning
01 77 00	Closeout Procedures
01 78 00	Closeout Submittals
01 78 10	Sample Guarantee/Warranty form

1.5 TEMPORARY UTILITIES, FACILITIES AND SERVICES

.1 Subcontract SC01: Refer to Section 01 51 00 - Temporary Utilities and 01 52 00 Construction Facilities.

.2 Each Subcontractor shall Provide and perform the following:

.1 Electrical extension cords from distribution sources, work lights and any special power required for Subcontract Work.

.2 Separate telephone service required for Subcontract Work.

.3 Water hoses required for Subcontract Work.

.4 Field offices and sheds required for Subcontract Work.

.5 Cleaning of Subcontract Work; delivery of debris to collection.

1.6 CONTRACT No. Project No.: 24116-C00 - CONTRACTOR

.1 Assume total control of the Works of the Project. Be responsible for coordination, sequencing and scheduling of work of all Contracts, ensure conformity with the Contract Documents.

.2 Assume sole responsibility for construction means; methods, techniques, sequences and procedures, including site usage; provision of temporary utilities, facilities and services; quality control and coordination of testing and inspection services; and, site administration.

.3 Fulfill the role of the "constructor" as defined in the Ontario Occupational Health and Safety Act (Construction Projects). File the required Notice of Project and carry out and enforce the provisions in the Act and the requirements of the Project Health and Safety Policy.

.4 Report directly to the Consultant.

.5 Conduct site management duties for the duration of the Project, including field engineering services necessary to layout the Project and ensure accurate working lines and levels for Subcontract Work. Refer to Section 01 31 00.

.6 Appoint a single supervisor for the duration of the Contract, until completion of the Contract. Refer to GC 3.6 - Supervisor.

.7 Arrange for a minimum of one labourer to be present on site each Working Day until completion of the Contract.

.8 Arrange and pay for the publication of the Project's Certificate of Substantial Performance of the Work.

.9 Monitor site cleanliness on a daily basis and ensure conformance to the requirements of authorities having jurisdiction with respect to waste audits and waste reduction work plans. Provide waste containers on site and arrange for periodic waste removal as necessary until completion of the Contract.

1.7 SUBCONTRACT No. Project No.: 24116-SC01 – GENERAL

.1 Report directly to the Contractor on all matters pertaining to the execution of the Work.

.2 Maintain site cleanliness on a daily basis as it applies to the work of this Subcontract and ensure conformance to the requirements of authorities having jurisdiction with respect to waste audits and waste reduction work plans.

.3 Perform final cleaning of the Project as specified in Section 01 74 00.

.4 Sections listed as part of a particular Subcontract package may include work described under other Sections. When referenced as a Related Section, include such portions of the Work as part of that particular Subcontract.

.5 Include the following Work as part of Subcontract Project No.: **24116-SC01**:

.6 Division 00
- .1 00 52 11 - Subcontract Agreement
- .2 00 71 11 - Subcontracting Definitions
- .3 00 72 11 - Subcontract Conditions
- .4 00 73 11 - Supplementary Subcontract Conditions

.7 Division 01 - General Requirements
- .1 Administrative / procedural sections applicable to all contracts as listed above.
- .2 Provide and pay for those items listed above in the temporary utilities, facilities and services as required for the Subcontract Work.

.3 01 51 00 - Temporary Utilities
.4 01 52 00 - Construction Facilities
.5 01 56 00 - Temporary Barriers and Enclosures

.8 Division 02 - Existing Conditions
.1 02 10 00 - Existing Site Photos
.2 02 41 15 - Selective Demolition & Removal

.9 Division 03 - Concrete
No items

.10 Division 4 - Masonry
.1 No items

.11 Division 05 - Metals
.1 Structural Metal Framing - *Information provided on large format structural drawings.*
.2 05 50 00 - Metal Fabrications

.12 Division 06 - Wood, Plastics and Composites
.1 06 10 11 - Rough Carpentry
.2 06 47 00 – Plastic Laminates

.13 Division 07 - Thermal and Moisture Protection
.1 07 92 10 – Joint Sealants

.14 Division 08 - Openings
.1 08 11 14 - Steel Doors and Frames
.2 08 11 15 - Door Schedule
.3 08 14 10 - Flush Wood Doors
.4 08 71 10 - Finish Hardware (reference & coordination only)
.5 08 80 50 - Glazing

.15 Division 09 - Finishes
.1 09 91 22 – Painting
.2 09 91 27 - Finishes and Colour Notes (reference)
.3 09 91 30 - Room Finish Schedule (reference)

.16 Division 10 - Specialties
.1 10 28 10 - Washroom Accessories

1.9 SUBCONTRACT No. Project No.: 24116-SC02 – MECHANICAL

.1 Report directly to the Contractor on all matters pertaining to the execution of the Work.

.2 Maintain site cleanliness on a daily basis as it applies to the work of this Subcontract and ensure conformance to the requirements of authorities having jurisdiction with respect to waste audits and waste reduction work plans.

.3 Sections listed as part of a particular Subcontract package may include work described under other Sections. When referenced as a Related Section, include such portions of the Work as part of that particular Subcontract.

.4 Include the following Work as part of Subcontract Project No.: **24116-SC02**:

.5 Division 00
.1 00 52 11 - Subcontract Agreement
.2 00 71 11 - Subcontracting Definitions
.3 00 72 11 - Subcontract Conditions

.4 00 73 11 - Supplementary Subcontract Conditions.

.6 Division 01 - General Requirements
- .1 Administrative / procedural sections applicable to all contracts as listed above.
- .2 Provide and pay for those items listed above in the temporary utilities, facilities and services as required for the Subcontract Work.
- **.3 Division 20 – 25 As described on large format mechanical drawings**

1.10 SUBCONTRACT No. Project No.: 24116-SC03 - ELECTRICAL

.1 Report directly to the Contractor on all matters pertaining to the execution of the Work.

.2 Maintain site cleanliness on a daily basis as it applies to the work of this Subcontract and ensure conformance to the requirements of authorities having jurisdiction with respect to waste audits and waste reduction work plans.

.3 Sections listed as part of a particular Subcontract package may include work described under other Sections. When referenced as a Related Section, include such portions of the Work as part of that particular Subcontract.

.4 Include the following Work as part of Subcontract Project No.: **24116-SC03**:

.5 Division 00
- .1 00 52 11 - Subcontract Agreement
- .2 00 71 11 - Subcontracting Definitions
- .3 00 72 11 - Subcontract Conditions
- .4 00 73 11 - Supplementary Subcontract Conditions.

.6 Division 01 - General Requirements
- .1 Administrative / procedural sections applicable to all contracts as listed above.
- .2 Provide and pay for those items listed above in the temporary utilities, facilities and services as required for the Subcontract Work.
- .3 **Division 26 - Electrical - As described on large format electrical drawings**

1.11 SUBCONTRACT No. Project No.: 24116-SC04 - DRYWALL AND ACOUSTICS

.1 Report directly to the Contractor on all matters pertaining to the execution of the Work.

.2 Maintain site cleanliness on a daily basis as it applies to the work of this Subcontract and ensure conformance to the requirements of authorities having jurisdiction with respect to waste audits and waste reduction work plans.

.3 Sections listed as part of a particular Subcontract package may include work described under other Sections. When referenced as a Related Section, include such portions of the Work as part of that particular Subcontract.

.4 Include the following Work as part of Subcontract Project No.: **24116-SC04:**

.5 Division 00
- .1 00 52 11 - Subcontract Agreement
- .2 00 71 11 - Subcontracting Definitions
- .3 00 72 11 - Subcontract Conditions

.4 00 73 11 - Supplementary Subcontract Conditions.

.6 Division 01 - General Requirements
- .1 Administrative / procedural sections applicable to all contracts as listed above.
- .2 Provide and pay for those items listed above in the temporary utilities, facilities and services as required for the Subcontract Work.

.7 Division 09 - Finishes
- .1 09 21 16 - Gypsum Board Assemblies
- .2 09 22 16 - Non-Structural Metal Framing
- .3 09 51 13 - Acoustical Panel Ceilings

1.12 SUBCONTRACT No. Project No.: 24116-SC05 – FLOORING

.1 Report directly to the Contractor on all matters pertaining to the execution of the Work.

.2 Maintain site cleanliness on a daily basis as it applies to the work of this Subcontract and ensure conformance to the requirements of authorities having jurisdiction with respect to waste audits and waste reduction work plans.

.3 Sections listed as part of a particular Subcontract package may include work described under other Sections. When referenced as a Related Section, include such portions of the Work as part of that particular Subcontract.

.4 Include the following Work as part of Subcontract Project No.: **24116-SC05**:

.5 Division 00
- .1 00 52 11 - Subcontract Agreement
- .2 00 71 11 - Subcontracting Definitions
- .3 00 72 11 - Subcontract Conditions
- .4 00 73 11 - Supplementary Subcontract Conditions.

.6 Division 01 - General Requirements
- .1 Administrative / procedural sections applicable to all contracts as listed above.
- .2 Provide and pay for those items listed above in the temporary utilities, facilities and services as required for the Subcontract Work.

.7 Division 09 - Finishes
- .1 09 30 13 - Ceramic Tiling

1.13 SUBCONTRACT No. Project No.: 24116-SC06 - MASONRY

.1 Report directly to the Contractor on all matters pertaining to the execution of the Work.

.2 Maintain site cleanliness on a daily basis as it applies to the work of this Subcontract and ensure conformance to the requirements of authorities having jurisdiction with respect to waste audits and waste reduction work plans.

.3 Sections listed as part of a particular Subcontract package may include work described under other Sections. When referenced as a Related Section, include such portions of the Work as part of that particular Subcontract.

.4 Include the following Work as part of Subcontract Project No.: **24116-SC06**:

.5 Division 00

.1 00 52 11 - Subcontract Agreement
.2 00 71 11 - Subcontracting Definitions
.3 00 72 11 - Subcontract Conditions
.4 00 73 11 - Supplementary Subcontract Conditions.

.6 Division 01 - General Requirements
.1 Administrative / procedural sections applicable to all contracts as listed above.
.2 Provide and pay for those items listed above in the temporary utilities, facilities and services as required for the Subcontract Work.

.7 Division 4 – Masonry
.1 Unit Masonry & Grout - *Information provided on large format structural drawings.*

1.14 SUBCONTRACT No. Project No.: 24116-SC07 - FINISH HARDWARE SUPPLY AND INSTALLATION (Cash Allowance)

.1 Report directly to the Contractor on all matters pertaining to the execution of the Work.

.2 Maintain site cleanliness on a daily basis as it applies to the work of this Subcontract and ensure conformance to the requirements of authorities having jurisdiction with respect to waste audits and waste reduction work plans.

.3 Sections listed as part of a particular Subcontract package may include work described under other Sections. When referenced as a Related Section, include such portions of the Work as part of that particular Subcontract.

.4 Include the following Work as part of Subcontract Project No.: **24116-SC07**:

.5 Division 00
.1 00 52 11 - Subcontract Agreement
.2 00 71 11 - Subcontracting Definitions
.3 00 72 11 - Subcontract Conditions
.4 00 73 11 - Supplementary Subcontract Conditions.

.6 Division 01 - General Requirements
.1 Administrative / procedural sections applicable to all contracts as listed above.
.2 Provide and pay for those items listed above in the temporary utilities, facilities and services as required for the Subcontract Work.

.7 Division 08 - Openings
.1 08 71 10 – Finish Hardware (supply and installation) CASH ALLOWANCE

1.15 CONTRACTOR ACCESS TO AND USE OF THE PLACE OF THE WORK

.1 Upon written request to the Owner, and prior to commencing the Work at the Place of the Work, the Contractor may visit the existing facility for the purpose of observing existing conditions and taking field measurements. Such visits may only occur on weekdays after 3:30 pm.

.2 The Contractor will be granted access to the Place of the Work for the purpose of commencing the Work on or after July 2, 2025.

.3 Contractor shall limit use of the existing facility, including the Place of the Work, for the execution of the Work, for storage, and for access, to allow:

.1 Owner occupancy,
.2 Work by other contractors, and
.3 Public usage.

1.16 OWNER OCCUPANCY OF THE EXISTING FACILITY

.1 Owner will occupy the existing facility during the entire construction period for execution of normal operations.
.2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.17 PHASING OF THE WORK

.1 Construct the Work in phases to accommodate the Owner's continued use of the existing facility during construction.
.2 Refer to the phasing schedule indicated on the Drawings.

1.18 PARTIAL OWNER OCCUPANCY OF THE WORK

.1 Owner may temporarily occupy designated areas of the Work for the purpose of storing furnishings and equipment and installing equipment.
.2 In accordance with GC 5.10 - Non-Conforming Work, partial Owner occupancy will not be considered as an acceptance of the Work, nor in any way relieve the Contractor of his responsibility to complete the Work.

1.19 SUBSTANTIAL PERFORMANCE OF THE WORK

.1 Refer to GC 5.5 - Substantial Performance of the Work.
.2 Substantial Performance of the Work is required on or before September 1, 2025.

END OF SECTION

Part 1 General

1.1 PROJECT MEETINGS FOR COORDINATION

.1 In consultation with the Consultant not later than the second week of construction, arrange for site meetings weekly or every 2 weeks as appropriate to the stage of construction, for project coordination. Such meetings shall fall at the same time each week the meeting is scheduled.

.2 Responsible representatives of the Contractor's and Subcontractor's office and field forces and suppliers shall be obliged to attend.

.3 Inform the Owner, Consultant, and those others whose attendance is obligatory, of the date of each meeting, in sufficient time to ensure their attendance.

.4 Provide physical space for meetings, prepare an agenda, chair and record the minutes of each meeting. Relevant information must be made available to all concerned, in order that problems to be discussed may be expeditiously resolved. Identify "action by: _____".

.5 Within three days after each meeting, distribute two copies of the minutes to each invited person and regular distribution list to be issued by the consultant.

1.2 PRECONSTRUCTION MEETING

.1 Within 5 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

.2 Include in the agenda the following:

.1 Appointment of official representative of participants in the Work.
.2 Site Safety and Security
.3 Scheduling of Work. Schedule to include a detailed breakdown of mechanical and electrical works.
.4 Interference with ongoing business.
.5 Work by other Contractors.
.6 Schedule of submission of shop drawings and samples.
.7 Requirements for temporary facilities, site sign, offices, storage sheds utilities.
.8 Delivery schedule of specified equipment and identification of long-lead or other critical items.
.9 Site security.
.10 Procedures for Contemplated change notices, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
.11 Record drawings.
.12 Maintenance manuals.
.13 Take-over procedures, acceptance, warranties.
.14 Monthly progress claims, administrative procedures, photographs, holdbacks.

.15 Appointments of inspection and testing agencies or firms.

.16 Insurances, transcript of policies.

.17 Schedule for progress meetings.

1.3 PROJECT MEETINGS FOR PROGRESS OF WORK

.1 Conduct progress meetings in accordance with the schedule and/or decisions made at Preconstruction meeting.

.2 Inform the Owner, Consultant, project consultants, Subcontractors and suppliers and those whose attendance is obligatory, of the date of the meeting, in sufficient time to ensure their attendance.

.3 Include in the agenda the following:

.1 Site Safety and security record or incidents.

.2 Review, approval of minutes of previous meeting.

.3 Review of Work progress since previous meeting.

.4 Field observations, problems, conflicts.

.5 Problems which impede construction schedule.

.6 Review of off-site fabrication delivery schedules.

.7 Corrective measures and procedures to regain projected schedule.

.8 Revisions to construction schedule.

.9 Progress during succeeding work period as a “two-week look ahead”.

.10 Review submittal schedules: expedite as required.

.11 Maintenance of quality standards.

.12 Pending changes and substitutions.

.13 Review proposed changes for effect on construction schedule and on completion date.

.14 Other business.

1.4 PROGRESS RECORDS

.1 Maintain a permanent written record on the site of the progress of the work using standard OGCA form. This record shall be available to the Consultant at the site, and a copy shall be furnished to same on request. The record shall contain:

.1 Daily weather conditions, including maximum and minimum temperatures.

.2 Dates of the commencement and completion of stage or portion of the work of each trade in each area of the project.

.3 Conditions encountered during excavation.

.4 Dates of erection and removal of formwork, in each area of the project.

.5 Dates of pouring the concrete in each area of the project, with quantity and Particulars of the concrete.

.6 Work force on project daily per trade and active hours.

.7 Visits to site by personnel of Consultant, Jurisdictional Authorities and testing companies.

1.5 PROGRESS REPORTS

.1 Submit to the Consultant, Monthly Progress Reports consisting of a concise narrative and a marked-up summary schedule showing physical percentage complete by item and in total. These progress calculations must agree with the Progress Payment Claims. masonry; mechanical, finishing trades and the like. Include with this submission the digital schedule referenced below

1.6 DIGITAL PROJECT SCHEDULES

.1 At the outset of the project, General Contractor to provide and maintain a digital project schedule including Milestone Dates and listing all trades.

.2 Update and issue to Consultant in hard copy and electronic copy not less than monthly and at each Progress Draw. To be issued in format compatible with Microsoft Project program.

.3 At 70% completion, or 16 weeks prior to Substantial Completion, whichever comes first, Project develop a detailed Completion Schedule outlining final coordination and sequences to completion.

1.7 DOCUMENTS REQUIRED AT PROJECT START, DURING CONSTRYCTION AND CLOSE OUT

.1 Refer to Section 01 11 00 – Summary of Work, article 1.46.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 PRODUCT SUBSTITUTION PROCEDURES

.1 Requests for substitution will only be considered when submitted in sufficient time to permit proper evaluation by the Consultant.

.2 When requesting Consultant review of a proposed Product substitution, demonstrate that the proposed substitute will perform equally as well or better as the specified Product.

.3 Accompany each request for substitution with a list of properties for both the specified Product and the proposed substitute, including the following information:

.1 Product identification, including manufacturer's name, address, telephone and fax numbers, and web site address where available.

.2 Manufacturer's Product data sheets, including material descriptions, compliance with
applicable reference standards, and performance and test data.

.3 A summarized comparison of physical properties and performance characteristics for the specified Product and the proposed substitution, and clearly highlighting significant variations.

.4 Indication of availability of maintenance services and sources of replacement materials and parts, including associated costs and time frames.

.5 Indication of cost savings and reduction of construction schedule.

.6 Verification that the substitute will not result in additional costs or a reduction in performance to other portions of the Work.

.7 Reason for requesting the substitution.

.4 The clauses "or equal", "or approved equal", or other similar clauses, will not be construed as an invitation to submit requests for substitution or to unilaterally substitute Products in place
of the specified Products and systems.

.5 The abbreviation "eg." means "for example", and a Product listed thereafter is named as an example of the Product upon which the specification is based. Similar Products from other Acceptable Manufacturers are acceptable for use, provided they meet the specified criteria.

.6 Failure to order specified Products in adequate time to meet the approved construction schedule will not be a valid reason to submit a request for substitution. In accordance with GC 6.5 - Delays, such delays remain the responsibility of the Contractor, and will not result in an extension to the Contract Time or be subject to reimbursement by the Owner.

.7 The Owner is under no obligation to consider Product or system substitutions recommended by the Contractor.

.8 Remove and replace substitutions incorporated into the Work without the Consultant's written approval.

END OF SECTION

Part 1 General

1.1 CLARIFICATIONS

.1 Request written clarifications when the meaning of the Contract Documents is unclear.

.2 Do not proceed with related parts of the Work until clarification is received.

.3 Failure to notify Consultant when the Contract Documents are unclear or inconsistent will result in the Contractor incurring responsibility for resulting deficiencies and additional costs.

.4 Clarifications issued by the Consultant are deemed to supercede the relevant parts of the Contract Documents, regardless whether those documents are cited in the written clarification.

1.2 REQUESTS FOR INTERPRETATION

.1 The Contractor may, after exercising due diligence to locate the required information, request from the Consultant clarification or interpretation of the Contract Documents, hereinafter referred to as a request for interpretation (RFI).

.2 Submit RFI on a form acceptable in content to the Consultant, including a detailed description of the Contractor's review of the Contract Documents leading up to the issuance of the RFI. Requests for interpretation that fail to include a detailed review description, or whose description is insufficient in the opinion of the Consultant, may not be considered and may be rejected.

.3 Maintain a log of RFI sent to and responses received from the Consultant, complete with corresponding dates. Submit updated RFI log with each application for payment.

.4 Submit RFI to Consultant sufficiently in advance of affected parts of the Work so as not to cause delay in the Work. Additional costs incurred as a result of failure to submit an RFI in sufficient time will not be reimbursed by Owner.

.5 Submit one RFI per RFI form, numbered consecutively in a single sequence, in the order submitted.

.6 The Consultant will review and respond to RFI with reasonable promptness.

.7 The Consultant's response to RFI will not be considered a Changer Order or Change Directive, nor does it authorize changes in the Work, the Contract Price and the Contract Time.

.8 If, at any time, the Contractor submits a large quantity of RFI, such that the Consultant cannot process them within a reasonable period of time, then the Consultant will notify the Contractor of such in writing. In this event, the Contractor and the Consultant will jointly prepare an estimate of time necessary for processing the RFI, as well as determining an order of priority among the submitted RFI. The Contractor will accommodate such necessary time at no increase in the Contract Time and Contract Price.

.9 If the information requested in an RFI is apparent from field observations, is contained in the Contract Documents or is reasonably inferable from them, the Contractor shall be responsible to the Owner for reasonable costs charged by the Consultant for additional services required to prepare and issue such information.

.10 A request for interpretation (RFI) will not constitute a notice of claim for a delay.

1.3 CONTRACT MODIFICATION PROCEDURES

.1 Refer to GC 6.1 - Owner's Right to Make Changes, GC 6.2 - Change Order and GC 6.3 - Change Directive.

.2 Once a Proposed Change has been issued by the Consultant, it shall be the responsibility of the Contractor to ensure that no work is carried out that may increase the cost of the variation contemplated.

.3 The Consultant will assess the fair market cost of each change before issuing a Change Order. Assist the Consultant with this task by quoting variations in a complete manner, listing:

- .1 quantity of each material,
- .2 unit cost of each material,
- .3 man hours involved,
- .4 cost per hour, and
- .5 Subcontractor quotations.

.4 The Consultant may require further quotations in order to show a breakdown of costs.

.5 The Owner and the Consultant will not be responsible for delays to the Work resulting from late, incomplete or inadequately broken down valuations submitted by the Contractor.

.6 Minor variations may be made in the project from time to time as approved by the Consultant.

Such alterations or adjustments shall not constitute a change in cost unless a request is made at the time. No extra will be contemplated except where a clear indication is made that extra payment is claimed, in which case a Proposed Change or Change Directive will be issued by the Consultant in accordance with GC 6.1 - Owner's Right to Make Changes, or GC 6.3 - Change Directive. Unless this procedure is followed, no claims for extras will be allowed.

END OF SECTION

1 General

1.1 COORDINATION

.1 Coordinate the Work to ensure the Work proceeds safely and expeditiously.

.2 Ensure adequate communication among involved parties.

.3 Allocate mobilization areas of the Place of the Work; for field offices and sheds, for access, traffic, and parking facilities.

.4 Coordinate use of the Place of the Work and facilities through procedures for submittals, reports and records, schedules, coordination of Drawings, recommendations, and resolution of ambiguities and conflicts.

.5 Submit information required for preparation of coordination and interference drawings. Review and approve revised drawings for submission to Consultant.

1.2 DOCUMENTS AT THE PLACE OF THE WORK

.1 Maintain an up-to-date copy of the following documents at the Place of the Work:

- .1 The Contract Documents, including the Drawings, Specifications, addenda, bid revisions, Notices in Writing, Supplemental Instructions, proposed changes, Change Orders, Change Directives, and other modifications to the Contract.
- .2 Accepted Shop Drawings, Product data and samples.
- .3 Quality control submittals, including test and evaluation reports.
- .4 Manufacturer's instructions, including installation and maintenance guidelines.
- .5 Construction schedule.
- .6 Additional requested schedules.
- .7 Consultant's field review reports and deficiency reports.
- .8 Reports from authorities having jurisdiction.
- .9 Permits.
- .10 Construction daily log.
- .11 Record as-built documents as described in Section 01 78 00.

.2 Make documents available to Consultant for review at the Place of the Work.

.3 Construction Daily Log: Maintain a construction log, recording on a daily basis the following information:

- .1 Number of workers actively working at the Place of the Work, organized on a Trade Contract basis.
- .2 Subcontractors working at the Place of the Work.
- .3 Identify the parts of the Work being worked on.
- .4 Identify the working hours being kept at the Place of the Work.
- .5 Activities with intermittent progress.
- .6 Time lost with an explanation as to cause.
- .7 Difficulties encountered, such as construction activity delays, labour inefficiencies, labour shortages, etc.
- .8 Product deliveries.
- .9 Equipment mobilization and de-mobilization.

.10 Demolition conditions.
.11 Start and finish dates for each part of the Work.

1.3 OTHER CONTRACTORS

.1 Cooperate with any separate contractor employed by the Owner and, if necessary, co-ordinate with their work.

.2 Submit necessary information to Owner to assist in the required scheduling of such contractors.

1.4 CONTINUANCE OF OWNER OPERATIONS

.1 Coordinate and schedule the Work to minimize any disruption of the normal functions of the existing building.

.2 Changes to the traditional scheduling of construction may be required and certain portions of the Work may not be able to proceed in continuous sequence.

.3 Every reasonable effort will be made to cooperate with the construction process.

.4 The Owner may modify proposed scheduling where such changes are in the best interests regarding the operation of the existing building.

1.5 GENERAL REQUIREMENTS FOR PROJECT MEETINGS

.1 Schedule and administer project meetings in consultation with Consultant, throughout the progress of the Work.

.2 Prepare agenda for meetings.

.3 Distribute written notice of each meeting 4 days in advance of meeting date to Consultant and Owner.

.4 Provide physical space and make arrangements for meetings.

.5 Preside at meetings.

.6 Record the minutes. Include significant proceedings and decisions. Identify action by the parties.

.7 Reproduce and distribute copies of minutes within 5 days after meeting and transmit to meeting participants, affected parties not in attendance, the Consultant, and the Owner.

.8 Representative of Contractor, Subcontractor, and suppliers attending meetings shall be qualified and authorized to act on behalf of the party each represents.

.9 Schedule meetings at regular 14 day intervals, on a day that is determined as convenient by Contractor and Consultant.

1.6 PRE-CONSTRUCTION MEETING

.1 Within 15 days after award of Contract, request a meeting with the Owner to discuss and resolve administrative procedures and responsibilities.

.2 Conduct meetings with Subcontractors and Suppliers to discuss and resolve administrative procedures and responsibilities.

.3 Owner, Consultant, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.

.4 Establish time and location of meeting and notify parties concerned a minimum of 5 days before meeting date.

.5 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.

.6 Pre-construction Meeting Agenda: include the following:

.1 Appointment of official representative of participants in the Work;
.2 Schedule of Work, progress scheduling;
.3 Schedule of submissions of shop drawings, samples, colour chips;
.4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences;
.5 Delivery schedule of specified equipment;
.6 Site security;
.7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements;
.8 Owner provided products;
.9 Record drawings;
.10 Maintenance manuals;
.11 Take-over procedures, acceptance, warranties;
.12 Monthly progress claims, administrative procedures, photographs, holdbacks;
.13 Appointment of inspection and testing agencies or firms;
.14 Insurances, transcripts of policies.

1.7 PREINSTALLATION MEETINGS

.1 During the course of the Work, schedule preinstallation meetings as required by the Contract Documents.

.2 Wherever possible, schedule preinstallation meetings on the same date as regularly scheduled progress meetings.

.3 The Contractor, affected Subcontractors and Suppliers, manufacturer's representatives, field inspectors and supervisors, the Consultant and any other specified parties are to be in attendance.

.4 Preinstallation Meeting Agenda: include the following:

.1 Review of existing conditions and affected parts of the Work, and any testing thereof;
.2 Review of installation procedures and requirements;
.3 Review of environmental and field condition requirements;
.4 Schedule of the applicable parts of the Work;
.5 Schedule of submission for samples and other items requiring Consultant's selection;
.6 Requirements for Temporary Work;
.7 Requirements for notification for reviews. Allow a minimum of 48 hours notice for Consultant to review the affected parts of the Work;
.8 Requirements for inspections and tests as applicable. Schedule and undertake inspections and tests;
.9 Delivery schedule for Products; and
.10 Special safety requirements and procedures.

1.8 PROGRESS AND PROGRESS DRAW MEETINGS

.1 During course of the Work and 2 weeks prior to completion of the Contract, schedule progress meetings biweekly.

.2 During course of the Work, schedule progress draw meetings monthly.

.3 Submit to Consultant a copy of the application for payment not less than two Working Days before scheduled progress draw meeting. Consultant may require changes to the application for payment prior to progress draw meeting.

.4 Contractor, major Subcontractors involved in Work, Consultant, and Owner are to be in attendance.

.5 Progress Meeting Agenda: include the following:

.1 Review, approval of minutes of previous meeting;
.2 Review of Work progress since previous meeting;
.3 Field observations, problems, conflicts;
.4 Problems impeding construction schedule;
.5 Review of off-site fabrication delivery schedules;
.6 Corrective measuring and procedures to regain project schedule;
.7 Revision of construction schedule;
.8 Progress, schedule, during succeeding work period;
.9 Review submittal schedules, record drawings: expedite as required;
.10 Maintenance of quality standards;
.11 Review of proposed changes for affect on construction schedule and on completion date;
.12 Other business.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Shop drawings and product data.

.2 Samples and mock ups.

1.2 SHOP DRAWINGS

.1 Submit to Architect, for review, shop drawings, product data and samples specified.

.2 Until submission is reviewed, work involving relevant product must not proceed.

1.3 SHOP DRAWINGS AND PRODUCT DATA

.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.2 Drawings to be originals prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate appropriate portion of work; showing fabrication, layout, setting or erection details as specified in appropriate Sections.

.3 Identify details by reference to sheet and detail numbers shown on Contract Drawings.

.4 Maximum sheet size 606 x 909 mm.

.5 Reproductions for submissions: opaque diazo prints.

1.4 PROJECT DATA

.1 Certain specification Sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings.

.2 Above will only be accepted if they conform to following:

.1 Delete information which is not applicable to project.

.2 Supplement standard information to provide additional information applicable to project.

.3 Show dimensions and clearances required.

.4 Show performance characteristics and capacities.

.5 Show wiring diagrams (when requested) and controls.

1.5 COORDINATION OF SUBMISSIONS

.1 Review shop drawings, product data and samples prior to submission.

.2 Verify:

.1 Field measurements.

.2 Field construction criteria.

.3 Catalogue numbers and similar data.

.3 Co-ordinate each submission with requirement of work and Contract documents. Individual shop drawings will not be reviewed until all related drawings are available.

.4 Contractor's responsibility for errors and omissions in submission is not relieved by Architect's review of submittals.

.5 Contractor's responsibility for deviations in submission from requirements of Contract documents is not relieved by Architect's review of submission, unless Architect gives written acceptance of specified deviations.

.6 Notify Architect, in writing at time of submission, of deviations from requirements of Contract documents.

.7 After Architect's review, distribute copies.

1.6 SUBMISSION REQUIREMENTS

.1 Schedule submissions at least fourteen (14) days before dates that reviewed submissions will be required to be returned.

.2 Submit one reproducible transparency, plus six (6) opaque diazo copies of shop drawings, product data to Architect for review.

.3 Accompany submissions with transmittal letter, in duplicate, containing:

.1 Date.

.2 Project title and number.

.3 Contractor's name and address.

.4 Number of each shop drawing, product data and sample submitted.

.5 Other pertinent data.

.4 Submissions must include:

.1 Date and revision dates.

.2 Project title and number.

.3 Name of:

.1 Contractor.

.2 Subcontractor.

.3 Supplier.

.4 Manufacturer.

.5 Separate detailer when pertinent.

.5 Identification of product or material:

.1 Relation to adjacent structure or materials.

.2 Field dimensions, clearly identified as such.

.3 Specification Section number.

.4 Applicable standards, such as CSA or CGSB numbers.

.5 Contractor's stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with Contract documents

1.7 INTERFERENCE DRAWINGS

.1 Prepare interference drawings for all work in confined space: all typical ceiling space conditions and atypical conditions. Coordinate with all trades.

.2 Submit as shop drawings in advance of fabrication or installation of components. Site conditions requiring corrections, due to failure to provide interference drawings as required will be corrected at no additional cost to the owner.

.3 Ceiling heights and bulkheads will not be revised during construction due to failure to prepare interference drawings.

1.8 SHORING DESIGN DRAWINGS

.1 If required as part of this project, or due to construction sequence, it is the contractor’s responsibility to provide in advance of any work requiring shoring, detailed Shoring design drawings bearing the seal of a Professional engineer registered in the Province of Ontario and also a Method Statement describing the work sequence.

.2 Submit to the Consultants as shop drawings in advance of the work.

1.9 SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEERS

.1 In addition to any the similar requirements for shop drawings of any mechanical or electrical systems, Shop Drawings for all structural components or components required to perform in conjunction with other structural or building envelope components, cladding and the like shall bear the seal of a professional engineer licensed in the Province of Ontario.

.2 In addition, all components to be attached to or suspended from the walls and ceiling areas shall also bear the seal of a professional engineer licensed in the Province of Ontario. This shall include but not be limited to the following:

.1 Stage drapery and rigging

.2 Stage lighting system

.3 Gymnasium equipment such as basketball backstops

.4 Projection screen supports

1.10 LIST OF SAMPLE OR MOCK-UP SUBMITALS

.1 At the outset of the project the contractor shall prepare a comprehensive list of all shop drawings, sample submissions and mock ups required.

.2 For assistance only, the following samples and mock up items to be provided are included but not limited to the list following (note this is not exclusive of data sheets and shop drawings):

.1	04 21 13	Brick Masonry	samples, mock-up (2m x 2m)
.2	04 21 13	Masonry Accessories	samples
.3	04 22 00	Concrete Masonry	samples
.4	06 40 00	Architectural Woodwork	samples (300mm x 300mm)
.5	06 47 00	Plastic Laminates	samples
.6	07 21 13	Board Insulation	samples
.7	07 27 10	Air Barriers	samples
.8	07 41 43	Aluminum Composite Panels	samples, mock-up (3m x 2m)
.9	07 92 10	Joint Sealing	samples and mock up
.10	08 71 10	Finish Hardware	samples
.11	09 30 13	Ceramic Tiling	samples
.12	09 51 13	Acoustical Panel Ceilings	samples (300 x 300)
.13	09 65 19	Resilient Tile Flooring	samples
.14	09 91 22	Painting	draw downs, mock-up
.15	10 11 25	Manufactured Specialties	samples
.16	10 21 20	Laminated Plastic Toilet Partitions	colour samples

1.11 SUBMISSIONS TO INSPECTION AGENCIES

.1 Note that Paint formulations specified are to be submitted to the OPCA or MPI with set up documentation upon award of Contract.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

.1 This Section outlines the mandatory minimum Health and Safety protocols for all renovation, addition and new school construction Projects where all or a portion of the existing school building remains occupied and in use.

.2 These Health and Safety protocols are mandatory minimum requirements, procedures and standards that the School Board insists are fully complied with by all parties involved with renovation projects.

1.2 RELATED SECTIONS

.1 These specifications apply to all Divisions of this Project specification. It is the responsibility of the Contractor to apply these provisions wherever practical within specification limits to all products and services used on this Project.

.2 The requirements of this Section supersede those of all other specification Sections and Drawings. Where conflicts exist in procedures, methods or materials, they shall immediately be brought to the attention of the Consultant and Board Project Manager. Where clarification is not immediately available, the Contractor shall assume the specifications contained in this Section are a minimum standard and the more stringent specification shall apply.

.3 The Contractor must receive approval from Board Project Manager for any deviations from this specification Section.

.4 The General Contractor shall recognize that it is *he* who is the Constructor of the Project. The General Contractor shall also recognize that he is solely responsible for site safety at the Place of the Work and compliance with the requirements of this Section does not limit or remove his total responsibility for site safety as Constructor of the Project.

1.3 REFERENCES

.1 Applicable related regulations, standards and laws related to safety include but are not limited to:

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Material Safety Data Sheets (MSDS).

.3 Province of Ontario

1. Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. 1990 June 2002.

1.4 COMPLIANCE SPECIFICATION

.1 Notwithstanding the requirements of this Section, the Contractor must comply with all applicable health, safety and environmental regulations and statutes.

1.5 BEYOND COMPLIANCE SPECIFICATION

.1 These specifications apply in addition to all applicable health, safety and environmental compliance regulations. They are incorporated here to reflect the Board's intention to develop a specification which provides the safest practical procedures and policies for construction project sites that are occupied and in use by staff, students and visitors during the execution of the Construction Contract.

.2 Beyond compliance specifications recognize that performance well beyond the minimum regulatory standard is often desirable, possible and affordable, often with no cost or low cost options. It also recognizes that application methods or protocols may be as important as the material specified. Therefore, these specifications cover both material and methods.

.3 These provisions apply to both indoor and outdoor applications equally.

Part 2 Products

2.1 NOT USED

Part 3 Execution and Compliance Requirements

3.1 APPLICATION OF COMPLIANCE REQUIREMENTS

.1 The articles setout herein are to be applied together as a set of related policies and procedures to achieve a comprehensive Health and Safety working protocol.

.2 The Contractor shall execute all of the procedures and meet all of the requirements set out herein and apply these protocols from the outset of the Construction Phase.

.3 These procedures or requirements are to be maintained for the duration of the Construction Phase. The Contractor shall not discontinue any of the individual procedures or requirements without the prior approval of the Board Project Manager.

3.2 SITE SUPERVISOR (SITE SUPERINTENDENT)

.1 A full-time Site Supervisor (Site Superintendent) is required on site, regardless of the number of active workers on site.

.2 Site Superintendent shall have as a minimum:

.1 Recent, previous experience with renovation or addition projects involving occupied buildings including (but not limited to) school construction, sites with students, tenants, employees, retail customers, pedestrian and vehicular traffic.

.2 Successful completion of a multi-session Supervisor's training course conducted by a recognised Construction Association in Ontario.

.3 Site Superintendent must carry a cell phone at all times during construction with the ability to be reached directly during all work hours and the ability to have voicemail recorded and accessed during all non-work hours including weekends and holidays.

.4 Site Superintendent must have means of live phone or walkie-talkie communication with the site Flagman during all work hours.

.5 Site Superintendent shall not be changed throughout project unless confirmed and approved by the Board Project Manager.

3.3 ONTARIO OCCUPATIONAL HEALTH & SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS

.1 General Contractor to comply with the Ontario Occupational Health & Safety Act and Regulations for Construction Projects, latest edition– including all amendments.

.2 Beyond compliance in item .1 above, regardless of the number of labourers active on the Project, the General Contractor shall form a contractors' Health & Safety Committee at the outset of construction. This Committee shall then follow the standard requirements for such a Committee as set out in the *Occupational Health & Safety Act and Regulations for Construction Projects.*

3.4 ON-SITE COMMUNICATIONS

.1 At the outset of the project the General Contractor shall provide to the Board Project Manager all relevant contact information for the Site Superintendent, GC Project Manager and key sub-contractors including names and cell phone numbers.

.2 The General Contractor shall provide at least one "emergency contact" telephone number at which the Contractor's representative can be reached directly during all work hours and have the ability to have voicemail recorded during all non-work hours including weekends and holidays. As outlined below, this may be designated to the Site Superintendent's cell phone number.

.3 Regardless of compliance method for the emergency contact telephone number stated above, the Site Superintendent must carry a cell phone at all times during construction with the ability to be reached directly during all work hours and the ability to have voicemail recorded during all non-work hours including weekends and holidays.

.4 Site Superintendent must have means of live phone or walkie-talkie communication with the site Flagman during all work hours.

.5 The Contractor is to ensure that the Board Project Manager is immediately apprised of any safety issues as each arises and the related request and/or resolution. The Board Project Manager is responsible for any decisions that have an effect on the contract execution.

.6 Notwithstanding the reporting to the Project Manager noted above the Site Superintendent shall liaise with school principal or designate on all safety related matters as required on a daily basis.

.7 In the event of a safety issue requiring contractual clarification or action (i.e. Change Notice, etc.), the contractor shall ensure that, where applicable, the action is followed up with appropriate documentation.

3.5 FULL-TIME ON-SITE FLAGMEN

.1 A full-time, designated Flagman is required at all vehicular construction entrances. Refer to drawings for the scope and locations.

.2 In the event there is more than one entrance to the hoarded/fenced construction area, there must be a separate Flagman for each entrance.

.3 Flagman may not be same person as Site Superintendent or other construction worker.

.4 Flagman shall not be changed throughout the Project unless confirmed and approved by the Board Project Manager.

.5 Flagman must have means of phone communication with Site Superintendent (phone or walkie-talkie).

.6 The Flagman shall not be designated for any other duties than to act as a Flagman for safety purposes as described herein.

.7 The Flagman shall meet and escort any construction traffic from the site **entrance** into and out of the hoarded/fenced construction area (including through open site areas until entrances to hoarding.

.8 The Flagman shall only open hoarded areas when construction traffic moves through and immediately re-close gates.

.9 The Flagman shall control construction parking at the school site (including vehicles parking or traveling in unauthorized areas).

.10 The location of the Flagman shall be set to ensure the safe guarding of staff, student, and pedestrian traffic.

.11 If not designated on the Contract Documents, the location of the Flagman shall be confirmed with the Board Project Manager and Consultant at the outset of the project and before the placement of hoarding and fencing.

.12 Where the Contractor deems it necessary, in order for the Flagman to carry out the required full-time duties, the cost of a temporary shelter shall be included in the Tender Price.

.13 The Flagman shall be properly attired to carry out his duties, including the use of safety equipment (e.g. wear reflective vest, have appropriate traffic hand-held "Stop" sign and have a visible identification tag).

3.6 SITE SAFETY SIGNAGE

.1 Standardised Safety Signage is required at all construction entrances.

.2 If not designated on the Contract Documents, the location of the Safety Signage shall be confirmed with the Board Project Manager and Consultant at the outset of the Project and before the placement of hoarding and fencing.

.3 Safety Signage is to be posted at all street entrances to school site and at each entrance to hoarded/fenced construction area.

.4 Total surface area of signage is to avoid exceeding municipal standards that would require a separate signage permit.

.5 Access signage text shall include cell phone contact number for Site Superintendent.

.6 Signage posted at gates shall state restrictions on hours of entry and egress as described in the Contract Documents and under no circumstances shall construction traffic be allowed within 30 minutes prior to school start, during recess, lunch break, and 30 minutes after dismissal periods.

3.7 ACCESS/EGRESS CONTROLS

.1 At the outset of the Contract, the General Contractor shall advise all suppliers and subcontractors of the protocols listed herein and of the requirement to contact the Site Superintendent by Cell phone prior to entering the site.

.2 The drivers of all construction vehicles entering the site, including delivery vehicle drivers, are to contact site Superintendent by cell phone prior to entering site; the Site Superintendent shall, in turn, give notice to the Flagman to be aware of the traffic and authorize the Flagman to allow entry of that vehicle.

.3 Vehicular Gates are only for entry and exit of for construction purposes such as construction personnel, Authorities performing inspections, Board representative, delivery personnel, and disposal pickup and ONLY under escort by the Flagman. As such vehicular gates must remain closed and locked at all times and only opened for access/egress under escort by the Flagman, then closed and locked again.

.4 Gates are to be lockable swing gates for vehicles and man gates at all access points to the hoarded/fenced construction area.

3.8 CONTRACTOR PARKING

.1 Contractor parking shall be restricted to hoarded areas or designated parking areas only where pre-approved by Board Project Manager and Principal.

.2 Contractor parking is restricted from all off-site street areas that interfere with site specific parent drop-off and parking areas.

3.9 REQUIRED PRE-CONSTRUCTION MEETINGS

.1 Meeting 1: Contractor shall receive approval from the Architect and the Board Project Manager for parking, vehicular movement, access/egress strategies at a Pre-construction meeting taking place in advance of mobilizing on site.

.2 Meeting 2: Once hoarding and fencing is erected BEFORE site construction is fully active and vehicles or equipment is mobilized on site, an initial site meeting shall take place at which time the layout of trailers and staging, deliveries, storage of materials, parking areas and vehicular movement to be reviewed and approved by the Board Project Manager.

.3 See article *3.12- 'Site Meetings'* following.

3.10 CONSTRUCTION FENCING AND HOARDING

.1 Construction hoarding requirements shall be a site based decision to be determined by the Architect and the Board Project Manager at the design stage and shown on Contract Documents.

.2 No fencing or hoarding shall be less than a continuous 1800 mm high.

.3 In portions of the site where chain link is approved, it shall be continuous 1800 mm high chain link fencing, wire-tied to staked iron 'tees' at 1800 mm on centre - OR - leased, modular 'quick fencing' if staked down and wire tied together.

.4 All fenced and hoarded areas to be gated with lockable vehicular and man gates-minimum construction to be steel rail and chain link construction.

.5 Plastic snow fencing is NOT permitted.

.6 All hoarding and fencing shall be maintained in a stable condition, for duration of construction period as part of the base contract price and to include Superintendent's inspection at the beginning and end of each work day.

.7 All Fire Routes to be outside all fenced and hoarded areas and maintained clear at all times.

.8 'Covered way' protection shall be provided when accesses or pathways are in proximity to construction, in accordance with Ministry of Labour *Occupational Health & Safety Act* Regulations.

3.11 HEALTH, WELLNESS & SAFETY DEPARTMENT REPRESENTATIVE

.1 A representative of the Board's Health, Wellness & Safety Dept. ('Environment, Health and Safety Officer') may visit site at any anytime throughout the duration of the Contract to review the site, as it relates to the safety of the occupied areas of the site. Such site review shall neither constitute an inspection or approval for the Contractor.

.2 Concerns or issues identified by the representative from the Board's Health, Wellness & Safety Dept. shall be communicated through the Board Project Manager and the school Principal for corrective action.

.3 Contractor shall ensure full access to all site areas, at all times, for the Board's Health, Wellness & Safety Department Representative.

3.12 SITE MEETINGS

.1 Coordinate the requirements of this Section with *Section 01 22 00 – 'Meetings and Progress Reports'*.

.2 Initial site meeting to take place after erecting fencing and hoarding but prior to the mobilisation of any vehicles, equipment or start of Work.

.3 Contractor shall ensure that the Board Project Manager, School Principal and a representative of the Board's Health, Wellness & Safety Department and the School Principal attend the initial site meeting.

.4 The initial meeting shall review and approve a standardised agenda for all site meetings and a thorough review of the Site Safety Protocol.

.5 The standardised agenda shall include a Checklist and Report of Health and Safety items at the beginning of the agenda. This Checklist shall be included and each item reviewed at all site meetings for the duration of the project.

.6 The Checklist of Site Safety items shall include but not be limited to:

.1 Contractor's report of site safety record and report of recent site activities, precautions or actions.

.2 Review any visits to the site and actions required by Ministry of Labour or Board Health, Wellness & Safety representatives or other Authorities Having Jurisdiction.

.3 Contractor's Health & Safety policy manual posted in site trailer.

.4 Copy of Ministry of Labour *Occupational Health & Safety Act and Regulations for Construction Projects* in site trailer.

.5 Name of General Contractor H&S representative.

.6 Continuing compliance with Safety Signage.

.7 Hoarding & fencing layout and condition.

.8 Access and egress measures and any breaches of requirements.

.9 Confirmation of communications link between Site Superintendent & Flagman.

.10 Work that may produce any noxious odours and the containment measures, (*i.e.*: schedule, type, approvals required therefore).

.11 Copies of Material Safety Data sheets in site trailer.

.12 Complete meeting minutes including details of Safety Checklist shall be copied to Architect, Board Project Manager and Principal.

.7 Contractor to produce record of written Memorandum to all subtrades and suppliers detailing but not limited to: hours of delivery; site access procedures and restrictions; use of existing facilities.

.8 Contractor to prepare detailed and accurate written record of all meetings to be kept and issued to all parties.

3.13 CONTRACTOR'S HEALTH AND SAFETY COMMITTEE MEETINGS

.1 As required in item 3.1.2, the Contractor shall form a Health and Safety Committee, hold meetings and record minutes of meetings for the duration of the Contract.

.2 Contractor to maintain a copy of Health & Safety Committee minutes on site for review by Ministry of Labour or Board representative(s).

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

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

1.2 RELATED SECTIONS

.1 These specifications apply to all divisions of this project specification. It is the responsibility of the Contractor to apply these provisions wherever practical within specification limits to all products and services used on this project.

.2 Recognized that currently specified materials and methods may conflict with the basic intention of this section. Where reasonable alternate materials and methods exist that are not specified here, and that do not compromise quality or create additional cost for the Owner, notify the Consultant of such alternate materials or methods. Do not proceed to use alternate materials or methods to those specified without the express approval of the Consultant.

.3 Elsewhere, apply the provisions of this section to all work. Exceptions can only be made when signed off by the Consultant. Suitability of all products used is the responsibility of the Contractor.

1.3 REFERENCES

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Material Safety Data Sheets (MSDS).

.3 Province of Ontario

.1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. [1990 June 2002].

1.4 COMPLIANCE SPECIFICATION

.1 The Contractor must comply with all applicable health, safety and environmental regulations.

1.5 BEYOND COMPLIANCE SPECIFICATION

.1 These specifications apply in addition to all applicable health, safety and environmental compliance regulations. They are incorporated here to reflect the Owner’s intention to develop a specification which maximizes environmentally “friendly” materials and methods wherever possible within current technical and budget limitations.

.2 Beyond compliance specifications recognize that performance well beyond the minimum regulatory standard is often desirable, possible and affordable, often with no cost or low

cost options. It also recognizes that application methods or protocols may be as important as the material specified. Therefore these specifications cover both material and methods.

.3 The primary goal of beyond compliance specification is to reduce the use of products or methods which have negative health and environmental impacts both during and after construction. These considerations may include full life cycle impacts, associated with raw materials, manufacturing, transport, deconstruction and their eventual fate.

.4 These specifications will specifically address primary categories of readily identifiable products, ingredients and methods.

.5 These provisions apply to both indoor and outdoor applications equally.

1.6 EXCEPTIONS

.1 These specifications recognize that not all substitutes are equal and therefore exceptions can be made based on substantive evidence of necessary and superior performance. Special considerations may be given to restricted substances when secondary provisions are made such as sealed in place (contained) applications. All such exceptions must be approved in writing by the Consultant.

1.7 PRODUCTS OR SUBSTANCES TO BE AVOIDED OR LIMITED IN USE

.1 No product containing the following substances may be used on this project when an equivalent product without or with a lower concentration of this substance is suitable and available. All products containing substances which are known to cause health effects including but not limited to cancer, mutagenic, neurological, or behavioral effects should be avoided if suitable substitutes not containing or containing lower concentrations are available. This provision shall be limited to information contained on Material Safety Data Sheets, therefore MSDS sheets must be reviewed for all products for which such sheets are required. Applications for exceptions must be accompanied by related MSDS and product application and performance sheets, clearly showing a need for the exception.

1.8 VOLATILE ORGANIC COMPOUNDS

.1 No product containing volatile organic compounds (in over simplified terms volatile petro chemical or similar plant derived solvents) may be used on this project when a suitable non VOC or failing that a low VOC substitute is available. Manufacturers may refer to the U.S. EPA definition of VOC's for guidance or alternatively use the low molecular weight organic compound descriptor.

.1 Example: Paints, Coatings, Primer, Adhesives, Chalks, Firestops, etc.

.2 Waterborne equivalents are available for most of the solvent borne products used in construction and in most cases would be the preferred alternative. Waterborne products may in some instances have high VOC contents; therefore the fact that a product is waterborne does not automatically make it acceptable.

1.9 CHLORINATED SUBSTANCES

.1 Poly Vinyl Chloride (vinyl) and other chlorinated products should be avoided if suitable substitutes are available.

1.10 PLASTICIZERS

.1 Plasticizers which off-gas (low molecular weight) should be avoided.

1.11 MAN MADE MINERAL FIBRES

.1 Products containing mineral fibres which can be emitted or abraded should be avoided.

.1 Examples: duct liner, mineral fibre ceiling tiles, etc.

1.12 RADIATION

.1 Products or methods which result in the lowest emission of Electro Magnetic Fields are preferred.

1.13 BIOCIDES

.1 Products containing biocides (pesticides, miticides, mildeweides. fungicides, rodenticides, etc.) are not to be used if suitable alternatives are available. Highly stable, low human toxicity biocides such as Portercept may be acceptable substitutes. Biocide formulas which break down, emit powders of offgass should be avoided.

1.14 HEAVY METALS

.1 Heavy metals such as lead, cadmium, mercury etc. should be avoided.

1.15 ALUMINUM

.1 Raw aluminum should be avoided, anodized or factory painted aluminum is acceptable. This is particularly applicable to surfaces which people can touch.

1.16 OZONE DEPLETING SUBSTANCES

.1 Products which contain or which use Ozone Depleting Substances such as Bromide, Chlorofluorocarbons (CFC) or Hydrofluorocarbons (HFC) etc. should be avoided if suitable substitutes are available.

1.17 GREENHOUSE GASES

.1 Products which contain, use or generate Greenhouse gasses such as CO2 should be avoided if suitable substitutes are available.

1.18 BITUMINOUS (Tar) PRODUCTS

.1 Products containing tar compounds should not be used if suitable substitutes are available.

1.19 CHEMICAL COMPOUNDS

.1 Products containing the following chemical compounds should not be used if suitable substitutes are available: Neoprene, Latex, Butyl, ABS, and Formaldehyde.

1.20 ADHESIVES

.1 Adhesives containing solvents or other non preferred ingredients should be avoided if suitable substitutes are available, including systems designs which do not need adhesives or can use mechanical etc. fastening alternatives

1.21 COMPOSITE PRODUCTS

.1 Some composite products contain adhesives such as formaldehyde which are not preferred, and some composites such as Fibre Reinforced Plastics are not practical for recycling. These products should be avoided if suitable substitutes are available.

1.22 CLEANERS AND SOLVENTS

.1 Products, equipment, and methods which require the use of cleaners and solvents are not preferred if suitable substitutes are available. Examples of preferred products would include No Wax floors, or primerless caulks and adhesives, or products not requiring caulks and adhesives.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 FIRES

.1 Fires and burning of rubbish on site not permitted.

1.2 DISPOSAL OF WASTES

.1 Do not bury rubbish and waste materials on site.

.2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.3 DRAINAGE

.1 Refer also to Section 31 23 10.

.2 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.

.3 Do not pump water containing suspended materials into waterways, sewer or drainage systems.

.4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.4 SITE CLEARING AND PLANT PROTECTION

.1 Protect trees and plants on site and adjacent properties where indicated.

.2 Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m.

.3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.

.4 Restrict tree removal to areas indicated or designated by Engineer.

1.5 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under previous contract and to be provided new under this contract and as requested by local Municipal and Regional Authorities.

.2 Install, maintain, restore, replace sediment control fence as required by Municipal and Regional authorities. The fence shall be in accordance with Municipal standards.

3. Install, maintain, restore, replace roadside catchbasin sediment protection at all street catch basin in accordance with Municipal standards.

.3 Install, maintain, restore, replace catchbasin sediment barrier immediately after installation of catch basins on the property in accordance with Municipal Standards.

.4 If shown on drawings, install and maintain a temporary mud mat as part of the base contract price. Maintain in good condition to avoid contaminating public streets and sewers. Remove and reinstate surfaces as part of the contract.

.5 Control emissions from equipment and plant to local authorities emission requirements.

.6 Prevent sandblasting, concrete block cutting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.

.7 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Inspection and testing, administrative and enforcement requirements.

.2 Tests and mix designs.

.3 Mock-ups.

.4 Mill tests.

.5 Equipment and system adjust and balance.

1.2 RELATED SECTIONS

.1 Section 1 33 00 - Submittal Procedures.

.2 Section 01 78 00 - Closeout Submittals.

.3 Section 01 11 00, article 1.14 – Quality Control

1.3 REFERENCES

.1 Stipulated Price Contract.

1.4 INSPECTION

.1 General: Materials and workmanship shall be subject to inspection at any time. Cooperate in permitting access for inspection to all places where work is being done or stock is being stored.

.2 Owner's quality control inspection and testing is specified in the technical sections and will be paid from Cash Allowance except as otherwise specified. Contractor to be responsible to pay for inspections and retesting to verify acceptability of work requiring correction.

.3 Allow Consultant access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.

.4 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Consultant instructions, or law of Place of Work.

.5 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.6 Consultant may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.5 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Co-operate to provide reasonable facilities for such access.

1.6 PROCEDURES

.1 Notify appropriate agency Consultant in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.

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

1.7 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Consultant as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

.2 Make good other Contractor's work damaged by such removals or replacements promptly.

1.8 TESTS AND MIX DESIGNS

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

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

.3 Allow sufficient time for testing, evaluation, alterations and retesting so as not to interrupt the Progress Schedule for the Project.

.4 The Consultant may require testing of connections and special prefabricated inserts, as part of the work of this Section.

1.9 MOCK-UPS

.1 Refer to partial list of mock ups in Section 01 33 00 - Submittal Procedures

.2 Prepare mock-ups for Work specifically requested in specifications. Include for Work of all Sections required to provide mock-ups.

.3 Construct in all locations acceptable to Consultant.

.4 Prepare mock-ups for Consultant's review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.

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

.6 If requested, Consultant will assist in preparing a schedule fixing dates for preparation.

.7 Remove mock-up at conclusion of Work or when acceptable to Consultant.

.8 Mock-ups may remain as part of Work only if previously agreed to by consultant and accepted as acceptable quality upon completion..

.9 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.

1.10 MILL TESTS

.1 Submit mill test certificates as required of specification Sections.

1.11 EQUIPMENT AND SYSTEMS

.1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.

1.12 SEALANTS

.1 Refer also to Section 07 92 10.

.2 Sealants used for the various building envelope assemblies shall be selected from those specified in the respective assembly Section, and shall be coordinated with the sealant being provided under other building envelope Sections. Preferably, one sealant by the same manufacturer shall be used throughout. If different sealants are selected, from those specified, it is the responsibility of the respective Section to ensure compatibility between selected sealant, substrates, and sealants of other Sections which come in contact with the selected sealant.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Temporary utilities.

1.2 RELATED SECTIONS

.1 Section 01 52 00 - Construction Facilities.

.2 Section 01 56 00 – Temporary Barriers and Enclosures.

1.3 INSTALLATION AND REMOVAL

.1 Provide temporary utilities controls in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.4 DEWATERING

.1 Refer also to Sections 31 23 10 and 01 35 43.

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

1.5 WATER SUPPLY

.1 Use of the school water supply may be acceptable providing it does not disrupt school services. Water usage from existing services is at the discretion of the school project manager. Otherwise, arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances. Provide for water as require whether available in the vicinity of the site or not.

1.6 TEMPORARY HEATING AND VENTILATION

.1 Pay for cost of temporary heat and ventilation used during construction, including costs of installation, fuel, operation, maintenance and removal of equipment. Use of direct-fired heaters discharging waste products into work areas will not be permitted unless prior approvals given by the Architect.

.2 Furnish and install temporary heat and ventilation in enclosed areas, as required to:

- .1 Facilitate progress of work.
- .2 Protect work and products against dampness and cold.
- .3 Prevent moisture condensation on surfaces.
- .4 Provide ambient temperatures and humidity for storage, installation, curing of materials.
- .5 Provide adequate ventilation to meet health regulations for safe working environment.

.3 Maintain minimum temperature of 10 degrees C or higher where specified as soon as finishing work is commenced and maintained until acceptance of structure by Engineer.

.4 Ventilating:

.1 Prevent hazardous accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.

.2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.

.3 Dispose of exhaust materials in manner that will not result inharmful exposure to persons.

.4 Ventilate storage spaces containing hazardous or volatile materials.

.5 Ventilate temporary sanitary facilities.

.6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful elements.

.5 Maintain strict supervision of operation of temporary heating and ventilating equipment to:

.1 Conform with applicable codes and standards.

.2 Enforce safe practices.

.3 Prevent abuse of services.

.4 Prevent damage to finishes.

.5 Vent direct -fired combustion units to outside.

.6 The Architect may permit the use of permanent system providing agreement can be reached on:

.1 Conditions of use, special equipment, protection and maintenance.

.2 Guarantees will not be affected.

.3 Approval of the Owner.

7. Refer to Section 011100, item 1.30. ‘Periodic Cleaning’ for replacement of filters at time of final acceptance of work.

1.7 TEMPORARY COMMUNICATION FACILITIES

.1 For duration of contract, it is expected that the Site Superintendent and General Contractor Project Manager, use and pay for cell phone services and equipment necessary for own use and communication with Owner and Consultants.

1.8 FIRE PROTECTION

.1 Provide and maintain temporary fire protection equipment during performance of Work required by [insurance companies having jurisdiction] [and] governing codes, regulations and bylaws.

.2 Burning rubbish and construction waste materials is not permitted on site.

1.9 POWER

.1 Temporary power is available at the site subject to the approval of the Board Project Manager and the following:

.1 power connections can be made without interruption to the school's power supply during the period of school occupancy.

.2 the contractor can isolate power usage or itemized based on previous power usage records, such that costs for power usage by the contractor shall be tracked and paid for by the contractor.

.2 Contractors may bid this project on the assumption that temporary power is available at the site on the basis as described above.

.3 ~~During the tender period, determine if power will be available in the vicinity of the project site. If no power is deemed available, include costs for generation of power required to carry out the work for the duration required to complete the Project. Provide written clarification at the time of Tender of estimated costs included in the Tender Price. The Board will not consider payment of generated power unless this written clarification is provided at the time of Tender~~.

.4 Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.

.5 Install temporary facilities for power such as pole lines and underground cables to approval of local power supply authority.

.6 Electrical power and lighting systems installed under this Contract may be used for construction requirements with prior approval of Architect, provided that guarantees are not affected. Make good damage. Replace lamps which have been used over period of three (3) months.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Construction aids.

.2 Office and sheds.

.3 Parking.

1.2 RELATED SECTIONS

.1 Section 01 51 00 - Temporary Utilities.

.2 Section 01 56 00 - Temporary Barriers and Enclosures.

1.3 REFERENCES

.1 CCDC 2 – 2008 Stipulated Price Contract.

.2 Canadian General Standards Board (CGSB)

.1 CGSB 1-GP-189M-84, Primer, Alkyd, Wood, Exterior.

.2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.

.3 Canadian Standards Association (CSA International)

.1 CAN3-A23.1-/A23.2-94, Concrete Materials and Methods for Concrete Construction/Method of Test for Concrete.

.2 CSA-0121-M1978, Douglas Fir Plywood.

.3 CAN/CSA-Z321-96, Signs and Symbols for the Occupational Environment.

1.4 INSTALLATION AND REMOVAL

.1 Provide construction facilities in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.5 SCAFFOLDING

.1 All necessary scaffolding shall be provided and constructed according to all by-laws and safety regulations. It shall be removed promptly and completely when no longer required.

.2 As required by Ministry or Labour, design of scaffolding or hoarding shall be by a Professional Engineer.

1.6 ACCESS

.1 Provide and maintain adequate access to project site.

.2 The General Contractor for this Work shall, at all times allow the Consultants, the Board, or any other Board commissioned contractor or their employees, access into the building

or around the premises, undisturbed, whether union or non-union, as may be required in the execution of other portions of the building work and installation of equipment, etc.

.3 The General Contractor shall cooperate fully with any and all Board commissioned Contractors.

1.7 HOISTING

.1 Provide, operate and maintain hoists & cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for use thereof.

.2 Hoists & cranes shall be operated by qualified operator.

1.8 ELEVATORS

.1 Permanent elevators may not be used by construction personnel for transporting of materials unless coordinated with the Architect or Structural Engineer.

.2 Provide protective coverings for finish surfaces of cars and entrances.

1.9 SITE STORAGE/LOADING

.1 Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.

1.10 CONSTRUCTION PARKING

.1 Provide, on site, sufficient temporary parking.

1.11 OFFICES

.1 Provide office heated to 22 degrees Celsius, lighted 750 Lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing lay down table, telephone, and facsimile machine. Pay telephone not acceptable.

.2 Maintain in clean condition.

.3 Provide and maintain in clean condition: two separate plans layout tables, minimum 1200 x 1800 mm each. One table shall be used by the General Contractor and subcontractors at their discretion. The second shall be provided for use by subcontractors and by the consultant or Inspection and Testing Companies during site visits or project meetings.

1.12 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.

1.13 SANITARY FACILITIES

.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

.2 Post notices and take such precautions, as required, by local health authorities. Keep area and premises in sanitary condition.

.3 When the school is not occupied, at the discretion of the Board Project Manager, a school washroom may be designated for contractor's use, provided it is maintained in a clean condition at all times. Otherwise, when permanent water and drain connections are completed, provide temporary water closets and urinals complete with temporary enclosures, inside building. Permanent facilities may be used on approval of Board Project Manager or Architect.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Barriers.

.2 Traffic Controls.

.3 Fire Routes.

1.2 RELATED SECTIONS

.1 Section 01 51 00 - Temporary Utilities.

.2 Section 01 52 00 - Construction Facilities.

.3 Section 01 11 00 - Summary of Work.

1.3 REFERENCES

.1 Canadian General Standards Board (CGSB)

.1 CGSB 1.189M- [84], Primer, Alkyd, Wood, Exterior.
.2 CGSB 1.59- [97], Alkyd Exterior Gloss Enamel.

.2 Canadian Standards Association (CSA International)

.1 CSA-O121- [M1978], Douglas Fir Plywood.

1.4 INSTALLATION AND REMOVAL

.1 Provide temporary controls in order to execute Work expeditiously.

.2 Remove from site all such work after use.

1.5 SITE ENCLOSURES

.1 Refer to Section 01 11 00- Summary of Work, article 1.8 ‘Construction Fencing’ for clarification of existing fence on site.’ Maintain fences in good repair.

1.6 WEATHER ENCLOSURES

.1 Provide temporary weathertight enclosures protection for exterior openings until permanently enclosed.

.2 Erect enclosures to allow access for installation of materials and working inside enclosure.

.3 Design enclosures to withstand wind pressure.

.4 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.

1.7 DUST TIGHT SCREENS

.1 Provide dust tight screens, insulated and fire rated temporary partitions as required to separate work areas and localize dust generating activities, and for protection of workers, equipment and finished areas of work and the public.

.2 Maintain and relocate protection until such work is complete.

1.8 ACCESS TO SITE

.1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.9 PUBLIC TRAFFIC FLOW

.1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect the public.

1.10 FIRE ROUTES

.1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.11 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

.1 Protect surrounding private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

1.12 PROTECTION OF BUILDING FINISHES

.1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.

.2 Provide necessary screens, covers, and hoardings.

.3 Confirm with Consultant locations and installation schedule 5 days prior to installation.

.4 Be responsible for damage incurred due to lack of or improper protection.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 EXECUTION

3.1 NOT USED

.1 Not Used

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Requirements and limitations for cutting and patching the Work.

.2 The responsibilities of this section includes but is not limited to the following item(s), including all related labour and materials necessary to successfully complete the installation of same as detailed on the Drawings.

.3 The cutting, removal and disposal and patching of masonry wall sections in locations of all new electrical panels and for all mechanical ducts passing through masonry walls or walls of any other construction not automatically accommodated in new work by the mason.

.4 The cutting, removal and patching of all penetrations required for mechanical and electrical services through floors, ceilings and walls.

.5 The supply and installation of a Portland cement based leveling skim coat as required to provide an acceptable surface for the installation of new VCT tile to any rooms as described on drawings to receive such flooring.

.6 All other work not listed in other Sections, but detailed on the Drawings.

1.2 RELATED SECTIONS

.1 Section 01 11 00 - Summary of Work.

.2 Section 04 21 13- Brick Masonry

.3 Section 01 33 00 - Submittal Procedures.

.4 Section 08 11 14- Metal Doors and Frames

.5 Section 08 71 15 – Finish Hardware

.6 Section 09 91 22- Painting

.7 Section 09 21 16- Gypsum Board Assemblies

.8 Section 09 51 13- Acoustic Panel Ceilings

.9 Section 10 11 25- Manufactured Specialties

.10 Mechanical and Electrical Sections.

.11 Individual product Sections: cutting and patching incidental to work of section. Advance notification to other sections required.

1.3 SUBMITTALS

.1 Submit written request in advance of cutting or alteration which affects:

- .1 Structural integrity of any element of Project.
- .2 Integrity of weather-exposed or moisture-resistant elements.
- .3 Efficiency, maintenance, or safety of any operational element.
- .4 Visual qualities of sight-exposed elements.
- .5 Work of Owner or separate contractor.

.2 Include in request:

- .1 Identification of Project.
- .2 Location and description of affected Work.
- .3 Statement on necessity for cutting or alteration.
- .4 Description of proposed Work, and products to be used.
- .5 Alternatives to cutting and patching.
- .6 Effect on Work of Owner or separate contractor.
- .7 Written permission of affected separate contractor.
- .8 Date and time work will be executed.

1.4 MATERIALS

.1 Required for original installation.

.2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.

.3 Concrete lintel block, reinforcing steel and concrete fill for openings if required at new penetrations in walls or steel lintels as may be permitted by consultant.

.4 Portland Cement based Concrete Patching Compound compatible with new slab, precast concrete slabs or other flooring to make good a smooth, suitable surface to accept the direct application of new VCT or resilient sheet flooring.

.5 Portland Cement based Concrete for new floor openings or floor leveling, or patching of floor openings.

.6 All other materials not listed in other Sections, but detailed on the Drawings.

1.5 EXECUTION

.1 The Trades requiring cuts, holes or sleeves for their work shall locate them.

.2 Do not cut, drill or sleeve load-bearing members without obtaining prior written approval from the Consultant for each condition.

.3 Cut holes carefully, leaving holes no longer than required, with clean, true and smooth edges.

.4 Fit items to the tolerances established by industry 'Best Practice' standard for applicable type of work.

.5 Make patches undetectable in the finished work. All other work not listed in other Sections, but detailed on the Drawings, is to be done in a professional manner and to the industry 'Best Practice' standard for the described work.

.6 Execute cutting, fitting, and patching including excavation and fill if required, to complete Work.

.7 Fit several parts together, to integrate with other Work.

.8 Uncover Work to install ill-timed Work.

.9 Remove and replace defective and non-conforming Work.

.10 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.

.11 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.

.12 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.

.13 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.

.14 Restore work with new products in accordance with requirements of Contract Documents.

.15 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

.16 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material, full thickness of the construction element.

.17 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1: General

.1 SECTION INCLUDES

.1 Progressive cleaning.

.2 Final cleaning.

.2 RELATED SECTION

.1 Section 01 77 00 - Closeout Procedures.

.2 Section 01 11 00 – Summary of Work.

.3 REFERENCE STANDARDS

.1 CCDC 2 – 2008 Stipulated Price Contract.

.4 GENERAL CLEANINESS DURING CONSTRUCTION

.1 Refer also to Section 01 11 10, item 1.33 ‘Periodic Cleaning’ and coordinate with this Section.

.2 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

.3 Store volatile wastes in covered metal containers, and remove from premises daily.

.4 Prevent accumulation of wastes which create hazardous conditions.

.5 Provide adequate ventilation during use of volatile or noxious substances.

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

.7 Provide on-site dump containers for collection of waste materials, and rubbish.

.8 Remove waste materials, and rubbish from site.

.9 Vacuum clean interior building areas when ready to receive finish painting, and continue vacuum cleaning on an as-needed basis until building is ready for substantial completion or occupancy.

.10 Schedule cleaning operations so that resulting dust and other contaminants will not fall on wet, newly painted surfaces.

.11 Sandblast and wirebrush and existing exterior finishes to be internalized within new addition.

.5 EXISTING ACOUSTIC CEILING T-BAR TRACK THROUGHOUT SCHOOL

.1 All existing ceiling T-Bar tracks to remain are to be cleaned with TSP cleaner throughout all areas receiving new ceilings.

.6 FINAL CLEANING

.1 At completion of Work, remove waste materials, rubbish, tools, equipment, machinery, and surplus materials, and clean all surfaces exposed to view; leave project clean and ready for occupancy.

.2 Employ experienced, professional cleaners, for final cleaning.

.3 Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from all sight-exposed interior and exterior finished surfaces; polish resilient and ceramic surfaces so designated to shine finish. Vacuum carpet.

.4 Clean and polish glass and mirrors.

.5 Repair, patch and touch-up marred surfaces to specified finish, to match adjacent surfaces.

.6 Broom-clean paved surfaces; rake clean other surfaces of grounds.

.7 Clean exposed ductwork, and structure.

.8 Replace filters.

.9 Clean bulbs and lamps and replace those burned out.

.10 Clean diffusers and grilles.

.11 Clean sinks, faucets, and water closets and controls.

.12 Remove snow and ice from access to building, if applicable.

.13 Maintain cleaning until project, or portion thereof, is occupied by Owner.

.14 All new tiled (VCT) floors to be broom swept, wet mopped AND waxed/ polished by the Contractor. The Owner will provide materials (seal/ wax). Contractor to allow for application of three (3) coats of Owner-supplied sealer/waxes.

Products

.1 NOT USED

.1 Not Used.

Execution

.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Section 01 11 00 - Summary of Work, article 1.44.

.2 CCDC 2 - 2008 Stipulated Price Contract.

1.2 INSPECTION AND DECLARATION

.1 Refer to Section 01 11 00 – Summary of Work, article 1.46 for a detailed list of requirements.

.2 Contractor's Inspection: Contractor and Subcontractors: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Consultant in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.

.3 Consultant's Inspection: Consultant and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor to correct Work accordingly.

.4 Completion: submit written certificate that following have been performed:

.1 Work has been completed and inspected for compliance with Contract Documents.

.2 Defects have been corrected and deficiencies have been completed.

.3 Equipment and systems have been tested, adjusted and balanced and are fully operational.

.4 Certificates required by Fire Commissioner and Utility companies have been submitted.

.5 Operation of systems has been demonstrated to Owner's personnel.

.6 Work is complete and ready for final inspection.

.5 Final Inspection: when items noted above are completed, request final inspection of Work by Owner, Consultant and Contractor If Work is deemed incomplete by Owner and Consultant, complete outstanding items and request re-inspection.

.6 Declaration of Substantial Performance: when Owner and Consultant consider deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.

.7 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

.8 Final Payment: when Owner and Consultant consider final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed,

make application for final payment. If Work is deemed incomplete by Owner and Consultant, complete outstanding items and request re-inspection.

.9 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit an application for payment of holdback amount in accordance with the Stipulated Price Contract.

1.3 CLEANING

.1 In accordance with Section 01 74 11 – Cleaning.

.2 Remove waste and surplus materials, rubbish and construction facilities from the site immediately following completion of work and prior to final inspection.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 As-built, samples, and specifications.

.2 Equipment and systems.

.3 Product data, materials and finishes, and related information.

.4 Operation and maintenance data.

.5 Spare parts, special tools and maintenance materials.

.6 Warranties and bonds.

.7 Final site survey.

1.2 RELATED SECTIONS

.1 Section 01 45 00 - Quality Control.

.2 Section 01 77 00 - Closeout Procedures.

.3 Section 01 78 10 - Guarantee/Warrantee Form

.4 Section 01 91 00 - Commissioning.

.5 Mechanical Division: Commissioning

.6 Section 01 11 00 Summary of Work, article 1.43.

1.3 SUBMISSION

.1 Submit one copy of completed project operation and maintenance volumes and as-built drawings in final form 15 days prior to substantial performance. For equipment put into use with Owner’s permission during construction, submit Operating and Maintenance Manuals within 10 days after start-up. For items of Work delayed materially beyond date of Substantial Performance, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

.2 Prepare instructions and data using personnel experienced in maintenance and operation of described products.

.3 Copy will be returned after inspection with Consultant's comments.

.4 Revise content of documents as required prior to final submittal.

.5 Submit 2 copies of revised volumes of data in final form within 10 days after final inspection.

.6 For contract drawings (architectural, site services, landscaping, structural, mechanical, and electrical)**,** transfer neatly as-built notations onto second and third set and submit all three sets. Cost of only the transfer of these as-built sets into digital format is paid from Cash Allowance. Completion of digital as-built to the Consultant is a mandatory requirement of Total Completion of the Contract.

.7 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.

.8 If requested, furnish evidence as to type, source and quality of products provided.

.9 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.

.10 Pay costs of transportation.

1.4 FORMAT

.1 Organize data in the form of an instructional manual.

.2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf [219 x 279] mm with spine and face pockets.

.3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.

.4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.

.5 Arrange content under Section numbers and sequence of Table of Contents.

.6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.

.7 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.5 CONTENTS - EACH VOLUME

.1 Table of Contents: provide title of project;

.1 date of submission; names,

.2 Addresses, and telephone numbers of Consultant and Contractor with name of responsible parties;

.3 Schedule of products and systems, indexed to content of volume.

.2 For each product or system:

.1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

.3 Product Data: mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.

.4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

.5 Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

1.6 AS-BUILTS AND SAMPLES

.1 In addition to requirements in Sections 00 21 13 Instructions to Bidders, 01 11 00 Summary of Work and the Stipulated Price Contract terms, maintain at the site for Owner one record copy of:

.1 Contract Drawings.
.2 Specifications.
.3 Addenda.
.4 Change Orders and other modifications to the Contract.
.5 Reviewed shop drawings, product data, and samples.
.6 Field test records.
.7 Inspection certificates.
.8 Manufacturer's certificates.

.2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.

.3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.

.4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.

.5 Keep record documents and samples available for inspection by Consultant.

1.7 RECORDING ACTUAL SITE CONDITIONS

.1 Record information on set of black line opaque drawings, and in copy of Project Manual, provided by Consultant.

.2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.

.3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.

.4 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:

.1 Measured depths of elements of foundation in relation to finish first floor datum.

.2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

.3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.

.4 Field changes of dimension and detail.

.5 Changes made by change orders.

.6 Details not on original Contract Drawings.

.7 References to related shop drawings and modifications.

.5 Specifications: legibly mark each item to record actual construction, including:

.1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.

.2 Changes made by Addenda and change orders.

.6 Other Documents: maintain manufacturer's certifications, inspection certifications, and field test records, required by individual specifications sections.

1.8 DIGITAL AS-BUILT DRAWINGS

.1 Retain the services of a CAD drafting company acceptable to the Consultant.

.2 Transfer to digital file all information recorded on As-Built drawings. Layering of information as per Consultant’s instructions.

.3 The Consultant will provide CAD file of contract documents.

.4 The cost for preparing digital As-Built drawings will be deducted from the Cash Allowances.

1.9 EQUIPMENT AND SYSTEMS

.1 Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

.2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.

.3 Include installed colour coded wiring diagrams.

.4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, 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 test and balancing reports as specified in Mechanical Sections.

.15 Additional requirements: As specified in individual specification sections.

1.10 MATERIALS AND FINISHES

.1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured products.

.2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.3 Moisture-protection and Weather-exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.4 Additional Requirements: as specified in individual specifications sections.

1.11 MAINTENANCE MATERIALS

.1 On completion of project, submit to Architect two (2) copies of Operations Data and Maintenance Manual in English, made up as follows:

.1 Bind data in vinyl hard covered, 3 ring loose leaf binder for 215 x 280 mm size paper.

.2 Enclose title sheet, labeled "Operation Data and Maintenance Manual", project name, date and list of contents.

.3 Organize contents into applicable sections of work to parallel project’s specification break-down. Mark each section by labeled tabs protected with celluloid covers fastened to hard paper dividing sheets.

.2 Include following information, plus data specified.

.1 Maintenance instruction for finished surface and materials.

.2 Copy of hardware and paint schedules.

.3 Description, operation and maintenance instructions for equipment and systems, including complete list of equipment and parts list. Indicate nameplate information such as make, size, capacity, serial number.

.4 Names, addresses and phone numbers of sub-contractors and suppliers.

.5 Guarantees, Warranties and bonds showing:

.1 Name and address of project.

.2 Guarantee commencement date (date of Final Certificate of Completion).

.3 Duration of guarantee.

.4 Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.

.5 Signature and seal of Contractor.

.6 Additional material used in project listed under various Sections showing name of manufacturer and source of supply.

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

.4 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

1.12 STORAGE, HANDLING AND PROTECTION

.1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.

.2 Store in original and undamaged condition with manufacturer's seal and labels intact.

.3 Store components subject to damage from weather in weatherproof enclosures.

.4 Store paints and freezable materials in a heated and ventilated room.

.5 Remove and replace damaged products at own expense and to satisfaction of Consultant.

1.13 WARRANTIES AND BONDS

.1 Refer to Section 00 21 13 ‘Instructions to Bidders’ for bonding requirements for this project, both at the time of tender submission and throughout the duration of the construction period.

.2 Refer to the Stipulated Price Contract for Warranty requirements and conditions for the standard warranty which is required for the work of this contract.

.3 Extended warranties are required to be issued by manufacturers, fabricators, suppliers and/or installers, sometimes jointly, due to their unique position in the construction process and their ability to guarantee a particular section of work. Refer to individual requirements of extended warranties requested as well as Section 01 11 00 article 1.36.

.4 Unless specifically noted otherwise, all extended warranties shall commence on the date of Substantial Performance of the Work as certified by the Consultant.

.5 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

.6 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal. Use Guarantee/Warranty Form as provided in Section 017810 Sample Guarantee/Warranty Form, whenever standard preprinted trade or manufacturer's Guarantee/Warranty forms are not available. Provide written form for each warranty specified in Section 01 11 00 Summary of Work, Article 1.36.

.7 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work.

.8 Date at beginning of time of warranty start shall be Date of Substantial Performance.

.9 Verify that documents are in proper form, contain full information, and are notarized.

.10 Co-execute submittals when required.

.11 Retain warranties and bonds until time specified for submittal.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

1. GENERAL

1. To be made out on the letterhead of Guarantor or Warrantor which usually is a Subcontractor.

2. This format is to be used only when standard preprinted trade or manufacturer's forms are not available. Preprinted forms are to include all elements of information shown on this sample or as a minimum.

3. Comply with Requirements for Guarantee/Warranty as specified in Section 01 78 10, Closeout Submittals.

To: The Halton Catholic District School Board

Date: _____

SECTION _____

TITLE _____

GUARANTEE/WARRANTY TO:

OWNER	The Halton Catholic District School Board
PROJECT	Renovations to Assumption Catholic Secondary School
ARCHITECT	Hossack & Associates Architects
REFERENCE	(to specifications or drawings)
TIME	Period of Guarantee/Warranty:_____ years
GUARANTEE/ WARRANTY	Starting Date: Substantial Performance as certified by Consultant Date: _____

(Description of Guarantee/Warranty)

_____

_____

_____

Upon written notification from the Owner or the Consultant that the above work is defective any repair or replacement work required shall be to the Consultant's satisfaction at no cost to the Owner.

This guarantee shall not apply to defects caused by the work of others, maltreatment of materials, negligence or Acts of God.

_____

SUBCONTRACTOR _____ _____

Signature Date

Authorized Signing Officer: _____
(Name Printed)

_____
Title

Name of Firm: _____

Address: _____

Telephone Number _____

CONTRACTOR

_____ _____
Signature Date

Authorized Signing Officer: _____ _____
(Name Printed)

_____
Title

Name of Firm: _____ CORPORATE SEAL

Address: _____

Telephone Number _____

END OF SECTION

PART 1 GENERAL

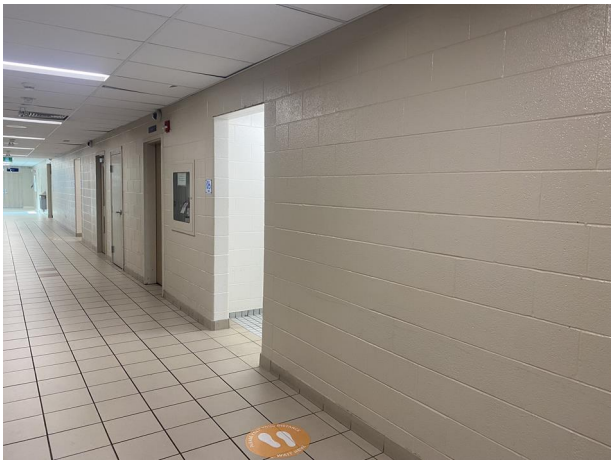
1.1 Related Sections

These photographs are provided for convenience only. Bidders are strongly encouraged to attend the non-mandatory Site Meeting during tender.

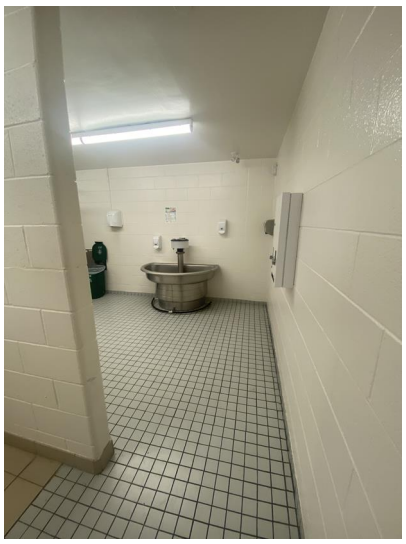
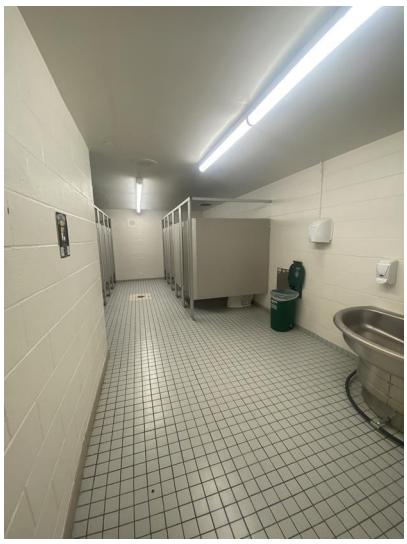
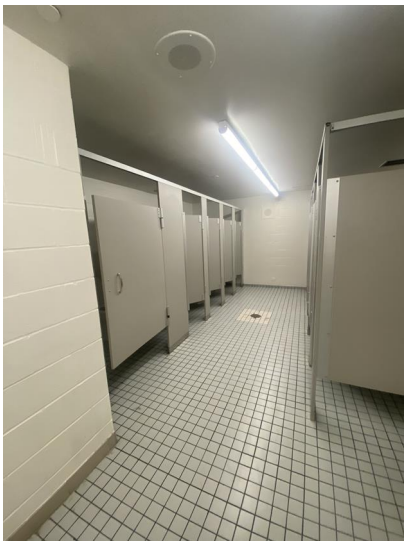
Bidders remain responsible to inspect the site and assume existing site conditions.

The following photos were taken November 2024.

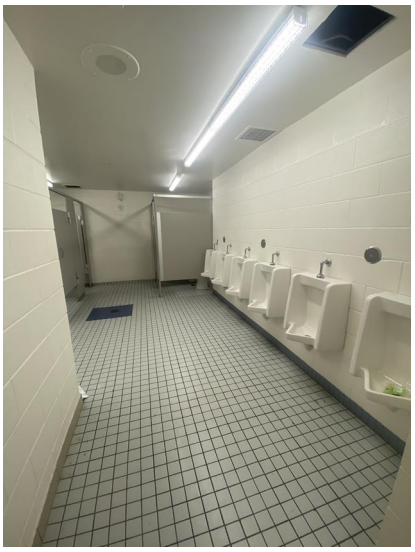
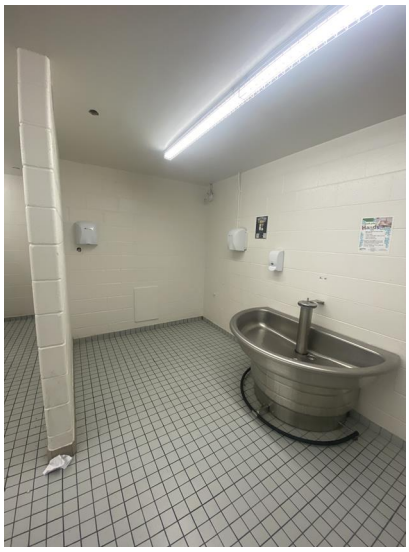
SECOND FLOOR CORRIDOR:

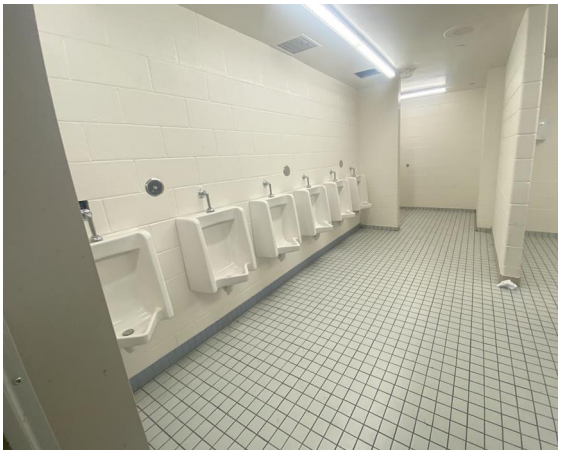


GIRL'S WASHROOM:

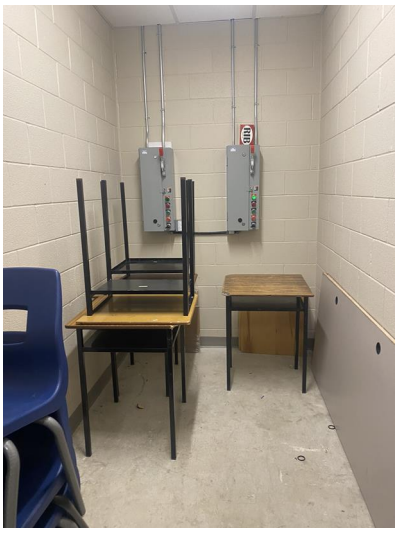
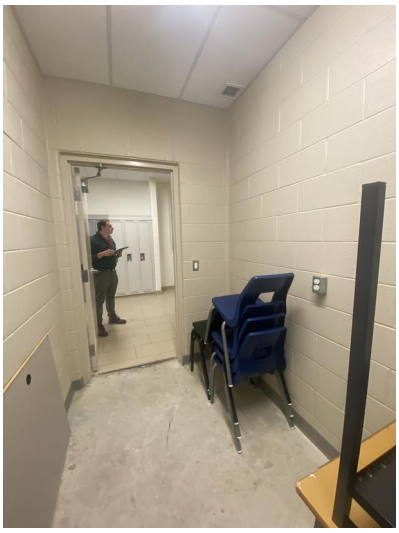




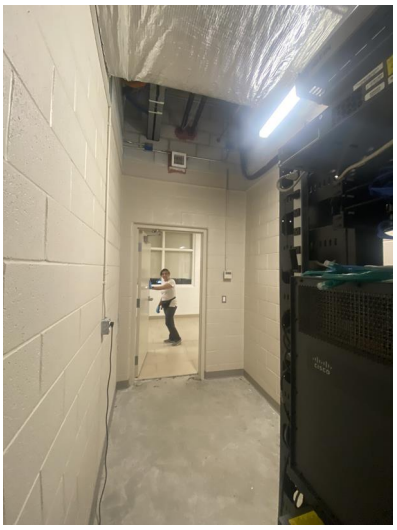
BOY'S WASHROOM:

THIRD FLOOR STORAGE AND IT CLOSET:



PART 1 GENERAL

1.1 Related Sections

1. Section 01 11 00 - Summary of Work
2. Section 01 56 00 – Temporary Barriers and Enclosures
3. Section 01 73 03 – Execution Requirements (Cutting and Patching)
4. Section 04 21 13 - Block Masonry
5. Section 01 33 00 - Submittal Procedures
6. Section 08 11 14- Metal Doors and Frames
7. Section 08 71 15 – Finish Hardware
8. Section 09 91 22- Painting
9. Section 09 21 16- Gypsum Board Assemblies
10. Section 09 51 13- Acoustic Panel Ceilings
11. Mechanical and Electrical Sections

1.2 Scope

1. Scope includes but is not limited to:

.1 Demolition or alteration of all structural, architectural, mechanical, electrical or site components, equipment, fitments and finishes as required to execute the work.

.2 The removal, repair and reinstallation as required to make good of existing acoustic unit ceilings gypsum board bulkheads, windows, doors, hollow metal screens and partition walls where required to be removed for routing new services, general alterations or revising demising walls.

.3 Removal and reinstallation as indicated of any existing fixed in place millwork, chalkboards or tackboards or similar fitments or devices identified to remain and be reinstalled.

.4 Grinding and patching of walls where chalkboards or fitments have been removed and surface adhesives or similar surface deficiencies remain.

.5 Cutting and removal of slabs on grade to remove or replace existing drains, clean outs, oil interceptors, trenches and sub slab services contained within them, not previously removed by Abatement work.

.6 Making good of all walls and floors remaining where sections of walls or floors have been removed and surfaces require repair.

.7 Making good of all finishes to remain as result of selective demolition.

1.3 Existing Conditions

1. Take over structures to be demolished or altered based on their condition on date that tender is accepted, at time of examination prior to tendering.
2. Contractor may confirm the prior removal of all asbestos containing materials in documentation left on site following prior abatement work contract. Should areas of asbestos be found which are not documented as removed or included in the scope of this work for removal, it shall be reported to the Consultant and Owner’s representative for review and instructions for removal.

3. Prior to beginning alteration or demolition, confirm with Owner that no items to be salvaged or turned over to the owner remain in the work areas.

1.4 Protection

.1 Prevent movement, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, adjacent grades parts of existing building to remain. Provide bracing, shoring and underpinning required. Make good damage and be liable for injury caused by demolition.

.2 Take precautions to support structures and, if safety of building being demolished or adjacent structures or services appears to be endangered, cease operations and notify Consultant.

.3 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.

Part 2 Products

NOT USED

Part 3 Execution

3.1 Work

.1 Dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction. Confirm in Divisions 15 and 16 for removal and re-use of mechanical and electrical materials and equipment.

.2 Refer to drawings for furniture, materials or equipment to be removed and turned over to the owner. Carefully remove such items and store in location designated by Owner.

3. For a scope of work refer to all Drawings and also coordinate items to be altered, re-built, cleaned or otherwise “made good” as a result of the cutting and patching scope of work described in Section 01 73 03 Execution Requirements or other Sections.

3.2 Preparation

.1 Disconnect electrical, telephone/PA and data service lines in work areas without disrupting main service to building and in accordance with regulations of authorities having jurisdiction. Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition.

.2 Disconnect and cap designated mechanical services in accordance with requirements of local authority having jurisdiction.

- .1 Natural gas supply lines, if applicable to be removed by gas company by qualified tradesman in accordance with gas company instructions.
- .2 Remove, cap or dispose of other underground services as indicated in drawings.
- .3 Do not disrupt active or energized utilities traversing premises designated to remain undisturbed.

.3 Floor scans to locate hidden or buried services in the work area have NOT previously been done. Prior to cutting, demolition or removal of any slabs on grade or areas where services may be concealed, engage a private locate firm to provide magnetic and X-ray scans of all areas involved. This is the responsibility of the General Contract and costs for such scans are to be included in the base contract price.

3.3 Disconnection and Removal of Materials and Equipment

.1 Contractor shall cooperate with the Owner to determine which materials are to be removed and retained by Owner. The Owner will decide which items or equipment they wish to retain as their property and all other materials shall be removed from the premises by this Contractor. The equipment which is to be retained by the Owner shall be stored on site where directed by the Owner.

.2 Refer to mechanical and electrical drawings and for disconnection and removal and/or relocated existing electrical, ductwork, piping and/or equipment.

3.4 Temporary Removals and Replacement

.1 All items to be removed and installed shall be completed so that replaced materials are left in a clean undamaged state. If required to be replaced due to damage, the contractor shall include in his price for the component to be replaced and installed at no additional cost to the Contract.

3.5 Selective Demolition

.1 Follow best trade practices for all demolition and alteration work. This includes but is not limited to the following items.

.1 The school will be vacant during July and August 2023. Ensure demolition work does not disrupt any ongoing aspect of the operation of the school including the period after Substantial Performance.

.2 Confirm all demolition work (including potential noise, vibration, tools or equipment noise, etc.) in advance with the principal of the school on a daily basis. Similarly, notify all building occupants in advance at each possible interruption in services or utilities.

.3 Protect all areas from damage and intrusion by means of locking rooms under construction when not in use, use of dust tight screens and temporary partitions and hoarding. Demolish to minimize dusting. Refer to drawings for locations and other Specification Sections for requirements.

.4 Signage to be posted at all times. Take precautions to demolish only areas as necessary to complete the work, and avoid damage to adjacent areas. Make good all areas affected by demolition or renovation activities, whether specifically included in the contract documents or not.

.5 The Contractor shall be responsible for damage to all areas affected by renovation or alteration activities.

.6 Prior to demolition, the Contractor shall carefully examine the drawings in relation to the site conditions, to ensure that all intended work can be carried out without ambiguity. Incorrect demolition of any work by the Contractor, will be back-charged to him. Any discrepancies between the drawings and the site conditions, must be reported to the Consultants immediately.

.7 Demolish or remove interior and exterior elements as indicated.

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

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

.10 Demolish masonry and concrete walls in small sections. Salvage existing imperial block units in coordination with Section 04 21 13 to re-use as patching in existing imperial unit masonry. Also coordinate with Section 04 21 13 for detail of edge condition required to match new Metric Units to existing Imperial block units.

.11 Carefully remove and lower structural framing and other heavy or large objects as required. Where partial walls of exposed concrete block masonry is to remain, grind all exposed edges to a bullnose and patch as required suitable for final painting.

.12 Do not sell or burn materials on site.

.13 Remove contaminated or dangerous materials from site and dispose of in safe manner to minimize danger at site or during disposal, in accordance with all governing legislation.

.14 Where applicable, saw cut existing terrazzo floor and base as required and remove to nearest metal 'panel' joint to enable replacement at a full panel**.** Replace with terrazzo flooring to match existing as closely as possible. Provide sample to consultant for approval.

.15 Following demolition and removals of floor trenches, walls and fitments, coordinate with Section 01 73 03. As part of the work of this section, scarify or otherwise grind existing or new slabs in preparation for slab in-fills and a self leveler skim slab by Section 01 73 03. That Section is responsible for the provision of a backfill, slab on grade patching and self leveling skim coat where required in advance of new VCT finishes by Section 09 65 19.

.16 Patch and make good existing wall, ceiling and floor finish with identical original materials if affected by temporary protection or by previous Abatement contract.

3.6 Repair to all Finishes and Colours

.1 Repaint all walls in rooms or areas modified as indicated in the Finish Schedule, or as directed by the Consultant.

.2 Repair and make good all fixtures, finishes, trims and surfaces to all floor, wall and ceiling areas in rooms or areas whether or not they have been modified or affected by the work or by previous Abatement Contract.

.3 Existing paint colours are to be matched exactly using computer colour matching.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 – Submittal Procedures

.2 Section 03 30 00 – Cast-in-Place Concrete

.3 Section 04 21 13 – Masonry

.4 Section 05 12 23 – Structural Steel

.5 Section 05 21 00 – Steel Joist Framing

.6 Section 05 31 00 – Steel Deck

.7 Section 09 91 22 – Painting

1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM)

- .1 ASTM A53/A53M-02, Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
- .2 ASTM A269-02, Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service
- .3 ASTM A307-02, Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength

.2 Canadian General Standards Board (CGSB)

- .1 CAN/CGSB-1.40-97, Anti-corrosive Structural Steel Alkyd Primer
- .2 CAN/CGSB-1.181-92, Ready-Mixed, Organic Zinc-Rich Coating
- .3 CISC/CPMA 1 – 73B, Quick Drying, One-Coat Paint for Use on Structural Steel
- .4 CISC/CPMA 2 – 75, Quick Drying, Primer for use on Structural Steel

.3 Canadian Standards Association (CSA International)

- .1 G40.20-04: General Requirements for Rolled or Welded Structural Quality Steel
- .2 G40.21-04 (R2009): Structural Quality Steel
- .3 CAN/CSA G164-M92 (R2003): Hot Dip Galvanizing of Irregularly Shaped Articles
- .4 CSA S16.1-09: Limit States Design of Steel Structures
- .5 CAN/CSA – S136-07: North American Specification of the Design of Cold-formed Steel Structural Members
- .6 CSA W47.1-09: Certification of Companies for Fusion Welding of Steel
- .7 CSA W59-03 (R2008): Welded Steel Construction (Metal Arc Welding)
- .8 CSA NSS.3-1965 (r2003): Resistance Welding Qualification Code for Fabricators of Structural Members in Buildings

.4 The Environmental Choice Program

.1 CCD-047a-98, Paints, Surface Coatings

.2 CCD-048-98, Surface Coatings - Recycled Water-borne

1.3 SUBMITTALS

.1 Shop Drawings

.1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

.2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

1.4 DELIVERY, STORAGE, AND HANDLING

.1 Packing, Shipping, Handling and Unloading:

.1 Deliver, store, handle and protect materials in accordance with manufacturer recommendations.

.2 Storage and Protection:

.1 Cover exposed stainless steel surfaces with pressure sensitive heavy protection paper or apply strippable plastic coating, before shipping to job site.

.2 Leave protective covering in place until final cleaning of building. Provide instructions for removal of protective covering.

1.5 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Divert unused metal materials from landfill to metal recycling facility approved by Consultant.

Part 2 Products

2.1 MATERIALS

.1 Steel sections and plates: to CSA-G40.20/G40.21, Grade 350W for hollow structural sections Class H and Grade 300W for Plates and Flat Shapes.

.2 Welding materials: to CSA W59.

.3 Bolts and anchor bolts: to ASTM A307.

.4 Stainless steel tubing: to ASTM A269, Type 316 alloy, Seamless welded with AISI No. 4 finish.

.5 Grout: non-shrink, non-metallic, flowable, 15 MPa at 24 hours.

2.2 PRIMERS, COATINGS AND SHOP PAINTING

.1 Interior Steel in Dry Areas: Quick drying oil alkyd conforming to CISC/CPMA 2.75.

.2 Exterior Steel, Interior Steel in Unheated Areas, Steel Embedded in Concrete: Hot dip galvanized conforming to CSA G164, minimum Z275 coating. Galvanizing of structural steel components and loose lintels: refer to Section 05 12 23.

.3 Galvanized Coating Touch-Up: W.R. Meadows "Galvafroid" or Kerry Industries "Z.R.C." zinc rich coating or similar manufacturer containing minimum 90% zinc by weight.

.4 Apply two (2) shop coat(s) of primer or coating as indicated above and according to manufacturers recommendations. Do not prime aluminum, stainless steel or those components to be galvanized or encased in concrete.

.5 Use primer unadulterated, as provided by manufacturer. Paint on dry surfaces free from rust scale and grease. Do not paint when temperature is lower than 10 deg. Celsius and rising.

.6 Clean surfaces to be field welded; do not paint.

2.3 FASTENINGS

.1 Use nuts and bolts conforming to ASTM A307, A325, and A563 as applicable.

.1 For interior work, use cadmium-plated fastenings where other protection is not specified.

.2 For exterior work, use Type 300 or 400 stainless steel.

2.4 ANCHORS AND SHIMS

.1 For exposed anchorage of aluminum, if applicable, use stainless steel and otherwise to match metal anchored. For non-exposed work, anchors and shims may be galvanized steel.

2.5 PIPE

.1 To ASTM A53, extra strong steel pipe for bollards.

2.6 BITUMINOUS PAINT

.1 Alkali-resisting to meet specified requirements of CAN/CGSB-1.108, Type 2. Use to insulate contact between dissimilar metals.

2.7 FABRICATION

.1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.

.2 Use self-tapping shake-proof flat headed screws on items requiring assembly by screws or as indicated.

.3 Where possible, fit and shop assemble work, ready for erection.

.4 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

.5 Weld all connections where possible, and bolt where not possible unless indicated otherwise on drawings.

.6 Weld all stainless steel by the Argon Arc Process. Grind smooth and polish joints, crence-free, and flush without seams.

2.8 LIST OF MISCELLANEOUS METAL FABRICATIONS

.1 This Section includes, but is not limited to the following list. Note: Galvanize all exterior items and other items noted. Prime paint all interior items.

.1 Anchors, Bolts, Inserts, Sleeves for work in this Section.

.2 Hangers and Supports (for work in this Section).

Part 3 Execution

3.1 GENERAL

.1 Supply and install all miscellaneous metal work indicated on the Drawings and not indicated in work of other Sections in addition to items listed below.

3.2 ERECTION

.1 Do welding work in accordance with CSA W59 unless specified otherwise.

.2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.

.3 Provide suitable means of anchorage acceptable to Consultant such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.

.4 Exposed fastening devices to match finish and be compatible with material through which they pass.

.5 Provide components for building by other sections in accordance with shop drawings and schedule.

.6 Make field connections with bolts to CSA-S16.1, or weld.

.7 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.

.8 Touch-up rivets, field welds, bolts and burnt or scratched surfaces after completion of erection with primer.

.9 Touch-up galvanized surfaces with zinc rich primer where burned by field welding. Spray or brush apply a minimum of three (3) coats of zinc-rich paint to achieve a dry film thickness of 8 mils. Apply a finish coat of aluminum paint to provide a colour blend with the surround galvanizing.

3.3 LATERAL SUPPORT:

.1 Install deflection space and lateral support for non-load-bearing masonry walls and partitions in accordance with specified requirements of CSA-A371-94 and CSA-S304.1-94.

.2 50.8mm x 50.8mm x 6.4mm angles 100mm long on both sides of walls at joist bridging location. Spacing not to exceed 1800mm.

.3 Finish: Prime paint.

3.4 MASONRY WALL LATERAL SUPPORT:

.1 Steel angle clips: 75 x 75 x 6 x 100mm

3.5 LINTELS:

.1 As required to complete all work as part of this project. Steel lintels shall be provided over all openings including Mechanical, Electrical and Architectural Drawings and as shown on the drawings.

.2 Steel of sizes shown on Lintel Schedule, Structural Drawings.

.3 Provide concealed angle clips welded to lintels and anchored with bolts at lintel supports.

.4 Finish: Prime paint for interior and galvanized for exterior locations.

.5 Finish: Prime paint for interior and prime painted for exterior locations.

These items refer to components which are not normally supplied by the manufacturer but required to secure the Miscellaneous Specialty items.

3.6 ACCESS LADDER

.1 Fabricate interior and exterior roof access ladders as described on drawings AD 515 & AD 517. Typical Construction is detailed on Structural Drawings.

3.7 WALL BRACKETS AND HOOKS

.1 As shown on Drawings - prime paint.

3.8 GALVANIZED STEEL

.1 Galvanize steel members, fabrications, and assemblies after fabrication by the hot dip process in accordance with CSA G164, minimum Z275 coating.

.2 Galvanize bolts, nuts and washers and iron and steel hardware components in accordance with CSA G164.

.3 Safeguard products against steel embrittlement in conformance with ASTM A143.

.4 Design features which may lead to difficulties during galvanizing shall be pointed out prior to dipping.

.5 The composition of metal in the galvanizing bath shall be not less than 98.0% zinc.

3.9 ERECTION

.1 Erect work in accordance with shop drawings and in coordination with trades whose work relates to this Section

.2 Erect work plumb, straight, square and accurately fitted with tight joints at intersections.

.3 Where possible install work in one continuous piece.

.4 Anchor all components to structure, walls, and floors as required with weld or other methods of anchorage approved by the Consultant.

3.10 TOUCH-UP AND REPLACEMENT

.1 Touch-up adjacent primed surfaces burned, scratched or otherwise damaged during erection with prime paint, to match shopcoat, or galvafroid for galvanized when erection is completed.

.2 Paint over bare areas on galvanized surfaces and welds with zinc rich paint.

.3 Replace damaged or unacceptable materials indicated by the Consultants.

3.11 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 03 10 00 – Concrete Forms and Accessories.

.2 Section 08 11 14- Steel Doors and Frames.

.3 Section 07 50 13 – Common Work Results for Roofing*

.4 Section 07 50 16 – Rough Carpentry for Roofing *coordinate responsibilities with this Section and Work Division Table in Section 07 50 13.

1.2 REFERENCES

.1 Canadian Standards Association (CSA International)

.1 CSA B111-[1974(R1998)], Wire Nails, Spikes and Staples.

.2 CAN/CSA-G164-[M92(R1998)], Hot Dip Galvanizing of Irregularly Shaped Articles.

.3 CSA O121-[M1978(R1998)], Douglas Fir Plywood.

.4 CAN/CSA-O141-[91(R1999)], Softwood Lumber.

.5 CSA O151-[M1978(R1998)], Canadian Softwood Plywood.

.6 CAN/CSA-O325.0-[92(R1998)], Construction Sheathing.

.7 CAN/CSA-086M-01(R2006), Engineering Design in Wood.

.2 National Lumber Grades Authority (NLGA)

.1 Standard Grading Rules for Canadian Lumber [2000].

1.3 QUALITY ASSURANCE

.1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

.2 Plywood identification: by grade mark in accordance with applicable CSA standards.

.3 Plywood, OSB and wood based composite panel construction sheathing identification: by grademark in accordance with applicable CSA standards.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Divert unused wood materials from landfill to recycling, reuse, composting facility approved by Consultant.

.3 Do not dispose of preservative treated wood through incineration.

.4 Do not dispose of preservative treated wood with materials destined for recycling or reuse.

.5 Dispose of treated wood, end pieces, wood scraps and sawdust at sanitary landfill approved by Consultant.

.6 Dispose of unused wood preservative material at official hazardous material collections site approved by Consultant.

.7 Do not dispose of unused preservative material into sewer system, into streams, lakes, onto ground or in other locations where they will pose health or environmental hazard.

Part 2 Products

2.1 LUMBER MATERIAL

.1 Lumber: unless specified otherwise, softwood, S4S, moisture content 19% or less in accordance with following standards:

.1 CAN/CSA-O141.

.2 NLGA Standard Grading Rules for Canadian Lumber.

.2 Furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers:

.1 Douglas fir Graded 122-C, construction or No. 2 Pine, pressure treated in accordance with CSA 080M.

.2 Board sizes: "Standard" or better grade.

.3 Dimension sizes: "Standard" light framing or better grade.

.4 Post and timbers sizes: "Standard" or better grade.

.5 Fasteners: Proprietary fasteners toggle bolts, expansion shields and lag bolts, crews and lead or inorganic fire plugs, explosive actuated fastening devices, recommended for purpose by manufacture. Use stainless steel or galvanized to CSA G164-M1981 fasteners for all exterior fastening and for any damp or moist areas.

.6 Wood Preservatives: Surface-applied wood preservative: clear copper napthenate or 5% pentachlorophenol solution, water repellent preservative.

.7 Material shall be straight, sawn square, true, dressed four sides properly sized, shaped to correct dimensions from nominal sizes noted on Drawings.

.3 Framing Lumber:

.1 Western Red Cedar species, well seasoned, processed and stamped at the same mill with appropriate grade markings. Conform to requirements of standard grading rule for Canadian Lumber of National Lumber Grades Authority (NLGA) with latest supplement, approved by Canadian Lumber Standard Administrative Board, as follows:

.1 Posts: `Structural No.2 or Better' grade, with dressed smooth surfaces.

.2 Fence Boards and Framing: `No.2 Clear or Better' grade with dressed smooth surfaces.

2.2 PANEL MATERIALS

.1 Douglas fir plywood (DFP): to CSA O121, standard construction, good one side with waterproof adhesive.

2.3 ACCESSORIES

.1 Nails, spikes, staples, screws, bolts anchors lag screws, special fastening devices and supports required for erection of all carpentry components: to CSA B111. Use galvanized components where exposed to exterior atmosphere.

.2 Rough Hardware (cedar): Provide rough hardware such as nails, spikes, staples, bolts, nuts, washers, screws, clips, strap iron and including hardware for temporary enclosures. Nails shall be spiral type. All nails, spikes and staples shall conform to CSA B111. All rough hardware shall be galvanized unless otherwise noted.

.3 Surface applied wood preservative: Green coloured copper napthenate or 5% pentachlorophenol solution, water repellant preservative or same copper based preservative as used for shop impregnation, in accordance with CAN/CSA O80.

.4 Fire retardant treatment of lumber and plywood: 'Dricon' fire retardant treatment by J. A. Biewer or approved equivalent, conforming to CAN/CSA-O80.20 and CAN/CSA-O80.27 respectively, to provide a flame spread rating of 25 or less in accordance with CAN/ULC-S102.

.5 Tube Forms: Spirally wound, adhesive laminated fibre paper tube forms having bursting pressure of 965 kPa, coated with hot wax, diameters as required, `Handiform', or `Permaform' by Perma Tubes Ltd., or `Sonotube' by Sonoco Limited.

.6 Concrete: Minimum 20.684 MPa (3,000 psi) concrete conforming to CAN/CSA-A23.1/A23.2.

2.4 FINISHES

.1 Galvanizing: to CAN/CSA-G164, use galvanized fasteners for exterior work and interior highly humid areas.

Part 3 Execution

3.1 GENERAL

.1 Supply and install all other carpentry shown on drawings or as required for completion of work. Co-operate with other trades in installing items supplied by other sections, cut openings in woodwork when so required and make good disturbed surfaces.

3.2 PREPARATION

.1 Do all wood framing in accordance with the Ontario Building Code and CAN3 - 086M – 01 - (2006).

.2 Machine dressed work shall be slow fed using sharp cutters and finished members shall be free from drag, feathers, slivers or roughness of any kind.

.3 Frame materials with tight joints rigidly held in place.

.4 Design construction methods for expansion and contraction of the materials.

.5 Erect work plumb, level, square and to required lines.

.6 Be responsible for methods of construction for ensuring that materials are rigidly and securely attached and will not be loosened by the work of other trades.

3.3 FURRING AND BLOCKING

.1 Supply and install furring and blocking, required.

.2 Align and plumb faces of furring and blocking to tolerance of 1:600.

3.4 ROUGH BUCKS AND NAILERS

.1 Install wood bucks and nailers, as indicated, including wood bucks and linings around frames for doors and windows.

.2 Except where indicated, otherwise, use material at least 38 mm thick secured with 9 mm bolts located within 300 mm from ends of members and uniformly spaced at 1200 mm between.

.3 Countersink bolts where necessary to provide clearance for other work.

3.5 ROOF FASCIAS, CANTS, NAILERS CURBS

.1 Install wood cants, fascia backing, nailers, curbs and other wood supports for roofing, sheet metal fork, roof mounted equipment.

.2 Secure with galvanized 9 mm bolts, where indicated, galvanized nails elsewhere. Locate fastenings within 300 mm from ends and uniformly spaced between. Space bolts at 1200 mm and nails at 600 mm centres, except where indicated otherwise.

.3 Staple vapour retardant sheet strip to underside of nailers before installation. Apply strip continuous with 200 mm overlap at joints, free of wrinkles and tears, with at least 200 mm exposed for overlap on roof deck.

.4 Install wood nailers for roof hoppers, dressed, tapered and recessed slightly below top surface of roof insulation.

3.6 SUPPORTS FOR MECHANICAL UNITS

.1 Performed by Section 07 51 12. Refer to Details and Mechanical and Architectural Drawings and specifications.

3.7 PRESSURE TREATED WOOD

.1 Use wood pressure treated in accordance with CSA 080M for all wood members in contact with exterior walls and roofs.

.2 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.

3.8 INSTALLATION OF HOLLOW METAL FRAMES

.1 Set frames plumb and square in their exact location and at correct elevation. Firmly block and brace to prevent shifting. Shim up where required to ensure proper alignment dimensions from finished floor to head of frame. Install temporary wood spreaders at mid-height.

.2 Where pressed steel frames are installed in concrete walls, secure frames to concrete using lead expansion shields and anchor bolts through pipe sleeves. Perform drilling of concrete as required. Fill recessed bolt heads flush to frame face with approved metal filler and sand smooth.

.3 Install fire rated door frames in accordance with requirements of National Fire Code Volume 4, produced by The National Fire Protection Association (NFPA 80).

3.9 GENERAL

.1 Supply and install all other carpentry shown on drawings or as required for completion of work. Co-operate with other trades in installing items supplied by other sections, cut openings in woodwork when so required and make good disturbed surfaces.

3.10 ERECTION

.1 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.

.2 Countersink bolts where necessary to provide clearance for other work.

3.11 INSTALLATION

.1 Lay out work carefully and to accommodate work of others. Cut and fit accurately. Erect in position indicated by drawings. Align, level, square, plumb, and secure work permanently in place. Brace work temporarily as required. Join work only over solid bracing.

.2 Bore holes true to line and to same size as bolts. Drive bolts into place for snug fit, and use plates or washers for bolthead and nut bearings. Turn up bolts and lag screws tightly when installed, and again just before concealed by other work or at completion of work.

.3 Co-operate with work of other Sections to ensure that unity of actions will ensure orderly progress to meet construction schedule.

.4 Provide anchors, bolts and inserts, required for attachment of the work of this Section, to those performing the work of other Sections and who are responsible for their installation.

.5 Work shall include rough hardware such as nails, bolts, nuts, washers, screws, clips, hangers, connectors, and strap iron required for installation of work and all operating hardware required on work of this Section for temporary use.

.6 Do no attach work by wood plugs or blocking in concrete or masonry. Use lead shields, expansion shields, concrete nails, or similar methods only as approved by the Architect.

.7 Do not regard grounds, blocking, furring, and such other fastening provisions as shown on Drawings as exact or complete. Provide required provisions for fastening, located and secured to suit site conditions, and adequate for intended support.

.8 Cut fastening work into lengths as long as practicable and with square ends. Erect work plumb, in true planes, and fastened rigidly in place.

.9 Grounds around openings in cavity wall systems, under sills and thresholds to provide continuous support shall be 50mm (2") minimum thickness, preservative treated.

.10 Install supports and furring members as required to receive components of cabinetwork.

.11 Install blocking at roofs, as indicated on Drawings, secured permanently to structure, trimmed and levelled to accommodate roofing components, and to receive flashings.

.12 All members shall be accurately cut to length, angle and be true to line to assure tight joints.

.13 Correct alignment and plumb must be maintained until specified lateral bracing is installed. Cutting and altering of trusses is not permitted except by approval by the Engineer. Heavy concentrated loads must not be placed on top of trusses until permanent bracing and decking have been installed. In any event, these temporary loads must not exceed the truss design loads.

3.12 SCHEDULES

.1 Provide electrical equipment backboards for mounting electrical equipment as indicated. Use 19mm thick plywood on 19 x 38 mm furring around spacing, perimeter and at maximum 300 mm intermediate

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 08 12 10 Flush Wood Doors

1.2 REFERENCES

.1 CAN/CGSB-71.20-M88 Adhesive, Contact, Brushable

.2 CAN3-A172-M79 High Pressure Paper Base, Decorative Laminates.

.3 CSA O112 Series-M1977(R2001) CSA Standards For Wood Adhesives.

.4 CSA O121-M1978(R2003) Douglas Fir Plywood.

.5 CSA O151-04 Canadian Softwood Plywood.

1.3 SAMPLES

.1 Submit duplicate samples of joints, edging, cutouts and postformed profiles in accordance with the General Conditions.

1.4 MAINTENANCE DATA

.1 Provide maintenance data for laminated plastics work for incorporation into Operation and Maintenance Manual.

1.5 PRODUCT HANDLING

.1 Cover finished laminated plastic surfaces with heavy kraft paper or put in cartons during shipment. Protect installed laminated surfaces by approved means. Do not remove until immediately before final inspection.

.2 Do not store or install materials in areas where relative humidity is less than 25% or greater than 60% at 22 deg C.

Part 2 Products

2.1 GENERAL

.1 Products manufactured by one of the following companies are suggested for use on this project.

.1 Cyanamid Canada Inc., Montreal (Formica).
.2 Domtar Construction Materials, Arborite Division, LaSalle Quebec (Arborite).
.3 Wilsonart International, Temple, Texas (Wilsonart).
.4 Nevamar Corporation, Odenton Md.

.2 Allow for **6** colours of matte finish from manufacturer's full range. Final Selection of Plastic Laminate surface characteristics including colour, texture and pattern is to be made by the Consultant by means of a Colour Schedule to be issued at a later date. Use the following materials specifications as a base bid:

2.2 MATERIALS

.2 Laminated plastic for flatwork: to CAN3-A172, Grade GP, Type SD, 1.25mm (0.050") thick; based on full colour range with velour finish. Acceptable products:

.1 Formica Laminate Grade 10.

.2 Nevamar H-5 General Purpose Grade.

.3 Wilsonart General Purpose HGS Type 107.

.3 Laminated plastic for postforming work: to CAN3-A172, Grade PF, Type S, 1.07mm (0.042") thick, based on full colour range with velour finish. Acceptable products:

.1 Formica Laminate Grade 12.

.2 Nevamar HF-5 Horizontal Post Forming Grade.

.3 Wilsonart Postforming Type 350.

.4 Laminated plastic backing sheet: supplied by same manufacturer as facing sheet; not less than 0.508 mm (0.02") thick and same colour as face laminate. Sanded one side. Acceptable products:

.1 Formica Laminate Grade 20.

.5 Laminated plastic cabinet liner sheet material or for MCP Board or Cladboard material: supplied by same manufacturer as facing sheet, not less than 0.760 mm (0.028") thick, white colour. Acceptable products:

.1 Formica Laminate Grade 20.

.2 VF-3 Vertical Post Forming Grade by Nevamar.

.3 Wilsonart Vertical Surface Type 335.

.6 Plywood core: Douglas Fir Plywood to CSA-O121 or Canadian Softwood Plywood to CSA-O151 solid two sides, 19 mm (¾") thick.

.7 Particleboard core: to CAN3-O188.1, Grade R, sanded faces, of thickness indicated.

.8 Adhesive for laminated plastic: to be CSA approved and one of the following types as selected by the laminate manufacturer as being suitable for the application:

.1 Urea resin adhesive to CSA O112 Series.

.2 Contact adhesive to CAN/CGSB-71.20.

.3 Resorcinol resin adhesive to CSA O112.

.4 Polyvinyl adhesive to CSA O112.

.5 Two component epoxy thermosetting adhesive.

.9 Sealer: water resistant sealer or glue acceptable to laminate manufacturer.

.10 Sealant: of a type recommended by the laminate manufacturer and in accordance with Section 079210 - Joint Sealers; colour to be selected by the Consultant.

.11 Draw bolts and splines: as recommended by fabricator.

.12 Apply laminate backing sheet to reverse side of core of plastic laminate work.

.13 Apply laminated plastic liner sheet to interior of cabinetry, including all exposed surfaces such as gable ends, doors and drawers, and where otherwise indicated.

Part 3 Execution

3.1 INSTALLATION

.1 Install work plumb, true and square, neatly scribed to adjoining surfaces.

.2 Make allowances around perimeter where fixed objects pass through or project into laminated plastic work to permit normal movement without restriction.

.3 Use draw bolts and splines in countertop joints. Maximum spacing 450 mm (18") oc, 75 mm (3") from edge. Make flush hairline joints.

.4 Provide cutouts for inserts, grilles, appliances, outlet boxes and other penetrations. Round internal corners, chamfer edges and seal exposed core.

.5 At junction of laminated plastic counter back splash and adjacent wall finish, apply small bead of sealant.

.6 Where laminated plastic is site applied, adhere laminated plastic over entire surface. Make corners with hairline joints. Use full sized laminate sheets. Make joints only where indicated or approved. Slightly bevel arises. Cap exposed edges with anodized aluminum extrusions.

.7 For site application, offset joints in plastic laminate facing from joints in core.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Materials, preparation and application for caulking and sealants.

1.2 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 07 62 00 – Sheet Metal Flashing and Trim.

.3 Section 08 11 14 – Steel Doors and Frames.

.4 Section 04 21 13 - Masonry.

.5 Section 07 46 13 – Preformed Metal Siding.

1.3 REFERENCES

.1 American Society for Testing and Materials International, (ASTM)

.1 ASTM C919-[02], Standard Practice for Use of Sealants in Acoustical Applications.

.2 Canadian General Standards Board (CGSB)

.1 CGSB 19-GP-5M-[1984], Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1).

.2 CAN/CGSB-19.13-[M87], Sealing Compound, One-component, Elastomeric, Chemical Curing.

.3 CGSB 19-GP-14M-[1984], Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).

.4 CAN/CGSB-19.17-[M90], One-Component Acrylic Emulsion Base Sealing Compound.

.5 CAN/CGSB-19.24-[M90], Multi-component, Chemical Curing Sealing Compound.

.3 Department of Justice Canada (Jus)

.1 Canadian Environmental Protection Act, 1999 (CEPA).

.4 General Services Administration (GSA) - Federal Specifications (FS)

.1 FS-SS-S-200-[E(2)1993], Sealants, Joint, Two-Component, Jet-Blast-Resistant, Cold Applied, for Portland Cement Concrete Pavement.

.5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.6 Transport Canada (TC)

.1 Transportation of Dangerous Goods Act, 1992 (TDGA).

1.4 SUBMITTALS

.1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.

.2 Manufacturer's product to describe.

.1 Caulking compound.

.2 Primers.

.3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.

.3 Submit manufacturer's instructions in accordance with Section 01 33 00 - Submittal Procedures.

.1 Instructions to include installation instructions for each product used.

1.5 DELIVERY, STORAGE, AND HANDLING

.1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Collect and separate for disposal of paper, plastic, polystyrene, corrugated cardboard, or packaging material [in appropriate on-site bins] for recycling.

.3 Place materials defined as hazardous or toxic in designated containers.

.4 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.

.5 Unused [sealant] material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.

.6 Divert unused joint sealing material from landfill to official hazardous material collections site approved by Consultant.

.7 Empty plastic joint sealer containers are not recyclable. Do not dispose of empty containers with plastic materials destined for recycling.

.8 Fold up metal banding, flatten, and place in designated area for recycling.

1.7 PROJECT CONDITIONS

.1 Environmental Limitations:

.1 Do not proceed with installation of joint sealants under following conditions:

.1 When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 degrees C.

.2 When joint substrates are wet.

.2 Joint-Width Conditions:

.1 Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

.3 Joint-Substrate Conditions:

.1 Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.8 ENVIRONMENTAL REQUIREMENTS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to Labour Canada.

.2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

1.9 WARRANTY

.1 Submit a warranty that caulking work will not leak, crack, crumble, melt, shrink, run, lose adhesion or stain adjacent surfaces, in accordance the General Conditions of the Contract, but for two (2) years total. Contractor shall supply all labour, materials, tools and equipment to repair and/or replace any work judged to be defective by the Consultant and sealant manufacturer at no additional cost to the owner for a period of 2 years from the date of Substantial Completion.

.2 Submit a manufacturer’s warranty against defects in materials and workmanship covering the components of the sealant for a period of ten (10) years. The manufacturer shall supply a non-pro-rated warranty covering labour, materials, tools and equipment to repair and/or replace any materials defects at no additional cost, for a period of 10 years

Part 2 Products

2.1 SEALANT MATERIALS

.1 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.

.2 When low toxicity caulks are not possible, confine usage to areas which off gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off gas time.

.3 Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

.1 Primers: type recommended by sealant manufacturer.

.2 Joint Fillers:

.1 General: compatible with primers and sealants, outsized 30 to 50%.

.2 Polyethylene, urethane, neoprene or vinyl: extruded closed cell foam, Shore A hardness 20, tensile strength 140 to 200 kPa.

.3 Neoprene or butyl rubber: round solid rod, Shore A hardness 70.

.4 Polyvinyl chloride or neoprene: extruded tubing with 6 mm minimum thick walls.

.5 Bond breaker: pressure sensitive plastic tape which will not bond to sealants.

.6 Sealant Type A: One component, chemical curing, conforming to CAN2-19.13-M82, Class C-2-25-B-N; multi-component, chemical curing, conforming to CAN2-19.24-M80, Type 2, Class B.

.7 Sealant Type B: Multi-component, chemical curing mildew resistant conforming to CGSB 19-GP-22M.

.8 Sealant type C: Multi-component, acrylic emulsion base, conforming to CGSB 19-GP-17M.

.9 Sealant type D: One component, polyurethane base, chemical curing, conforming to CAN2-19.13-M82, Class C-1-25-B-N; or multi-component, chemical curing, conforming to CAN2-19.24-M80, type 1.

.10 For exterior aluminum to masonry, aluminum to wood and aluminum to metal joints: high performance, single component modified elastomeric joint sealant conforming to CAN2-19.24-M80. Acceptable Materials: Sonolastic Ultr***a*** by Degussa.

.11 For interior aluminum to masonry, aluminum to wood and aluminum to metal joints: high performance, single component low odour sealant conforming to CAN/CGSB-19.13-M87. Acceptable materials: Spectrem 2 by Tremco.

.3 Color of Sealants: to be selected by Consultant. Allow for a total of two (2) colours for Type A, two colours for Type B, two colours for Type C and one colour for Type D. Locations as directed on site by Consultant.

.4 Joint cleaner: xylol, methylethyl-ketone or non-corrosive type recommended by sealant manufacturer and compatible with joint forming materials.

.5 Vent tubing: 6 mm inside diameter extruded polyvinyl chloride tubing.

2.3 JOINT CLEANER

.1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.

.2 Primer: as recommended by manufacturer.

Part 3 Execution

3.1 PROTECTION

.1 Protect installed Work of other trades from staining or contamination.

3.2 SURFACE PREPARATION

.1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.

.2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.

.3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.

.4 Ensure joint surfaces are dry and frost free.

.5 Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

.1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.

.2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

.1 Apply bond breaker tape where required to manufacturer's instructions.

.2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 MIXING

.1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.6 APPLICATION

.1 New Work:

.1 Remove dust, paint, loose mortar and other foreign matter. Dry joint surfaces.

.2 Remove rust, mill scale and coatings from ferrous metals by wire brush, grinding or sandblasting.

.3 Remove oil, grease and other coatings from non-ferrous metals with joint cleaner.

.4 Prepare concrete, masonry, glazed and vitreous surfaces to sealant manufacturer's instructions.

.5 Examine joint sizes and correct to achieve depth ratio 1/2 of joint width with minimum width and depth of 6 mm, maximum width 25 mm.

.6 Install joint filler to achieve correct joint depth.

.7 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.

.8 Apply bond breaker tape where required to manufacturer's instructions.

.9 Prime sides of joints to sealant manufacturer's instructions immediately prior to caulking.

.2 Sealant.

.1 Apply sealant in accordance with manufacturer's written instructions.

.2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.

.3 Apply sealant in continuous beads.

.4 Apply sealant using gun with proper size nozzle.

.5 Use sufficient pressure to fill voids and joints solid.

.6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.

.7 Tool exposed surfaces before skinning begins to give slightly concave shape.

.8 Remove excess compound promptly as work progresses and upon completion.

.9 Apply sealant to joints between window or door frames to adjacent building components around perimeter of every external window or door opening, to control joints in masonry walls and where indicated. In masonry cavity construction, vent caulked joints from cavity to 3 mm beyond external face of wall by inserting vent tubing at bottom of each joint and maximum to 1500 mm o.c. vertically. Position tube to drain to exterior.

.10 Apply sealant to close gaps at all junctures of all interior walls meeting exposed ceilings. Provide required foam backer rods to ensure integrity of sealant bead when applied to juncture. Tool finish smooth to receive paint finish.

.11 Use sealants specified in the following locations:

.1 Type A: Joints between windows or door frames and adjacent building components; control and expansion joints and all other locations where sealing is required, except in locations designated for Type B, C and D. Ensure that sealant chosen (from the several specified under "MATERIALS") for each location is recommended by manufacturer for use on surfaces encountered.

.2 Type B: Joints between splash backs and walls.

.3 Type C: Joints between interior metal door frames and partitions.

.4 Type D: Joints in horizontal surfaces between concrete slabs.

.3 Curing.

.1 Cure sealants in accordance with sealant manufacturer's instructions.

.2 Do not cover up sealants until proper curing has taken place.

.4 Cleanup.

.1 Clean adjacent surfaces immediately and leave Work neat and clean.

.2 Remove excess and droppings, using recommended cleaners as work progresses.

.3 Remove masking tape after initial set of sealant.

3.7 WORK INCLUDED

.1 Work shall include but not limited to the following areas:

.1 exterior and interior hollow metal frames and screens; both sides;

.2 exposed control and expansion joints in masonry walls, masonry corners, joints in front of steel lintels bearing on exterior brick jambs;

.3 joints at all washroom vanities, hair dryers, hand dryers, electrical panels, access doors and adjacent surfaces. (Use sanitary caulking.)

.4 joints between masonry and concrete surfaces.

.5 joints between gypsum board and masonry, or other materials.

.6 joints between louvres and other surfaces.

.7 exterior siding, prefinished metal fascia, flashing and trim.

.8 penetrations through roofs, floors and walls other than firestopping

.9 at all other locations on drawings, except as noted below.

.2 Sealing of joints to the underside of exposed precast slab to be by precast installer.

.3 Sealing of all joints at top of walls meeting exposed flat or sloped precast ceilings to be included in this section.

3.8 REQUIRED INSPECTION

.1 Contractor to engage exterior sealant manufacturer's representative to review in order to provide manufacturer's warranty. Manufacturer's representative shall review substrate conditions as prepared on site and prior to the application of the sealant. If requested, manufacturer to supply a written copy of this warranty.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 07 92 10 - Joint Sealing: Caulking of joints between frames and other building components.

.3 Section 08 71 10 - Door Hardware - General: Supply of finish hardware, including weatherstripping and mounting heights.

.4 Section 09 91 23 - Interior Painting.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM International)

.1 ASTM A653/A653M-[01a], Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM B29-[92(1997)], Specification for Refined Lead.

.3 ASTM B749-[97], Specification for Lead and Lead Alloy Strip, Sheet and Plate Products.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-1.181-[99], Ready-Mixed Organic Zinc-Rich Coating.

.2 CGSB 41-GP-19Ma-[84], Rigid Vinyl Extrusions for Windows and Doors.

.3 Canadian Standards Association (CSA International)

.1 G40.20/G40.21-[98], General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2 CSA W59-[M1989(R2001)], Welded Steel Construction (Metal Arc Welding) (Metric Version).

.4 Canadian Steel Door Manufacturers' Association, (CSDMA).

.1 CSDMA, Specifications for Commercial Steel Doors and Frames, [1990].

.2 CSDMA, Recommended Selection and Usage Guide for Commercial Steel Doors, [1990].

.5 National Fire Protection Association (NFPA)

.1 NFPA 80-[99], Standard for Fire Doors and Fire Windows.

.2 NFPA 252-[99], Standard Methods of Fire Tests of Door Assemblies.

.6 Underwriters' Laboratories of Canada (ULC)

.1 CAN4-S104-[80(R1985)], Fire Tests of Door Assemblies.

.2 CAN4-S105-[85(R1992)], Fire Door Frames Meeting the Performance Required by CAN4-S104.

.7 CAN/ULC-S701-[01], Thermal Insulation, Polystyrene, Boards and Pipe Covering.

.8 CAN/ULC-S702-[97], Thermal Insulation, Mineral Fibre, for Buildings.

.9 CAN/ULC-S704-[01], Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.

1.3 DESIGN REQUIREMENTS

.1 Design exterior frame assembly to accommodate to expansion and contraction when subjected to minimum and maximum surface temperature of -35°C to 35°C.

.2 Maximum deflection for exterior steel entrance screens under wind load of 1.2 kPa not to exceed 1/175th of span.

1.4 WORK INCLUDED

.1 For projects with all wood doors, this specification section is provided for the purpose of information regarding the hollow metal door frames.

.2 A single manufacturer shall fabricate products included within the scope of this Section.

.3 Manufacturer shall be a member in good standing of the Canadian Steel Door Manufacturers Association (CSDMA).

.4 Supply only of steel frame products including frames, transom frames, sidelight and window assemblies with provision for glazed, paneled or louvered openings, fire labeled and non-labeled, as scheduled or detailed by the Consultant.

.5 Supply only of flush steel doors with provision for glazed, paneled or louvered openings, insulated and un-insulated, fire labeled, with or without temperature rise ratings and non-labeled, as scheduled or detailed by the Consultant.

.6 Supply only of steel panels, similar in construction to steel doors, with flush or abetted bottoms for steel frames, transom frames, sidelight and window assemblies, fire labeled and non-labeled, as scheduled or detailed by the Consultant.

1.5 RELATED WORK

.1 Building-in of frame product into unit masonry, previously placed concrete, structural or steel or wood stud walls.

.2 Supply and installation of wood, plastic or composite core doors.

.3 Supply and installation of builders' hardware except as specified for acoustic assemblies.

.4 Drilling and tapping for surface mounted or non-templated builders' hardware.

.5 Caulking of joints between frame product and other building components.

.6 Supply and installation of gaskets or weather-strip.

.7 Supply and installation of louvers or vents.

.8 Supply and installation of glazing materials.

.9 Site touch-up and painting.

.10 Wiring for electronic or electric hardware.

.11 Field measurements.

.12 Fasteners for frame product in previously placed concrete, masonry or structural steel.

.13 Steel lintels, posts, columns or other load-bearing elements.

.14 Field welding.

1.6 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

.2 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, glazed, or louvred, arrangement of hardware and fire rating and finishes.

.3 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings and reinforcing and fire rating finishes.

.4 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

.5 Submit test and engineering data, and installation instructions.

1.7 REQUIREMENTS

.1 Steel fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with CAN4-S104M [NFPA 252] for ratings specified or indicated.

1.8 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Divert unused paint and sealant materials from landfill to official hazardous material collections site approved by Consultant.

.3 Do not dispose of unused paint and sealant materials into sewer systems, into lakes, streams, onto ground or in other locations where it will pose health or environmental hazard.

.4 Divert unused metal materials from landfill to metal recycling facility approved by Consultant.

.5 Damaged or broken glazing materials are not recyclable. These materials must not de disposed of with materials destined for recycling.

1.9 TESTING AND PERFORMANCE

.1 Door constructions covered by this specification shall be certified as meeting Level "A" (1,000,000 cycles) and Twist Test Acceptance Criteria (deflection not to exceed 6.4 mm /13.6kg force, total deflection at 136.1kg force not to exceed 63.5 mm and permanent deflection not to exceed 3.2 mm) when tested in strict conformance with ANSI-A250.4-1994. Test shall be conducted by an independent nationally recognized accredited laboratory.

.2 Fire labeled product shall be provided for those openings requiring fire protection and temperature rise ratings, as determined and scheduled by the Architect. Doors, frames, transom frames and sidelight assemblies shall be tested in strict accordance with CAN4-S106. Product shall be listed by Underwriters Laboratories of Canada under an active Factory Inspection Program and shall be constructed as detailed in Follow-Up Service procedures issued to the manufacturer.

.3 Should any door or frame specified by the Architect to be fire rated, not qualify for labeling due to design, hardware, glazing or any other reason, the Consultant shall be so advised before manufacturing commences.

.4 Core materials for exterior doors shall attain a thermal resistance rating of RSI 1.06 (R6.0) when tested in accordance with ASTM C177 or ASTM C518.

.5 Product shall be manufactured by a firm experienced in the design and production of standard and custom commercial steel door and frame assemblies, the integration of builders' or electronic hardware and glazing materials and their impact on the scope of work.

.6 Manufacturer shall be assessed and registered as meeting the requirements of Quality Systems under ISO 9001.

.7 Product quality shall meet standards set by the Canadian Steel Door Manufacturers Association.

1.10 TEST REPORTS

.1 All alternates to this specification shall be submitted to the Architect for acceptance ten (10) days prior to bid date, complete with test reports from independent, nationally recognized testing authorities, certifying that:

.1 Steel door and frame assemblies furnished under this section meet the acceptance criteria of ANSI-A250.4-1994, Level "A".

.2 Insulated door cores furnished in exterior doors under this Section meet the specified thermal resistance rating.

.2 All reports shall include name of testing authority, date of test, location of test facility, descriptions of test specimens, procedures used in testing and indicate compliance with acceptance criteria of the test.

1.11 WARRANTY

.1 All steel door and frame product shall be warranted from defects in workmanship for a period of one (1) year from date of shipment.

.2 All steel door and frame product shall be warranted against rust perforation for a period of ten (10) years when the installed and finish painted with a commercial quality paint to the manufacturers recommendations.

.3 Finish paint adhesion on all door and frame product shall be warranted for a period of ten (10) years when the product has been properly cleaned and finish painted with a commercial quality paint applied as recommended by the paint manufacturer. This warranty shall not exceed that provided by the paint manufacturer.

Part 2 Products

2.1 MATERIALS

.1 Doors shall be fabricated from tension leveled steel to ASTM A924-M97, galvanized to ASTM A653-M97, Commercial Steel (CS), Type B, coating designation ZF75, known commercially as paintable Galvanneal.

.1 Acceptable Manufacturer: Flemming

.2 Acceptable Alternate Manufacturer: Trillium Steel Doors Limited, or others meeting these exact specifications outlined in this section and accepted in writing during the tender period.

.2 Door Cores:

.1 Honeycomb:

.1 Structural small cell (25.4 mm maximum) kraft paper “honeycomb”. Weight: 36.3 kg per ream (minimum), density: 16.5 kg/m^3 (minimum), sanded to the required thickness.

.2 Polystyrene:

.1 Rigid extruded, fire retardant, closed cell board, density 16kg/m^2, thermal values: RSI 1.06 minimum, conforming to ASTM C578.

.3 Temperature Rise Rated (TRR):

.1 Solid slab core of non-combustible, inorganic composite to limit temperature rise on the “unexposed” side of door to 250°C at 30 or 60 minutes, as required by governing building code requirements and determined and scheduled by the Architect.

.4 Adhesives:

.1 Honeycomb Cores and Steel Components: Heat resistant, spray grade, resin reinforced neoprene/rubber (polychloroprene) based, low viscosity, contact cement or ULC approved equivalent.

.5 Interlocking Edge Seams:

.1 Resin reinforced polychloroprene (RRPC), fire resistant, high viscosity, sealant/adhesive or UL approved equivalent.

.6 Polystyrene Cores:

.1 Heat resistant, epoxy based, low viscosity, contact cement.

.7 Primer:

.1 Rust inhibitive touch-up only.

.8 Exterior Top Caps:

.1 Rigid polyvinylchloride (PVC) extrusion.

2.2 DOOR FABRICATION

.1 Contractor is to site confirm dimensions of all existing hollow metal frames to remain and receive new hollow metal doors, including coordination of all hardware installation between frame and door.

.2 This section is based on doors and frames as manufactured by Fleming. Doors and frames by other manufacturers are acceptable subject to be similar to the one specified and meeting the terms of this section.

.3 Doors shall be swinging, 44.4 mm thick of the types and sizes indicated on the Architect's schedules or drawings.

.4 Exterior doors shall be lock seam, flush.

.5 Face sheets for exterior doors shall be fabricated from (16) gauge steel.

.6 Longitudinal edges of exterior doors shall be fully welded, ground smooth with no visible seams.

.7 Face sheets of interior doors shall be fabricated from 18 gauge steel, except for heavy traffic doors (noted **HT** in Door Schedule) face sheet to be 16 gauge.

.8 Longitudinal edge of heavy traffic doors (noted **HT** in Door Schedule) shall be mechanically interlocked, fully welded, ground smooth with no visible seams. Do not fill seams.

.9 Interior doors shall be stiffened, insulated and sound deadened with honeycomb core laminated under pressure to each face sheet.

.10 Stiffened, insulated and sound deadened with Fleming's propriety core where Temperature Rise Rated (TRR) fire labeled doors are specified on the Architect's schedules.

.11 Longitudinal edges of interior doors shall be mechanically interlocked, adhesive assisted with edge seams and tack-welded every 150 mm and filled flush.

.12 Door faces of all steel doors shall be fabricated without visible seams, free of scale, pitting, coil brakes, buckles and waves.

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

.14 Lock and hinge edges shall be beveled 3 mm in 50 mm unless builders' hardware or door swing dictates otherwise.

.15 Top and bottom of doors shall be provided with inverted, recessed, 16 gauge steel end channels, welded to each face sheet at 150 mm on center maximum.

.16 Exterior doors shall be provided with factory installed flush PVC top caps. Fire labeled exterior doors shall be provided with factory installed flush steel top caps.

.17 Unless ineligible due to design, size, hardware or glazing specified on the Architects' or hardware Suppliers' schedules or details, fire labeled doors shall be provided for those openings requiring fire protection ratings and temperature rise ratings, as determined and scheduled by the Architect.

.18 Exterior doors and high traffic doors shall be internally reinforced with 20 gauge continuous; interlocking steel stiffeners at 150mm O.C. max, with voids between stiffeners filled and insulated with 24kg/m3 density loose batt type fiberglass material to suit fully welded design.

.19 Doors shall be factory blanked, reinforced, drilled and tapped for fully templated mortised hardware only, in accordance with the final approved schedule and templates provided by the hardware supplier.

.20 Doors shall be factory blanked and reinforced only for mortised hardware that is not fully templated.

.21 Doors shall be factory reinforced only for surface mounted hardware.

.22 Templated holes 12.7mm diameter and larger shall be factory prepared, except mounting and through bolt holes, which shall be by the contractor responsible for installation on site, at the time of application. Templated holes less than 12.7mm diameter shall be factory prepared only when required for the function of the device (for knobs, levers, cylinders, thumb or turn pieces) or when these holes over-lap function holes.

.23 Drilling and tapping for surface mounted hardware or mortised hardware that is not fully templated shall be by the contractor responsible for installation on site, at the time of application.

.24 Hinge and pivot reinforcements shall be 10 gauge steel minimum high frequency type reinforcing.

.25 Hinge reinforcements for acoustic doors and doors in excess of 2450mm rabbet height shall be 10 gauge minimum with each cutout provided with 114.3mm heavy weight (4.6mm) high frequency type.

.26 Lock, strike and flush bolt reinforcements shall be 12 gauge steel minimum.

.27 Reinforcements for concealed closers and holders shall be 12 gauge steel minimum.

.28 For surface mounted hardware, reinforcements shall be 16 gauge steel minimum.

.29 All pairs of fire labeled doors shall be provided with 12 gauge steel surface mounted flat bar astragal, shipped loose for application on site, by the contractor responsible for installation.

.30 Pairs of doors up to 2450mm x 2450mm, to 1½ hour fire rating maximum shall be provided without astragals. Lock edge seam of such doors shall be tacked-welded and ground smooth. All other fire labeled pairs shall be provided with 12 gauge steel surface mounted flat bar astragal, shipped loose for application on site, by the contractor responsible for installation.

.31 Where electrically or electronically operated hardware is specified on the Architects' schedules or details of the final approved schedule and templates provided by the hardware supplier, hardware enclosures and/or junction boxes, where indicated on the templates, shall be provided and interconnected with CSA Approved 12.7mm diameter conduit and connectors.

.32 Prepare doors to receive security door contacts – refer to electrical drawings for locations. Door contacts to be installed at 100 mm from the latch side door edge.

2.3 GLAZING

.1 Where 6mm thick glazing materials are specified on the Architects schedules or details, doors shall be provided with 20 gauge steel glazing trim and snap-in glazing stops.

.2 Where other that 6mm glazing is specified on the Architect's schedules or details, doors shall receive 20 gauge steel trim and screw fixed glazing stops. Screws shall be #6 x 32mm oval head scrulox (self-drilling) type at 300mm on center maximum.

.3 Glazing trim and stops shall be accurately fitted, butted at corners, with removable glazing stops located on the 'push' side of the door.

2.4 LOUVER

.1 Where specified on the Architect's schedules or details, non-labeled doors shall be prepared on accordance with the louver manufacturer's details.

.2 Where specified on the Architect's schedules or details, fire labeled doors shall be prepared for UL listed sight-proof fusible link louvers in accordance with the louver manufacturer's details.

.3 Louvers shall be supplied and installed by others.

2.5 FINISHING

.1 Remove weld slag and splatter from exposed surfaces.

.2 All tool marks, abrasions and surface blemishes shall be filled and sanded to present smooth uniform surfaces.

.3 On exposed surfaces where zinc coating has been removed during fabrication, doors shall receive a factory applied touch-up primer.

.4 Primer shall be fully cured prior to shipment.

2.6 PANELS

.1 Panels shall be fabricated form the same materials, construction and finished in the same manner as doors as specified in Section 2.1.

2.7 PRIMER

.1 Touch-up prime CAN/CGSB-1.181.

2.8 PAINT

.1 Field paint steel doors and frames in accordance with Section[s] 09 91 22 – Painting. Protect weatherstrips from paint. Provide final finish shall be free of scratches or other blemishes.

2.9 FRAMES FABRICATION GENERAL

.1 Steel:

.1 Frame product shall be fabricated from tension leveled steel to ASTM A924-M97, galvanized to ASTM A653-M97, Commercial Steel (CS), Type B, coating designated ZF75, known commercially as paintable Galvanneal.

.2 Primer:

.1 Rust inhibitive touch up only.

.3 Miscellaneous:

.1 Door Silencers: GJ-64, Single Stud rubber/neoprene type

.2 Thermal Breaks: Rigid polyvinylchloride (PVC) extrusion

.3 Fiberglass: Loose batt type, density: 24kg/m^3 (minimum), conforming to ASTM C665.

.4 General:

.1 All steel frame product shall be as manufactured by Fleming of the types, sizes and profiles indicated on the Architects' schedules or details.

.2 Exterior frames shall be thermally broken, Fleming *Therma-Frame* Series, fabricated from 16 gauge steel.

.3 Exterior frame product shall be supplied profile welded (PW)

.4 Interior and exterior sections of thermally broken frames shall be separated by a continuous PVC thermal break.

.1 Thermally broken sections shall not be assembled by means of screws, grommets or other fasteners and welds shall not cause thermal transfers between interior and exterior surfaces of the frame sections.

.2 Closed sections (mullions and center rails) of thermally broken frames shall be factory insulated with 24kg/m^3 loose batt type fiberglass material.

.5 Insulation of open sections (jambs, heads and sills) on exterior frame product shall be provided and installed by the contractor responsible for installation.

.6 Interior frames shall be Fleming F-Series, fabricated from 16 gauge steel.

.7 Interior frame product shall be supplied profile welded (PW)

.8 Knocked-down and knocked-down drywall frames shall not be acceptable.

.9 Jambs, heads, mullions, sills and center rails shall be straight and uniform throughout their lengths.

.10 Frame product shall be square, free of defects, wraps or buckles.

.11 Corner joints shall be profile welded (PW) (continuously welded on the inside of the profiles' faces, rabbets, returns and soffit intersections with exposed faces filled and ground to a smooth, uniform, seamless surface)"

.12 Joints at mullions, transom bars, sills or center rails shall be coped accurately, butted and tightly fitted, with faces securely welded, matching corner joint faces.

.13 All steel mullions will be fabricated from the same materials as specified for the steel frames. Steel mullions will be fabricated as a fully assembled three piece unit consisting of a front, back and full height one piece attachment clip as per Fleming F Series. The attachment clip will completely fill the stop area of the mullion on both sides and span the void between each side forming a grid channel like structure. Mullions used as hinge mullions or strike mullions between doors will be filled with grout by the general contractor either prior to or following installation of the frame. The head of the frame shall have an opening sufficient for the grout to be poured in to the mullion.

.14 Mullions shall be fabricated with continuous 20 gauge galvanneal steel internal reinforcing clips.

.15 Frame product shall be fabricated with integral door stops having a minimum height of 16mm.

.16 Glazing stops shall be formed 20 gauge steel, 16mm height channel, accurately fitted, butted at corners and fastened to frame sections with #6 x 32mm oval head scrulox (self-drilling) type screws at 300mm on center maximum.

.17 Where required due to site access, as indicated on the Architects' schedules or details, when advised by the contractor responsible for co-ordination or installation, or when shipping limitations so dictate, frame product shall be fabricated in sections for splicing in the field.

.1 Field spliced jambs, heads and sills shall be provided with 16 gauge steel splice plates securely welded into one section, extending 100mm minimum each side of splice joint.

.2 Field splices at closed sections (mullions or center rails) shall be 16 gauge steel splice angles securely welded to the abutting member. Face of splice angle shall extend 100mm minimum into closed sections when assembled.

.3 Field splice joints shall be welded, filled and ground to present a smooth uniform surface by the contractor responsible for installation after assembly.

.18 Each door opening shall be provided with two (2) temporary steel jamb spreaders welded to the base of the jambs or mullions to maintain proper alignment during shipping and

handling. Spreaders shall be removed by the contractor responsible for installation prior to anchoring of frame to floor.

.19 Each door opening shall be prepared for GJ-64 or equivalent, single stud door silencers, three (3) for single door openings, two (2) for double door openings. Silencers shall be shipped loose for installation by the contractor after finish painting.

.20 Unless ineligible due to design, size, hardware or glazing specified on the Architects' or Hardware Suppliers' schedules or details, fire labeled frame product shall be provided for those openings required fire protection ratings as determined and scheduled by the Architect.

.21 Hardware Preparations:

.1 Frame product shall be blanked, reinforced, drilled and tapped for fully templated mortised hardware only, in accordance with the final approved schedule and templated provided by the hardware supplier.

.2 Frame product shall be factory blanked and reinforced only for mortised hardware that is not fully templated.

.3 Frame product shall be reinforced only for surface mounted hardware.

.4 Drilling and tapping for surface mounted hardware or mortised hardware that is not fully templated shall be by the contractor responsible for installation on site, at the time of application.

.5 Frames shall be prepared for 114.3mm standard weight hinges (minimum).

.6 Hinge and pivot reinforcements shall be 10 gauge steel minimum reinforcing, high frequency type shall be provided.

.7 Hinge reinforcements for acoustic frames and frames in excess of 2450mm rabbet height shall be 10 gauge minimum with each cutout provided with 114.3mm heavy weight (4.6mm) high frequency type.

.8 Strike reinforcements shall be 16 gauge steel minimum.

.9 Reinforcements for surface mounted hardware, concealed closers and holders and flush bolts shall be 12 gauge steel minimum.

.10 Mortised cutouts shall be protected with 22 gauge steel minimum guard boxes.

.11 Where electrically or electronically operated hardware is specified on the Architects schedules or details or the final approved schedule and templates provided by the hardware supplier, hardware enclosures and/or junction boxes, where indicated on templates, shall be provided and inter-connected with CSA Approved 12.7mm diameter conduit and connectors.

.12 Prepare frames to receive security door contacts – refer to electrical drawings for locations. Door contacts to be installed at 100 mm from the latch side door edge.

.22 Anchorage:

.1 Frame product shall be provided with anchorage appropriate to floor, wall and frame construction.

.2 Each wall anchor shall be located immediately above or below each hinge reinforcement on the hinge jamb and directly opposite on the strike jamb, except as indicated below.

.3 Frame product installed in unit masonry partitions shall be provided with 4.0mm diameter steel wire anchors, 18 gauge steel adjustable stirrup and strap or "T" type anchors as conditions dictate.

.4 Where frame product is installed prior to construction of the adjacent wall, each jamb shall be provided with 16 gauge steel floor anchors. Each anchor shall be provided with two (2) holes for mounting to the floor and shall be securely welded to the inside of the jamb.

.5 Floor anchors for thermally broken exterior frames shall be designed so as not to permit thermal transfers from exterior to interior surfaces of the frame sections.

.6 Frame product installed in drywall partitions shall be provided with 20 gauge steel snap-in or "Z" type stud type anchor.

.7 Jambs of frames in previously placed concrete, masonry or structural steel shall be punched and dimpled to accept machine bolt anchors, 6.4mm diameter, located not more than 150mm from the top and bottom of each jamb. Anchor preparations and guides shall also be located immediately above or below the intermediate hinge reinforcings and directly opposite on the strike jamb. Each preparation shall be provided with 16 gauge anchor bolt guides.

.8 Anchor bolts and expansion shell anchors for the above preparations shall be provided by the contractor responsible for installation.

.9 After sufficient tightening of the anchor bolts, the heads shall be welded do as to provide a non-removable application. Welded bolt head and dimple shall be filled and ground to present a smooth uniform surface by the contractor responsible for installation, prior to finish painting.

.10 Where indicated on the Architects' schedules or details, channel extensions shall be provided from the top of the frame assembly to the underside of the structure above. Extensions shall be fabricated from 12 gauge steel formed channel, mounting angles welded to inside of frame head and adjusting brackets. Formed channels, adjusting brackets and fasteners shall be shipped loose. Channels shall be mechanically connected to mounting angles and adjusting brackets with supplied fasteners, on site, by contractor responsible for installation.

.23 Finishing:

.1 Remove weld slag and spatter from exposed surfaces.

.2 All tool marks, abrasions and surface blemishes shall be filled and sanded to present smooth and uniform surfaces.

.3 On exposed surfaces where zinc has been removed during fabrication, frame product shall receive a factory applied touch-up primer.

.4 Primer shall be fully cured prior to shipment.

2.10 SIZES AND TOLERANCES

.1 All sizes and tolerances shall be in accordance with the Canadian Steel Door Manufacturers Association "Recommended Dimensional Standards for Commercial Steel Doors and Frames" as follows:

.1 Widths of door openings shall be measured from inside of frame jamb rabbet with a tolerance of +1.6mm, -0.8mm.

.2 Heights of door openings shall be measured from the finished floor (exclusive of floor coverings) to the head rabbet of the frame with a tolerance of ± 1.2mm.

.3 Unless builders' hardware dictates otherwise, doors shall be sized so as to fit the above openings and allow a 3mm clearance at jambs and head. A clearance of 19mm between the bottom of the door and the finished floor (exclusive of floor coverings) shall be provided. Tolerances on door sizes shall be ± 1.2mm.

.4 Manufacturing tolerances on formed frame profiles shall be ± 0.8mm for faces, door stop heights and jamb depths. Tolerances for throat openings and door rabbet shall be ± 1.6mm and ± 0.4mm respectively. Hardware cutout dimensions shall be as per template dimensions, +0.4mm, -0.

2.11 HARDWARE LOCATIONS

.1 Hardware preparations in frame product shall be as noted below and locations on doors shall be adjusted for clearances specified in 2.4.

.2 Top of upper hinge preparation for 114.3mm hinges shall be located 180mm down from head, transom mullion or panel as appropriate. The top of the bottom hinge preparation for 114.3mm hinges shall be located 310mm from finished floor as defined in 2.4.3. Intermediate hinge preparations shall be spaced equally between top and bottom cutouts. For dutch door frames, top and bottom hinge locations shall be as above, with the tops of intermediate hinges located at 930mm and 1403mm from finished floor.

.3 Strike preparations for unit, integral, cylindrical and mortise locks and roller latches shall be centered 1033mm from finished floor. Strikes for deadlocks shall be centered at 1200mm from finished floor. Strikes for panic or fire exit hardware shall be located as per device manufacturer's templates.

.4 Push and/or pulls on doors shall be centered 10701mm from finished floor.

.5 Preparations not noted above shall be as per hardware manufacturer's templates.

.6 Hardware preparation tolerances shall comply with the ANSI A115 series standards.

Part 3 Execution

3.1 SITE AND PROTECTION OF MATERIALS

.1 The contractor responsible for installation shall remove wraps or covers from door and frame product upon delivery at building site.

.2 All materials shall be thoroughly inspected upon receipt and all discrepancies, deficiencies and/or damages shall be immediately reported in writing to the supplier, All damage shall be noted on the carriers' Bill of Landing.

.3 Contractor responsible for installation shall ensure all materials are properly stored on planks or dunnage in a dry location. Product shall be stored in a vertical position, spaced with blocking to permit air circulation between them. Materials shall be covered to protect them from damage from any cause.

.4 Contractor shall notify the supplier in writing of any errors or deficiencies in the product itself before initiating any corrective work.

3.2 INSTALLATION GENERAL

.1 Install labelled steel fire rated doors and frames to NFPA 80 except where specified otherwise.

.2 Install doors and frames to CSDMA Installation Guide.

.3 Install doors and frames in accordance with the Door and Hardware Institute "Installation guide for doors and hardware".

.4 Set frame product plumb, square, aligned, without twist at correct elevation.

.5 Frame Product Installation Tolerances:

.1 Plumbness tolerance, measured through a line from the intersecting corner of vertical members and the head to the floor, shall be $\pm$ 1.6mm.

.2 Squareness tolerance, measured through a line 90^0 from one jamb at the upper corner of the product, to the opposite jamb, shall be $\pm$ 1.6mm.

.3 Alignment tolerance, measured on jambs, through a horizontal line parallel to the plane of the wall, shall be $\pm$ 1.6mm.

.4 Twist tolerance, measured at face corners of jambs, on parallel lines perpendicular to the plane of the wall, shall be $\pm$ 1.6mm.

.6 Fire labeled product shall be installed in accordance with NFPA-80.

.7 Secure anchorages and connections to adjacent construction.

.8 Brace frame product rigidly in position while building-in. Remove temporary steel shipping jamb spreaders. Install wood spreaders at mid points of frame rabbet height and at floor level to maintain frame widths. Provide vertical support at center of head for openings exceeding 1250mm in width. Remove wood spreaders after product has been built-in.

.9 Frame product in unit masonry shall be fully grouted in place.

.10 Install doors maintaining clearances outlined in Section 2.4.

.11 Install louvers and vents.

.12 Adjust operable parts for correct clearances and function.

.13 Steel surfaces shall be kept free of grout, tar or other bonding materials or sealers.

.14 Any grout or other bonding material shall be cleaned from products immediately following installation.

.15 Exposed field welds shall be finished to present a smooth uniform surface and shall be touched-up with a rust inhibitive primer.

.16 Exposed surfaces that have been scratched or otherwise marred during shipment, installation or handling shall be touched-up with a rust inhibitive primer.

.17 Finish paint in accordance with Section 099116 and 099123.

.18 Install glazing materials and door silencers.

3.3 INSPECTION

.1 In accordance with Section 011100- Summary of Work, upon assignment of an inspection agency the following inspections shall be performed:

.1 review of shop drawings for compliance with specification

.2 shop inspection during production. Should inspection notification not be given suitable to review fabrication, destructive testing of one or more doors will be undertaken either in the shop or on site at no additional cost to the owner. Doors destroyed for invasive inspection shall be replaced as part of the contract price.

.2 Upon notification of initial door installation, contractor shall notify inspector to witness installation practice and at periodic points for duration of installation period.

3.4 FINISH REPAIRS

.1 Touch up with primer finishes damaged during installation.

.2 Fill exposed frame anchors and surfaces with imperfections with metallic paste filler and sand to a uniform smooth finish.

3.5 GLAZING

.1 Install glazing for doors and frames in accordance with Section 08 80 50 - Glazing.

END OF SECTION

Part 1 General

1.1 GENERAL NOTES

.1 Find the Door Schedule on the large format drawings.

.2 Refer to the frame and door elevations on the large format drawings.

1.2 ABBREVIATIONS CODE

.1 The following abbreviations are used in the Door Schedule.

	Code	Reference
.2	DC	Door Contact (security)
.3	P	Paint
.4	HM	Hollow Metal
.5	GW	Georgian Wire
.6	TG	Tempered Glass
.7	45 MIN	45 minute fire rating
.8	HT	Heavy Traffic – see spec for welded seams, special reinforcing.
.9	B/F	Barrier-Free
.10	WD	Laminate Faced Wood Door
.11	P.LAM	Plastic Laminate Finish on Wood Door
.12	ALUM.	Aluminum
.13	ANNO.	Anodized Finish

1.3 DOOR SCHEDULE

.1 Door Schedule designation “DC” refers to “Door Contacts” used in the security system. Refer to Electrical Drawings and Division 16 Specifications for locations, zoning and description of system.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

1. Section 08 71 10 – Door Hardware
2. Section 10 11 25 – Manufactured Specialties Item 2.1.14

1.2 REQUIRMENTS OF REGULATORY AGENCIES

1. Fabricate and install all doors to the following standards. AWMAC Quality Standards for Architectural Woodwork, latest edition
2. CAN/CSA-0132.2 Series-90, Wood Flush Doors
3. CAN4-S104-M80, fire tests of door assemblies
4. CAN4-S105-M85, Fire Door Frames
5. NFPA-80, Fire doors and Windows, latest edition.

1.3 SAMPLES

1. Submit samples in accordance with Section 01 33 00
2. Submit one 12” x 12” corner sample of each type of door
3. Show door construction, core, glazing details and faces.

1.4 SHOP DRAWINGS

1. Submit shop drawings in accordance with Section 01300 Submittals.

1.5 GUARANTEE

1. All doors shall be fully guaranteed for a period of three (3) years against manufacturing defects, core ghosting and warping, delamination of veneer, after Substantial Completion.

Part 2 General

2.1 MATERIALS

1. Acceptable door manufacturers:
   - .1 Algoma
   - .2 Cambridge
   - .3 Dormond
   - .4 Lambton
   - .5 Marshfield

2. Doors shall be of the sizes, thickness and type as shown on the drawings.

3. Solid core doors shall be constructed with urea-formaldehyde free particle board to ANSI A208.1, lD2. For Fire rated doors provide core in accordance with fire test requirements..

4. Doors shall be provided with vision panels as called for on the Door Schedules and supplied complete with wood glazing stops for 20 minute rated doors and ULC approved metal glazing stops for 45 minute or 60 minute rated doors.

5. Doors shall be complete with labels indicating approved fire resistance rated as required.

6. Undercut or rebate bottom rails as required.

7. Crossband – 3 ply hardwood plywood not less than 1/8" thick before sanding

8. Vertical and horizontal edges, stops and beads for glass and grilles to match face veneer. Edges shall be minimum 1 ½" wide by thickness of door.

9. Stiles and rails to be low density softwood staved type minimum 1 ½" wide with ¾" thick hardwood edge banding. Moisture content shall not exceed 8%.

10. Glazing beads to be flush type front edge recessed 1/8" at bottom. Mitre cut and fil all corners to form tight flush joints.

11. Face veneer shall be plastic laminate from Nevamar Plastic Laminate ARP surface distributed by McFaddens. Approved alternates by Wisonart, Formica or Arborite. Allow for maximum of 2 colours from full range, including solids and wood grains as chosen by Consultant.

12. Colours to later selection by Consultant as specified in Plastic Laminates.

2.2 FABRICATION

1. Door cores unframed, solid laminated wood stave core construction, comprising narrow pieces of kiln dried wood, grain running vertically and end joints well staggered, solid, (no voids) and electronically glue bonded. Floating core construction will not be accepted. Sand door cores boths sides prior to application of faces.

2. If particle board core or fire rated cores used, frame with 1 1/8" minimum wood stiles and 2 ¾" minimum wood rails; edge stiles with birch ¾" wide minimum, full length piece. Glue tiles and rails to core and apply face veneer and machine flush with door edges.

3. Seal tope and bottom edges with two coats urethane finish or lacquer applied to door manufacturer's plant.

4. Attach ULC labels to fire doors and frames as required

5. Preparation of doors shall include provision for extra hinges, heavy weight butts and mortised or cylinder locksets as required of hardware tender documents.

6. Preparation of doors and frames shall make appropriate provision for sound seals as indicated on Door Schedule.

7. Prepare glazing stops to receive insulated, sealed glazing as required on Door Schedule.

Part 3 Execution

3.1 FITTING AND HANGING DOORS

1. Doors shall be delivered to site, protected in transit from any damage from weather or handlying and similarly stored in a protected area until hung in place.

2. Doors shall be hung by skilled carpenters.

3. Any planning of edges required for proper installation shall be sanded smooth prior to final installation.

4. Neatly and accurately fit required finishing hardware. Refer to section 08 71 10 - Finishing Hardware.

5. The completed installation required all doors to fit accurately in their frames, swing easily without binding and close slugly without movement when latch is engaged.

3.2 HARDWARE INSTALLATION

.1 Receive hardware from Section 08 71 10.

.2 Installation of the hardware is the responsibility of the General Contactor.

.3 Adjust for correct function.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Division 1

.2 Section 08 11 14 – Metal Steel Doors and Frames.

.3 Section 08 14 10 – Laminate-faced Flush Wood Doors.

.4 Section 16 – Electrical wiring for magnetic strikes, hold open devices, electric releases and electric locks.

1.2 SECTION INCLUDES

.1 For continuity and ready reference, this section is provided to describe intention regarding hardware supply and installation. The General Contractor will be required to coordinate the various sub-consultants regarding door and hardware installation and ensure that specific roles and scope delineations are clear.

.2 Hardware Supply: **The door hardware supply and installation shall be by a specialist hardware supplier as an allowance identified by the Consultant, to be tendered separately.**

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 74 11 – Final Cleaning.

.3 Section 01 78 00 - Closeout Submittals

.4 Section 08 11 14 – Metal Doors and Frames.

.5 Section 08 14 10 – Flush Wood Doors

.6 Section 07 92 10 - Joint Sealing: caulking of joints between frames and other building components.

.7 Section 10 28 10 – Toilet, Bath and Laundry Accessories.

1.2 REFERENCES

.1 American National Standards Institute (ANSI).

.1 ANSI/ASTM E330-[02], Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

.2 American Society for Testing and Materials International, (ASTM).

.1 ASTM C542-[94(1999)], Specification for Lock-Strip Gaskets.

.2 ASTM D790-[02], Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

.3 ASTM D1003-[00], Test Method for Haze and Luminous Transmittance of Plastics.

.4 ASTM D1929-[96(R2001)e1], Test Method for Determining Ignition Temperature of Plastics.

.5 ASTM D2240-[02b], Test Method for Rubber Property - Durometer Hardness.

.6 ASTM E84-[01], Test Method for Surface Burning Characteristics of Building Materials.

.7 ASTM F1233-[98], Test Method for Security Glazing Materials and Systems.

.3 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-12.1-[M90], Tempered or Laminated Safety Glass.

.2 CAN/CGSB-12.2-[M91], Flat, Clear Sheet Glass.

.3 CAN/CGSB-12.3-[M91], Flat, Clear Float Glass.

.4 CAN/CGSB-12.4-[M91], Heat Absorbing Glass.

.5 CAN/CGSB-12.5-[M86], Mirrors, Silvered.

.6 CAN/CGSB-12.6-[M91], Transparent (One-Way) Mirrors.

.7 CAN/CGSB-12.8-[97], Insulating Glass Units.

.8 CAN/CGSB-12.9-[M91], Spandrel Glass.

.9 CAN/CGSB-12.10-[M76], Glass, Light and Heat Reflecting.

.10 CAN/CGSB-12.11-[M90], Wired Safety Glass.

.11 CAN/CGSB-12.12-[M90], Plastic Safety Glazing.

.12 CAN/CGSB-12.13-[M91], Patterned Glass.

.13 CAN/CGSB-12.1-M90 Tempered or Laminated Safety Glass

.14 CAN/CGSB-12.3-M76 Glass, Polished Plate or Float, Flat, Clear

.4 Canadian Standards Association (CSA International).

.1 CSA A440.2-[98], Energy Performance Evaluation of Windows and Sliding Glass Doors.

.2 CSA Certification Program for Windows and Doors [2000].

.5 Environmental Choice Program (ECP).

.1 CCD-045-[95], Sealants and Caulking.

.6 Flat Glass Manufacturers Association (FGMA).

.1 FGMA Glazing Manual - [1997].

.7 Laminators Safety Glass Association (LSGA).

.1 LSGA Laminated Glass Design Guide [2000].

1.3 SAMPLES

.1 Submit a 300 x 300 sample of all glass products in accordance with Section 01 33 00 - Submittal Procedures.

1.4 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 013300 – Submittal Procedures. Co-ordinate location with Consultant.

1.5 WARRANTY

.1 Contractor hereby warrants glass against defects and failure, including leakage, under normal conditions of use, in accordance with the Contract, but for ten (10) years total, as follows:

.2 Supplier shall submit a written warranty from the insulated glass manufacturer to replace or repair any defects in materials or sealed units for a period of ten (10) years from the date of Substantial Completion.

.3 Mirrors:

.1 Submit a warranty for mirrors, covering the repair or replacement of defective work in accordance with the Contract, but for five (5) years total.

.2 Warranty shall apply against defects in workmanship and materials and, against silver deterioration and loosening of fastenings.

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Collect and separate for disposal [paper] [plastic] [polystyrene] [corrugated cardboard] packaging material [in appropriate on-site] for recycling.

.3 Unused or damaged glazing materials are not recyclable and must not be diverted to municipal recycling programs.

.4 Divert unused or damaged wood materials from landfill to [recycling] [reuse] [composting] facility approved by Consultant.

.5 Divert unused metal materials from landfill to metal recycling facility approved by Consultant.

.6 Divert unused caulking material from landfill to official hazardous material collections site approved by Consultant.

.7 Plastic caulking tubes are not recyclable and must not be diverted for recycling with other plastic materials.

Part 2 Products

2.1 MATERIALS

.1 Acceptable Manufacturers:

.1 AFG Glass Inc
.2 Libby-Owens Ford
.3 PPG Industries

.2 Interior Tempered Safety Glass: CAN/CGSB-12.1-M, Type 2, Class B, Category II, clear, minimum 6 mm thick.

.1 All interior Vision Glass to <u>non-fire rated</u> interior doors and screens to be tempered 6 mm tempered clear float glass complete with etched tempered glass designation visible.

.3 Georgian Wired rated glazing: <u>not</u> to be used on this project.

.4 Mirrors: Refer to Section 10 28 10 Washroom Accessories.

.5 Setting blocks: neoprene, 80 durometer hardness, 102 mm x 6 mm width to suit glass to extend from the fixed stop to the opposite face of the glazing unit.

.6 Spacer Blocks: neoprene, thickness to provide a minimum glass to face clearance of 3mm.

.7 Glazing tape**:** preformed polyisobutylene-butyl glazing tape with integral shim strip, 10-15 durometer, hardness, paper release, black color. Acceptable materials**:** Tremco Polyshim II by Tremco Ltd. or approved alternate.

.8 Gasket: black neoprene "U" cavity type with lock strip.

.9 Sealant: one component silicone, Spectrem 2 by Tremco Ltd. Refer to Section 07900.

2.2 FABRICATION

.1 Fabricate in accordance with CSA-A440/A440.1 supplemented as follows:

.2 Make field measurements before cutting and assembling materials.

.3 Maintain minimum bite or lap of glass as recommended by the glazing unit manufacturer.

.4 Each glass lite shall be labeled with the name of the product, weight and quality and year manufactured.

.5 If requested, provide owner or consultant access to the plant or shop to review fabrication. Consultant or owner to provide 24 hour advance notice of visit.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 EXAMINATION

.1 Verify that openings for glazing are correctly sized and within tolerance.

.2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

3.3 PREPARATION

.1 Clean contact surfaces with solvent and wipe dry.

.2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.

.3 Prime surfaces scheduled to receive sealant.

3.4 INSTALLATION:

.1 Inspect all glazing channels prior to application. All openings in joints and channels to be sealed shall be clean, dry and free of dust, oil, grease, loose mortar or any foreign material.

.2 All surfaces to receive glazing tape shall be wiped dry with a clean rag dampened in Xylol, followed by a dry wipe.

.3 Examine all sashes prior to glazing to determine if the openings are square and plumb. Any butt and miter joints which are open shall be sealed prior to glazing. Adjust all operating sashes and glaze in the closed position.

.4 Compression Glazing:

.1 When butt joint is in a vertical direction, the glazier shall first run the tape on the head and sill members while going over the joint. If joints at the sash run horizontally, the tape must be applied first to the jambs so that it crosses over the joint.

.2 When an offset condition exists at each corner where a horizontal member passes behind vertical mullions, two different sized tapes shall be used to equalize the pressure seal. The thinner tape is to applied first on the glazing leg closest to the interior. The thicker tape shall be cut to the length between the two tapes and applied.

.3 Each section of tape shall butt the adjoining tape and be united with a tool to eliminate any openings. Lapping of the adjoining tapes at the corners is not permitted.

.4 Remove paper backing just prior to setting glass and apply a toe bead of sealant 150 mm long in each of the corners.

.5 Position one setting block at the quarter point of each corner on the sill members or as recommended by IGMA guidelines.

.6 Set the glass on the setting blocks and press firmly in place. Snap in the interior glazing stops.

.7 Set the spacer blocks to prevent any “walking” of the lite.

.5 Mirrors:

.1 Install mirrors by means of concealed vandalproof clips If clips are used, install cushioning tape completing around perimeter of mirror back, set in concealed location within 25 mm of edge. Install fixed mirrors in washrooms at two different heights as indicated on drawings.

.2 Follow manufacturer’s installation recommendations.

.6 Install any wired glass with the wire parallel to the opening.

.7 Replace any loose glazing stops and tighten all screws.

.8 Contractor shall include for needle point (cap beads) at all lower horizontal rail joints of all sash/glazing units at the discretion of and as may be requested by the Consultant or owner.

3.5 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Remove traces of primer, caulking.

.3 Remove glazing materials from finish surfaces.

.4 Remove labels after work is complete.

.5 Immediately upon job completion and when sealants have cured, remove any temporary protection and clean all exposed interior and exterior surfaces. Use proper cleaning materials only which will not harm the window components or any adjacent surfaces.

.6 Ensure all temporary labels have been removed and fully cleaned.

.7 Mirrors:

.1 Clean mirrors using non-abrasive soap or detergent and rinse with clean water. Leave in clean, polished condition for Owner occupancy.

3.6 INSPECTION

.1 Where inspection is called for elsewhere in the specification, perform Window air and water leakage test to ensure installation meets performance requirements stated herein. Should test fail, take remedial measures and re-test a different location at not additional cost to the owner until the test passes.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 04 21 13 – Masonry

.3 Section 09 22 16 – Non-structural Metal Framing.

.4 Supply of access doors for mechanical and electrical devices in mechanical and electrical sections.

1.2 REFERENCES

.1 Aluminum Association

.1 Designation for Aluminum Finishes-[1997].

.2 American Society for Testing and Materials International, (ASTM)

.1 ASTM C36/C36M-[01], Specification for Gypsum Wallboard.

.2 ASTM C79/C79M-[01], Standard Specification for Treated Core and Non-treated Core Gypsum Sheathing Board.

.3 ASTM C442/C442M-[01], Specification for Gypsum Backing Board, Gypsum Coreboard, and Gypsum Shaftliner Board.

.4 ASTM C475-[01], Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.

.5 ASTM C514-[01], Specification for Nails for the Application of Gypsum Board.

.6 ASTM C557-[99], Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing.

.7 ASTM C630/C630M-[01], Specification for Water-Resistant Gypsum Backing Board.

.8 ASTM C840-[01], Specification for Application and Finishing of Gypsum Board.

.9 ASTM C931/C931M-[01], Specification for Exterior Gypsum Soffit Board.

.10 ASTM C954-[00], Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.

.11 ASTM C960/C960M-[01], Specification for Pre-decorated Gypsum Board.

.12 ASTM C1002-[01], Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.

.13 ASTM C1047-[99], Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.

.14 ASTM C1280-[99], Specification for Application of Gypsum Sheathing Board.

.15 ASTM C1177-[01], Specification for Glass Mat Gypsum Substrate for Use as Sheathing.

.16 ASTM C1178/C1178M-[01], Specification for Glass Mat Water-Resistant Gypsum Backing Board.

.3 Association of the Wall and Ceilings Industries International (AWEI)

.4 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.34-[M86(R1988)], Vapour Barrier, Polyethylene Sheet for Use in Building Construction.

.2 CAN/CGSB-71.25-[M88], Adhesive, for Bonding Drywall to Wood Framing and Metal Studs.

.5 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULC-S102-[1988(R2000)], Surface Burning Characteristics of Building Materials and Assemblies.

1.3 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials in original packages, containers or bundles bearing manufacturers brand name and identification.

.2 Store materials inside, level, under cover. Keep dry. Protect from weather, other elements and damage from construction operations and other causes.

.3 Handle gypsum boards to prevent damage to edges, ends or surfaces. Protect metal accessories and trim from being bent or damaged.

1.4 SITE ENVIRONMENTAL REQUIREMENTS

.1 Maintain temperature minimum 10 degrees C, maximum 21 degrees C for 48 hours prior to and during application of gypsum boards and joint treatment, and for at least 48 hours after completion of joint treatment.

.2 Apply board and joint treatment to dry, frost free surfaces.

.3 Ventilation: Ventilate building spaces as required to remove excess moisture that would prevent drying of joint treatment material immediately after its application.

1.5 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Collect and separate for disposal [paper] [plastic] [polystyrene] [corrugated cardboard] packaging material [in appropriate on-site] for recycling.

.3 Divert unused gypsum from landfill to gypsum recycling facility for disposal approved by Consultant.

.4 Divert unused metal materials from landfill to metal recycling facility approved by Consultant.

.5 Divert unused wood materials from landfill to [recycling] [composting] facility approved by Consultant.

.6 Divert unused paint and caulking material from landfill to official hazardous material collections site approved by Consultant.

.7 Do not dispose of unused paint and caulking materials into sewer systems, into lakes, streams, onto ground or in other locations where it will pose health or environmental hazard.

Part 2 Products

2.1 MATERIALS

.1 Standard board: to ASTM C36/C36M, 16 mm or 19 mm thick or as indicated, tapered edges.

.2 Standard board: to ASTM C36/C36M, X Rated, 16 mm or 19 mm thick or as indicated, tapered edges.

.3 Water-resistant board: to ASTM C630/C630M, 13 mm water resistant, tapered edges (WRGB in Finish Schedule). Reinforced cement board may be used in lieu of water-resistant gypsum board.

.4 Abuse resistant/Fire rated: to CSA A82.27-M1977 Fire-Rated Type X, 5/8" thick, "Abuse Resistant Fire Code" gypsum board panels, tapered edges, by CGC, Fibrerock interior AquaTuff panel. All gypsum board to have anti-microbial and anti-mould properties.

.5 Moisture resistant sheathing: 13mm (1/2") DensShield as manufactured Georgia-Pacific.

.6 All gypsum board to have Anti-Microbial and Anti Mold properties.

.7 Nails: to ASTM C514.

.8 Steel drill screws: to ASTM C1002.

.9 Stud adhesive: to CAN/CGSB-71.25.

.10 Laminating compound: as recommended by manufacturer, asbestos-free.

.11 Concrete Anchors: Phillips Red Head TW-614 or equivalent. Do not use powder activated fasteners for ceiling support.

.12 Tie Wire: #16 ga. galvanized soft annealed steel wire.

.13 Caulking: Acoustical sealant.

.14 38 mm thick mineral wool batts ULC labeled, if indicated on drawings.

.15 Casing beads, corner beads, control joints and edge trim: to ASTM C1047, 0.5 mm base thickness commercial sheet steel with G90 zinc finish, perforated flanges, and one piece length per location.

.16 Sealants: in accordance with Section 07 92 10 - Joint Sealing.

.17 Insulating strip: rubberized, moisture resistant, 3 mm thick closed cell neoprene strip, 12 mm wide, with self sticking permanent adhesive on one face, lengths as required.

.18 Joint compound: to ASTM C475, asbestos-free.

2.2 ACOUSTIC INSULATION MATERIALS FOR ALL PARTITION WALLS

.1 **Location: All interior Gypsum Board Partition walls**: Note that all walls extend to underside of Deck and shall be assembled with the following materials in addition to those specified above.

.2 Acoustic insulation inside all GB partitions: AFB Acoustic Fire Bat by Roxul or equivalent product by Fibrex, or Quietzone by Owens Corning.

.3 Steel deck closures: Emseal 25V Expanding Foam Sealant sized and shaped to fit flutes.

.4 Acoustic Insulation: mineral fibre acoustical batt insulation, as specified under Section 07210. Thickness of 90% of wall assembly cavity depth; Acceptable products:

.1 Fibrex ‘Sound Attenuation Fire Batt (SAFB)’
.2 Johns Manville ‘Sound-SHIELD’.
.3 Roxul ‘AFB’.
.4 Owens-Corning ‘QuietZone’.

.5 Acoustical sealant: CAN/CGSB-19.21-M87; non-skinning acoustic sealant, non-hardening type.

.6 Fasteners: use mechanical fasteners to secure batts into position as recommended by manufacturer.

Part 3 Execution

3.1 ERECTION

.1 Do application and finishing of gypsum board in accordance with ASTM C840 except where specified otherwise.

.2 Erect hangers and runner channels for suspended gypsum board ceilings in accordance with ASTM C840 except where specified otherwise.

.3 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.

.4 Install work level to tolerance of [1:1200].

3.2 APPLICATION

.1 Do not apply gypsum board until bucks, anchors, blocking, sound attenuation, electrical and mechanical works are approved.

.2 Apply single layer gypsum board to metal furring or framing using screw fasteners and laminating adhesive. Maximum spacing of screws 300 mm on centre.

.1 Single-Layer Application:

.1 Apply gypsum board on ceilings prior to application of walls in accordance with ASTM C840.

.2 Apply gypsum board vertically or horizontally, providing sheet lengths that will minimize end joints.

.2 Double-Layer Application:

.1 Install gypsum board for base layer and exposed gypsum board for face layer.

.2 Apply base layer to ceilings prior to base layer application on walls; apply face layers in same sequence. Offset joints between layers at least 250 mm.

.3 Apply base layers at right angles to supports unless otherwise indicated.

.4 Apply base layer on walls and face layers vertically with joints of base layer over supports and face layer joints offset at least 250 mm with base layer joints.

.3 Apply water-resistant gypsum board or cement board at all locations where wall tiles or special coating are to be applied, and adjacent to slop sinks or janitors closets if not constructed of Concrete Block. Apply water-resistant sealant to edges, ends, cut-outs which expose gypsum core and to fastener heads. Do not apply joint treatment on areas to receive tile finish.

.4 Apply gypsum board to concrete block surfaces, where indicated, using laminating adhesive.

.5 Apply type X gypsum board where indicated, in accordance with U.L.C. requirements and with supplement to the National Building Code of Canada to obtain the required fire protection, fire rating and fire separation.

.6 Install ceiling boards in direction that will minimize number of end-butt joints. Stagger end joints at least 250 mm.

.7 Where indicated on drawings, staple blanket to wallboard in accordance with ULC design requirements. Blanket shall be continuous and tightly fitted between studs and at perimeter.

.8 Install gypsum board on walls vertically to avoid end-butt joints. At stairwells and similar high walls, install boards horizontally with end joints staggered over studs, except where local codes or fire-rated assemblies require vertical application.

.9 Install gypsum board with face side out.

.10 Do not install damaged or damp boards.

.11 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.

.12 Where a floor or roof structural member interferes with an interior partition wall at which a smoke or fire separation is required, a gypsum board enclosure with a fire rating not less than required for the wall must be provided to continue the required, a gypsum board enclosure with a fire rating not less than required for the wall must be provided to continue the required separation to the floor or roof above (typical)

3.3 INSTALLATION

.1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges. Secure [at [150] mm on centre] [using contact adhesive for full length].

.2 Install casing beads around perimeter of suspended ceilings.

.3 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated. [Seal joints with sealant.]

.4 Construct control joints of [preformed units] [two back-to-back casing beads] set in gypsum board facing and supported independently on both sides of joint.

.5 Provide continuous polyethylene dust barrier behind and across control joints.

.6 Locate control joints [where indicated] [at changes in substrate construction] [at approximate [10] m spacing on long corridor runs] [at approximate [15] m spacing on ceilings].

.7 Install control joints straight and true.

.8 Construct expansion joints [as detailed], at building expansion and construction joints. Provide continuous dust barrier.

.9 Install expansion joint straight and true.

.10 Install cornice cap where gypsum board partitions do not extend to ceiling.

.11 Fit cornice cap over partition, secure to partition track with two rows of sheet metal screws staggered at [300] mm on centre.

.12 Splice corners and intersections together and secure to each member with 3 screws.

.13 Seal with acoustical sealant at ceilings, floors, wall intersections and all penetrations such as electrical outlets.

.14 Install access doors to electrical and mechanical fixtures specified in respective sections.

.1 Rigidly secure frames to furring or framing systems.

.15 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.

.16 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with Association of the Wall and Ceiling Industries (AWCI) International Recommended Specification on Levels of Gypsum Board Finish:

.1 Levels of finish:

.1 Level 0: No tapping, finishing or accessories required.

.2 Level 1: Embed tape for joints and interior angles in joint compound. Surfaces to be free of excess joint compound; tool marks and ridges are acceptable.

.3 Level 2: Embed tape for joints and interior angles in joint compound and apply one separate coat of joint compound over joints, angles, fastener heads and accessories; surfaces free of excess joint compound; tool marks and ridges are acceptable.

.4 Level 3: Embed tape for joints and interior angles in joint compound and apply two separate coats of joint compound over joints, angles, fastener heads and accessories; surfaces smooth and free of tool marks and ridges.

.5 Level 4: Embed tape for joints and interior angles in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads and accessories; surfaces smooth and free of tool marks and ridges.

.6 Level 5: Embed tape for joints and interior angles in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads and accessories; apply a thin skim coat of joint compound to entire surface; surfaces smooth and free of tool marks and ridges.

.17 Finish corner beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.

.18 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.

.19 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.

.20 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.

.21 Apply one coat of white primer sealer over surface to be textured. When dry apply textured finish in accordance with manufacturer's instructions.

.22 Mix joint compound slightly thinner than for joint taping.

.23 Apply thin coat to entire surface using trowel or drywall broadknife to fill surface texture differences, variations or tool marks.

.24 Allow skim coat to dry completely.

.25 Remove ridges by light sanding or wiping with damp cloth.

.26 Provide protection that ensures gypsum drywall work will remain without damage or deterioration at time of substantial completion.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM).

.1 ASTM C645-[00], Specification for Nonstructural Steel Framing Members.

.2 ASTM C754-[00], Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

.2 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-1.40-[97], Primer, Structural Steel, Oil Alkyd Type.

.3 Environmental Choice Program (ECP).

.1 CCD-047a -[98], Paints - Surface Coatings.

.2 CCD-048-[98], Surface Coatings - Recycled Water-borne.

1.3 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Collect and separate for disposal [paper] [plastic] [polystyrene] [corrugated cardboard] packaging material in appropriate on-site bins for recycling.

.3 Divert unused metal materials from landfill to metal recycling facility approved by Consultant.

.4 Divert unused gypsum materials from landfill to recycling facility approved by Consultant.

Part 2 Products

2.1 MATERIALS

.1 Non-load bearing channel stud framing: to ASTM C645, roll formed from 0.59mm thickness hot dipped galvanized steel sheet, for screw attachment of gypsum lath and metal lath. Knock-out service holes at 150 mm centres.

.2 Floor and ceiling tracks: to ASTM C645, in widths to suit stud sizes, 30 mm legs for floor track, 50 mm for ceiling track.

.3 Metal channel stiffener: 38 mm size, 2 mm thick cold rolled galvanized steel.

.4 Metal Accessories: CSA A82.30-1965 (R-1971).

.5 “Unistrut” support channel framing, by Tyco Electrical and Metal Products.

Part 3 Execution

3.1 ERECTION

.1 Align partition tracks at floor and ceiling and secure at 600 mm on centre maximum.

.2 Place studs vertically at 400 mm on centre and not more than 50 mm from abutting walls, and at each side of openings and corners. Position studs in tracks at floor and ceiling. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.

.3 Erect metal studding to tolerance of 1:1000.

.4 Attach studs to bottom track using screws.

.5 Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.

.6 Install steel frames and anchor frames securely to studs using minimum of three (3) anchors per jamb for jambs up to 2100 mm high and a minimum of four (4) anchors per jambs for jambs over 2100 mm high.

.7 Provide two (2) studs at each side of openings wider than stud centre specified.

.8 Install, cut to length, piece of runner horizontally over door frames and at top and bottom of rough opening in glazed partitions.

.9 Provide 38 mm x 89 mm vertical and horizontal wood studs secured between metal studs for attachments of bathroom fixtures, accessories, cabinet work, and other fixtures, including grab bars, towel rails, attached to steel stud partitions.

.10 Install steel stud or furring channel between studs for attaching electrical and other boxes.

.11 Extend all partitions to underside of deck above for sound and fire separation.

.12 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs.

3.2 CEILING FURRING TO CANOPIES & CEILING PANELS

.1 Provide to all interior and exterior canopies where shown to receive wood slat or plywood finishes.

.2 Framing channel to be model P1000 (1-5/8”) ; 12 ga.

.3 For exterior locations provide with 4 m dia. Holes at 500 o.c. for drainage and hot dip galvanize.

.4 Provide shop drawings for layouts.

.5 Refer to drawings for locations.

3.3 ACOUSTICAL SEALANT

.1 Apply acoustical sealant to all sills, headers, jambs and furring channels in contact with walls floors and ceiling deck as part of the acoustical insulation system for interior partitions. Refer to *Section 09 21 16 - Gypsum Board Assemblies*.

3.4 CEILING FURRING

.1 Install runners level to tolerance of 3 mm over 3.5 m. Provide runners at interruptions of continuity and change in direction.

.2 Frame with furring channels, perimeter of openings to accommodate access panels, light fixtures, diffusers, grilles, etc.

.3 Furr for bulkheads within or at termination or ceilings.

.4 Install furring channels at 400 mm o.c. maximum.

3.5 WALL FURRING

.1 Install steel furring, as indicated.

.2 Frame opening and around built-in equipment on four (4) sides with channels.

.3 Box-in beads, columns, pipes, and around exposed services.

3.6 FIRE RATED ASSEMBLIES

.1 If required, install Metal Stud System and Furring in accordance with appropriate ULC Design and with supplement to the National Building Code of Canada 1985.

3.7 CLEANING

.1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 07 92 10 - Joint Sealing.

1.2 REFERENCES

.1 American National Standards Institute (ANSI)/Ceramic Tile Institute (CTI)

.1 ANSI A108.1-[99], Specification for the Installation of Ceramic Tile (Includes ANSI A108.1A-C, 108.4-.13, A118.1-.10, ANSI A136.1).

.2 CTI A118.3-[92], Specification for Chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive (included in ANSI A108.1).

.3 CTI A118.4-[92], Specification for Latex Portland Cement Mortar (included in ANSI A108.1).

.4 CTI A118.5-[92], Specification for Chemical Resistant Furan Resin Mortars and Grounts for Tile Installation (included in ANSI A108.1).

.5 CTI A118.6-[92], Specification for Ceramic Tile Grounts (included in ANSI A108.1).

.2 American Society for Testing and Materials (ASTM International) International

.1 ASTM C144-[99], Specification for Aggregate for Masonry Mortar.

.2 ASTM C 207-[91(1997)], Specification for Hydrated Lime for Masonry Purposes.

.3 ASTM C847-[95(2000)], Specification for Metal Lath.

.4 ASTM C979-[99], Specification for Pigments for Integrally Coloured Concrete.

.3 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.34-[M86(R1988)], Vapour Barrier, Polyethylene Sheet for Use in Building Construction.

.2 CGSB 71-GP-22M-[78], Adhesive, Organic, for Installation of Ceramic Wall Tile.

.3 CAN/CGSB-75.1-[M88], Tile, Ceramic.

.4 CAN/CGSB-25.20-[95], Surface Sealer for Floors.

.4 Canadian Standards Association (CSA International)

.1 CAN/CSA-A3000-[98], Cementitious Materials Compendium (Consists of A5-98, A8-98, A23.5-98, A362-98, A363-98, A456.1-98, A456.2-98, A456.3-98).

.2 CSA A123.3-[98], Asphalt Saturated Organic Roofing Felt.

.5 Terrazzo Tile and Marble Association of Canada (TTMAC)

.1 Tile Specification Guide 09300 [2000], Tile Installation Manual.

.2 Tile Maintenance Guide [2000].

1.3 PRODUCT DATA

.1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.

.2 Include manufacturer's information on:

.1 Ceramic tile, marked to show each type, size, and shape required.
.2 Chemical resistant mortar and grout (Epoxy and Furan).
.3 Cementitious backer unit.
.4 Dry-set Portland cement mortar and grout.
.5 Divider strip.
.6 Elastomeric membrane and bond coat.
.7 Reinforcing tape.
.8 Levelling compound.
.9 Latex-Portland cement mortar and grout.
.10 Commercial Portland cement grout.
.11 Organic adhesive.
.12 Slip resistant tile.
.13 Waterproofing isolation membrane.
.14 Fasteners.

1.4 SAMPLES

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Base tile: submit 300 x 300 mm sample panels of each colour, texture, size, and pattern of tile.

.3 Floor tile: submit 300 x 300 mm sample panels of each colour, texture, size, and pattern of tile.

.4 Trim shapes, bullnose cap and cove including bullnose cap and base pieces at internal and external corners of vertical surfaces, each type, colour, and size.

.5 Stair Accessories: submit duplicate samples of each trim.

.6 Adhere tile samples to [11] mm thick plywood and grout joints to represent project installation.

.7 Prepare a 2 m x 3m mock-up sample on site to ensure demonstration of installation details and quality control. Include stair accessories in mock-up.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials in containers with labels legible and intact and grade-seals unbroken.

.2 Store material so as to prevent damage or contamination.

.3 Store materials in a dry area, protected from freezing, staining and damage.

.4 Store cementitious materials on a dry surface.

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of all packaging materials at appropriate recycling facilities.

.2 Collect and separate for disposal packaging material in appropriate on-site bins for recycling.

.3 Unused adhesive, sealant and coating materials must be disposed of at an official hazardous material collections site as approved by the Consultant.

.4 Unused adhesive, sealant and coating materials must not be disposed of into the sewer system, into streams, lakes, onto the ground or in other location where it will pose a health or environmental hazard.

.5 Broken ceramic materials must be diverted from landfill to a local facility as approved by Consultant.

1.7 ENVIRONMENTAL CONDITIONS

.1 Maintain air temperature and structural base temperature at ceramic tile installation area above 12 ^{o}C for 48 h before, during, and 48 h after, installation.

.2 Do not install tiles at temperatures less than 12 ^{o}C or above 38 ^{o}C.

.3 Do not apply epoxy mortar and grouts at temperatures below 15 ^{o}C or above 25 ^{o}C.

1.8 EXTRA MATERIAL

.1 Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.

.2 Provide minimum 5% of each type and colour of tile required for project for maintenance use. Store where directed.

.3 Maintenance material to be of same production run as installed material.

1.9 EXTENDED WARRANTY

.1 Submit a warranty for entire wall tile installation, covering materials and labour and the repair or replacement of defective work in accordance with the Contract, but for three (3) years total.

Part 2 Products

2.1 FLOOR TILE

.1 Porcelain floor tile (Designation: POR): to CAN/CGSB-75.1.

.1 Acceptable Materials: Size 300 mm x 600 mm; “Britstone” by Centura, in matte finish. Allow for one (1) field colour from manufacturer’s full line and two (2) accent floor tiles.

.2 Locations: corridors, and washrooms – refer to drawings. Refer to Room Finish Schedule for locations.

.3 Install in a one-third staggered pattern.

.4 Provide prefabricated movement joints in conjunction with slab saw cuts approx. 3500-6000mm distance (refer to floor pattern drawing).

.2 Porcelain floor tile bull-nose base (Designation: POR): to CAN/CGSB-75.1.

.1 Acceptable Materials: Size 76mm or 100 mm x 300 mm 'sit-on' bull-nose base; "Vitra", by Centura, in matte finish. Allow for two (2) colours from manufacturer's Category/Group 2 colours.

2.2 WALL TILE

.1 Ceramic tile (Designation: CWT): to CAN/CGSB-75.1, Type 5, Class MR 4, glazed surface. Allow for four (4) colors or sheens. Thin-set application.

.2 CWT.1: "Costa Nova – Onda, Matte", 50mm (2") x 200mm (8") x 6 mm size, by Centura.

.3 CWT.2: "Rainbow Matte", 100mm (4") x 400mm (16") x 6 mm size, by Centura.

.4 CWT.3: "Lanse", 50mm (2") x 250mm (10") x 6 mm size, by Centura.

.5 Colours to be selected by Consultant at later date.

.6 Tile Edging: Purpose-made, anodized aluminum, polished chrome finish, metal edge strips as manufactured Schluter Systems at all exposed tile edging: Profile – JOLLY; thickness as required for tile and tile set. Provide square tile return to wall at tops and sides of tile areas in Vestibule 9, with purpose made outside edging.

.7 Locations: In washrooms where shown on interior elevations or in Room Finish Schedule. Allow for 4 colours: 75% field and 25% accent. Patterns to be issued by Architect during construction.

2.3 TRIM SHAPES

.1 Conform to applicable requirements of adjoining floor and wall tile.

.2 Use slip resistant trim shapes for horizontal surfaces of showers, overflow ledges, recessed steps, shower curbs, drying area curbs, and stools.

.3 Use trim shapes sizes conforming to size of adjoining field wall tile, including existing spaces, unless specified otherwise.

.4 Internal and External Corners: Provide trim shapes as follows where indicated.

.1 Bullnose shapes for external corners including edges.

.2 Coved shapes for internal corners.

.3 Special shapes for:

.1 Base to floor internal corners to provide integral coved vertical and horizontal joint.

.2 Base to floor external corners to provide bullnose vertical edge with integral coved horizontal joint. Use as stop at bottom of openings having bullnose return to wall.

.3 Wall top edge internal corners to provide integral coved vertical joint with bullnose top edge.

.4 Wall top edge external corners to provide bullnose vertical and horizontal joint edge.

.5 Provide cove and bullnose shapes for where indicated and required to complete tile work.

2.4 MORTAR AND ADHESIVE MATERIALS

.1 Manufacturer's of commercial mortar, grout and adhesive having Product considered acceptable for use:

- .1 Mapei
- .2 Laticrete
- .3 Flextile

.2 Walls: Mortarcrete Latex Mortar conforming to ANS1A118.4-1973, manufactured by L & M Ceramo Inc.

.3 Floors:

- .1 Cement Mortar: Mixture of 1 part Portland cement, 4 parts dry sand and 1/10 hydraulic lime. Materials shall conform to the following:
- .2 Portland Cement: To CAN3-A, Type 10.
- .3 Hydrated Lime: To ASTM C-206 or 207, Type 5.
- .4 Sand: To CSA A82.56, passing 1.6 mm sieve.
- .5 Water: Potable, containing no contaminants which cause efflorescence.
- .6 Thin Set Mortar: field mixed, blended sand-Portland cement-latex mortar, "Kerabond/Keralastic by Mapei.
  - .1 Acceptable Alternates: "Laticrete 4237 distributed by Ceratec Inc., or Flextile 52 thin set.
  - .2 Latex Additive: "Cemtex" by Master Builders, Laticrete 2022" distributed by Ceratec Inc.,

2.5 GROUT

.1 Colouring Pigments:

- .1 Pure mineral pigments, limeproof and nonfading, complying with ASTM C979.
- .2 Colouring pigments to be added to grout by manufacturer.
- .3 Job coloured grout are not acceptable.
- .4 Use in Commercial Portland Cement Grout, Dry-Set Grout, and Latex-Portland Cement Grout.

.2 Chemical-Resistant Grout for Walls:

- .1 Epoxy grout: to ANSI A108.1, having quality, colour and characteristics to match epoxy bond coat. Adhesive and grout by same manufacturer.
- .2 Epoxy Grout: "Latapoxy SP-100" Stainless, chemical resistant epoxy grout by Laticrete International. Colour from manufacturer's full range. Alternate: Kerapoxy by Mapei.

.3 Floors:

- .1 Polymer modified grout as manufactured by MAPEI.

2.6 ACCESSORIES

.1 Prefabricated Movement Joints: purpose made Schluter, Dilex-KSN aluminum, sized as required for tile and mortar bed. Colour to be selected by consultant. To be installed directly above slab saw-cuts. Refer to floor pattern drawing for locations.

.2 Reinforcing mesh: 50 x 50 x 1.6 x 1.6 mm galvanized steel wire mesh, welded fabric design, in flat sheets.

.3 Divider strips:

.1 Laminated strips, core 32 x 3 mm black neoprene, outsides (both sides) brass 32 x 1.29 mm complete with anchors, both sides spaced at 150 mm on centre.

.2 Brass complete with anchors, both sides spaced at 150 mm on centre.

.4 Cleavage plane: [polyethylene film to CGSB 51-34] [No. 15 asphalt saturated felt to CSA A123.3] .

.5 Metal lath: to ASTM C847 finish, 10 mm rib at 2.17 kg/m^2.

.6 Transition Strips: purpose made metal extrusion; stainless steel type.

.7 Reducer Strips: purpose made metal extrusion; stainless steel type; maximum slope of 1:2.

.8 Prefabricated Movement Joints: purpose made, having a Shore A Hardness not less than 60 and elasticity of plus or minus 40 percent when used in accordance to TTMAC Detail 301EJ.

.9 Sealant: in accordance with Section 07 92 10 - Joint Sealing.

.10 Floor sealer and protective coating: [to CAN/CGSB-25.20, Type [1] [2]] [to tile and grout manufacturers recommendations].

2.7 MIXES

.1 Portland Cement:

.1 Scratch coat: 1 part portland cement, 1/5 to 1/2 parts hydrated lime to suit job conditions, 4 parts sand, 1 part water, [and latex additive where required]. Adjust water volume depending on water content of sand.

.2 Slurry bond coat: portland cement and water mixed to creamy paste. Latex additive may be included.

.3 Mortar bed for floors: 1 part portland cement, 4 parts sand, 1 part water. Adjust water volume depending on water content of sand. [Latex additive may be included].

.4 Mortar bed for walls and ceilings: 1 part portland cement, 1/5 to 1/2 parts hydrated lime to suit job conditions, 4 parts sand and 1 part water. Adjust water volume depending on water content of sand. [Latex additive may be included].

.5 Levelling coat: 1 part portland cement, 4 parts sand, minimum 1/10 part latex additive, 1 part water including latex additive.

.6 Bond or setting coat: 1 part portland cement, 1/3 part hydrated lime, 1 part water.

.7 Measure mortar ingredients by volume.

.2 Dry set mortar: mix to manufacturer's instructions.

.3 Organic adhesive: pre-mixed.

.4 Mix bond and levelling coats, and grout to manufacturer's instructions.

.5 Adjust water volumes to suit water content of sand.

2.8 PATCHING AND LEVELING COMPOUND

.1 Portland cement base, acrylic polymer compound, manufactured specifically for resurfacing and levelling concrete floors. Products containing gypsum are not acceptable.

.2 Have not less than the following physical properties:

.1 Compressive strength - 25 MPa.
.2 Tensile strength - 7 MPa.
.3 Flexural strength - 7 MPa.
.4 Density - 1.9.

.3 Capable of being applied in layers up to 50 mm thick, being brought to feather edge, and being trowelled to smooth finish.

.4 Ready for use in 48 hours after application.

.5 Any requirement for skim coats and levelling of existing sub-floor surface, to achieve an acceptable surface for flooring installation, are part of the scope of the flooring sub-contractor.

2.9 TERRAZO FLOOR PATCHING

.1 Where applicable, saw cut existing terrazzo floor and base as required and remove to nearest metal ‘panel’ joint to enable replacement at a full panel. Replace with terrazzo flooring to match existing as closely as possible. Provide sample to consultant for approval.

2.10 CLEANING COMPOUNDS

.1 Specifically designed for cleaning masonry and concrete and which will not prevent bond of subsequent tile setting materials including patching and levelling compounds and elastomeric waterproofing membrane and coat.

.2 Materials containing acid or caustic material are not acceptable.

Part 3 Execution

3.1 WORKMANSHIP

.1 Do tile work in accordance with TTMAC Tile Installation Manual 2000, "Ceramic Tile", except where specified otherwise.

.2 Apply tile [or backing coats] to clean and sound surfaces.

.3 Fit tile around corners, fitments, fixtures, drains and other built-in objects. Maintain uniform joint appearance. Cut edges smooth and even. Do not split tiles.

.4 Maximum surface tolerance 1:800.

.5 Make joints between tile uniform and approximately [1.5 mm] wide, plumb, straight, true, even and flush with adjacent tile. Ensure sheet layout not visible after installation. Align patterns.

.6 Lay out tiles so perimeter tiles are minimum 1/2 size.

.7 Install floor tiles as per pattern. Layout and install flash cove tile first, before floor tile, ensuring a flush edge on the horizontal surface by feathering to masonry walls as required to produce a straight line on the floor. Install floor tiles to pattern supplied by Architect at a later date. Contact consultant to review when approximately no more than 10 sq. m has been installed.

.8 Sound tiles after setting and replace hollow-sounding units to obtain full bond.

.9 Make internal angles square, external angles rounded.

.10 Make internal angles square, external angles chamfered at 45° with narrow tile strip.

.11 Construct cove base, as described using all special pieces available for inside and outside corners.

.12 For Floors: Use bull nose edged tiles at termination of wall tiles, except where tiles abut projecting surface or differing plane.

.13 Seal grouted joints with sealer.

.14 Keep building expansion joints free of mortar or grout.

.15 For Walls: Use round edged tiles at termination of wall tile panels, except where panel abuts projecting surface or differing plane.

.16 Install divider strips at junction of tile flooring and dissimilar materials.

.17 Allow minimum 24 h after installation of tiles, before grouting.

.18 Clean installed tile surfaces after installation and grouting cured.

3.2 FLOOR TILE

.1 Install in accordance with TTMAC to applicable thinset detail.

3.3 STAIR TILE ACCESSORIES

.1 Install all accessories specified per manufacturer’s instructions using whole lengths.

.2 Provide sample installation for architect for review.

3.4 FLOOR SEALER AND PROTECTIVE COATING

.1 Apply in accordance with manufacturer's instructions.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 78 00 - Closeout Submittals.

.3 Section 06 10 10/06101 - Rough Carpentry: Wood strapping.

.4 Fabrication: to ASTM 365-78 and CAN/GSB-92.1-M77.

.5 Installation: to ASTM C636-76, except where specified otherwise.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM)

.1 ASTM E1264-[98], Classification for Acoustical Ceiling Products.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.34-[M86], Vapour Barrier, Polyethylene Sheet, for Use in Building Construction.

.2 CAN/CGSB-92.1-[M89], Sound Absorptive Prefabricated Acoustical Units.

.3 Canadian Standards Association (CSA)

.1 CSA B111-[74(R1998)], Wire Nails, Spikes and Staples.

.4 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC-S102-[88(R2000)], Surface Burning Characteristics of Building Materials.

1.3 SAMPLES

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit two each 300 x 300 mm samples of each individual tile and grid type in accordance with Section 01340.

1.4 REGULATORY REQUIREMENTS

.1 Fire-resistance rated floor/ceiling and roof/ceiling assembly: certified by a Canadian Certification Organization accredited by Standards Council of Canada.

1.5 DESIGN CRITERIA

.1 Maximum deflection 1/360 of span to ASTM 365-78 deflection test.

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan

1.7 ENVIRONMENTAL REQUIREMENTS

.1 Permit wet work to dry before commencement of installation.

.2 Maintain uniform minimum temperature of [15]^{0}C and humidity of [20] - [40] % before and during installation.

.3 Store materials in work area [48] hours prior to installation.

1.8 EXTRA MATERIALS

.1 Provide extra materials of acoustic units in accordance with Section 01 78 00 - Closeout Submittals.

.2 Provide acoustical units amounting to [2] % of gross ceiling area for each pattern and type required for project.

.3 Extra materials to be from same production run as installed materials.

.4 Clearly identify each type of acoustic unit, including colour and texture.

.5 Store where directed by Consultant.

Part 2 Products

2.1 MATERIALS

.1 Acoustic units for suspended ceiling system: to CAN/CGSB-92.1.

.2 Acoustic Ceiling Panels, Designation LAP: Acoustic Ceiling Panels, wet formed mineral fibre panels, by Armstrong World Industries Canada Inc., Mississauga. Colour: White; Types as noted below:

.3 **Panel Types**:

.1 Type 1: LAP 1: 610 x 1220 mm x 15.9 mm thick; 'Fine Fissured' with medium texture, Square Lay-In, #1729; Location: For use in areas as indicated.

.4 Acceptable alternates: similar purpose-designed high humidity ceiling panels by CGC Interiors, BPB Canada Inc. and Certainteed.

.5 **Suspension system Type 1**: 23.8 mm (15/16") "Prelude XL" exposed tee bar grid, including wall moulding, by Armstrong. Colour: white. Acceptable alternate: similar suspension system by CGC Interiors, Oakville and Chicago Metal Corp. Grid sizes to suit ceiling panel types as shown on drawings.

.6 Suspension System for Radiant Panel Heaters: not applicable to this project.

.7 Hangers: 2.6 mm galvanized soft annealed steel wire.

.8 Accessories: splices, clips, retainers, etc., to complement suspension system components.

.9 Adhesive: low VOC type recommended by acoustic unit manufacturer.

.10 Staples, nails and screws: to CSA B111 non-corrosive finish as recommended by acoustic unit manufacturer.

.11 Hold down clips: purpose made clips to secure tile to suspension system, approved for use in fire-rated systems.

Part 3 Execution

3.1 EXAMINATION

.1 Do not install acoustical panels and tiles until work above ceiling has been inspected by Consultant.

3.2 INSTALLATION

.1 Install acoustical panels and tiles in ceiling suspension system.

.2 Install acoustic units parallel to building lines with edge unit not less than 50% of unit width.

.3 Scribe acoustic units to fit adjacent work. Butt joints tight, terminate edges with moulding.

.4 Support suspension system main runners at 1200 oc maximum with hangers from structure. Assembly shall support super-imposed loads. Maximum permissible deflection, 1/360 of span.

.5 Attach cross member to main runner to provide rigid assembly.

.6 Install suspension assembly to manufacturer's written instructions.

.7 Install flush edge moulding at junction of acoustic unit ceiling and other materials around entire length of joint. Secure to construction. Butt joints neatly, square and true in alignment.

.8 Set acoustic units in place.

.9 Set all ceiling levels by the use of transit or laser level.

.10 Ensure all installations are clean upon owner acceptance. Be responsible for monitoring damage and soiling after installation and before owner occupancy. Prior to owner takeover, replace all tiles with damage, blemishes or soiling whether caused by subcontractor handling or post installation above-ceiling adjustments, balancing, cabling, etc.

.11 Provide for Owner twelve (12) complete, undamaged ceiling tiles of each type, sealed and boxed. Leave in location as directed by Architect.

3.3 INTERFACE WITH OTHER WORK

.1 Co-ordinate ceiling work to accommodate components of other sections, such as light fixtures, diffusers, speakers, sprinkler heads, to be built into acoustical ceiling components.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 05 50 00 – Metal Fabrications.

.3 Section 08 11 14 – Metal Doors and Frames.

.4 Section 09 91 27 – Finish and Colour Notes.

.5 Section 09 91 30 – Door and Room Finish Schedule.

1.2 REFERENCES

.1 Architectural Painting Specifications Manual, Master Painters Institute (MPI).

.2 Ontario Painting Contractors Association (OPCA) Architectural Specification Manual - referenced as OPCA Manual, latest Edition. Paint formulations and methods referred to herein refer to this Manual. If contractor is unfamiliar with this reference standard, contact the OPCA at (416) 498-1897.

1.3 WARRANTY

.1 At outset of the contract, contractor to register with the OPCA for the inspection service paid for from Cash Allowances.

.2 Upon completion of the inspection program, contractor to furnish an OPCA 2 Year Guarantee. The Guarantee shall warrant that the work has been performed with respect to the standards and requirements incorporated in the OPCA specification manual-latest edition.

1.4 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

.1 Do not apply paint finish in areas where dust is being generated.

.2 Conform to requirements of OPCA Manual.

.3 Comply with the requirements of Section 01 35 30- Health and Safety.

1.5 JOB MOCK-UP

.1 Complete a mock-up room to be reviewed and approved by Owner, Consultant, and OPCA Inspector for approval on application of block filler and finish paint coats.

1.6 SCHEDULING OF WORK

.1 Submit work schedule for various stages of painting to Consultant for approval. Submit schedule minimum of 72 hours in advance of proposed operations.

.2 Obtain written authorization from Consultant for any changes in work schedule.

.3 Schedule painting operations to prevent disruption of occupants in and about the building.

1.7 EXTRA MATERIALS

.1 Submit one - four litre can of each type and colour of [primer] [stain] [finish coating]. Identify colour and paint type in relation to established colour schedule and finish system.

.2 Deliver to Contractor and store where directed.

1.8 DELIVERY, HANDLING AND STORAGE

.1 Labels shall clearly indicate:

.1 Manufacturer's name and address.
.2 Type of paint or coating.
.3 Compliance with applicable standard.
.4 Colour number in accordance with established colour schedule.

.2 Remove damaged, opened and rejected materials from site.

.3 Provide and maintain dry, temperature controlled, secure storage.

.4 Observe manufacturer's recommendations for storage and handling.

.5 Store materials and supplies away from heat generating devices.

.6 Store materials and equipment in a well ventilated area with temperature range 7^0C to 30^0C.

.7 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

.8 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Consultant. After completion of operations, return areas to clean condition to approval of Consultant.

.9 Remove paint materials from storage only in quantities required for same day use.

.10 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.

.11 Fire Safety Requirements:

.1 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
.2 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

1.9 FINISHES AND COLOURS

.1 Review the requirements outlined in Section 099127, Finish Schedule and Colour Notes. A separate colour schedule will be issued after contract award.

.2 Allow for 10 colours total from all formulations for this project including room wall accent colours.

1.10 WASTE MANAGEMENT AND DISPOSAL

.1 Paint, stain and wood preservative finishes and related materials (thinners, solvents, etc.,) are regarded as hazardous products and are subject to regulations for disposal. Information on these controls can be obtained from Provincial Ministries of Environment and Regional levels of Government.

.2 Material which cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.

.3 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.

.4 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into ground the following procedures shall be strictly adhered to:

.1 Retain cleaning water for water-based materials to allow sediments to be filtered out.

.2 Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.

.3 Return solvent and oil soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.

.4 Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.

.5 Empty paint cans are to be dry prior to disposal or recycling (where available).

.5 Where paint recycling is available, collect waste paint by type and provide for delivery to recycling or collection facility.

.6 Set aside and protect surplus and uncontaminated finish materials: galvanized touch up; wood stain, prefinished metal touch up paint. Deliver to or arrange collection by recycling organization for verifiable re-use or re-manufacturing.

.7 Close and seal tightly partly used sealant and adhesive containers and store protected in well ventilated fire-safe area at moderate temperature.

Part 2 Products

2.1 MATERIALS

.1 Acceptable Manufacturer's: Where OPCA code numbers are not referenced, use Products from one of the following manufacturers:

.1 Benjamin Moore & Co. Ltd.

.2 Canadian Industries Ltd.
.3 ICI (Glidden) Paints.
.4 Para Paints.
.5 Pratt & Lambert Inc.
.6 SICO Coatings.
.7 The Sherwin-Williams Company.

.2 Manufacturers of intumescent coatings having Product considered acceptable for use:

.1 A/D Fire Protection Systems Inc.
.2 Carboline.

.3 Paint materials for paint systems shall be products of a single manufacturer.

.4 Acceptable products: Per Chapter 5 OPCA Manual and as listed.

.5 Paint materials for each paint system to be products of a single manufacturer.

.6 Use low-VOC and low-odour paints only.

Part 3 Execution

3.1 GENERAL

.1 Prepare surfaces to receive paint per Chapter 3 OPCA Manual.

3.2 APPLICATION

.1 Sand and dust between each coat to remove defects visible from distance up to 1.5 m.

.2 Finish closets and alcoves as specified for adjoining rooms.

.3 Apply each coat at the proper consistency. Each coat of finish should be fully dry and hard before applying the next coat, unless the manufacturer’s instructions state otherwise.

.4 Method of application to be as approved by Consultant. Apply paint by [brush] [roller] [air sprayer] [airless sprayer]. Conform to manufacturer's application instructions unless specified otherwise.

.5 Brush and Roller Application:

.1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.
.2 Work paint into cracks, crevices and corners.
.3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.

.4 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces shall be free of roller tracking and heavy stipple unless approved by Consultant.

.5 Remove runs, sags and brush marks from finished work and repaint.

.6 Spray application:

.1 Provide and maintain equipment that is suitable for intended purpose, capable of properly atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.

.2 Keep paint ingredients properly mixed in containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently as necessary.

.3 Apply paint in a uniform layer, with overlapping at edges of spray pattern.

.4 Brush out immediately all runs and sags.

.5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.

.7 Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access and only when specifically authorized by Consultant.

.8 Apply coats of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.

.9 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.

.10 Sand and dust between coats to remove visible defects.

.11 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.

.12 Finish inside of cupboards and cabinets as specified for outside surfaces.

.13 Finish closets and alcoves as specified for adjoining rooms.

.14 Finish top, bottom, edges and cut-outs of doors after fitting as specified for door surfaces.

3.3 MECHANICAL/ELECTRICAL EQUIPMENT

.1 Refer also to Finish Notes in Section 099127- Finish and Colour Notes.

.2 Paint exposed conduits, pipes, hangers and other mechanical and electrical equipment occurring in finished areas as well as inside cupboards and cabinet work. Colour and texture to match adjacent surfaces, except as noted otherwise. Coordinate with mechanical trades applying banding and labeling after pipes have been painted. Do not paint white PVC covers on exposed mechanical water, drain and other lines

.3 Paint gas piping standard yellow where visible on roof or in service spaces. Do not paint gas meter or gas equipment in wall niche yellow—colour to later selection by Architect.

.4 Paint surfaces inside of ductwork and elsewhere behind grilles where visible using primer and one coat of matte black paint.

.5 Paint both sides and edges of plywood backboards for equipment before installation.

.6 Leave equipment in original finish except for touch-up as required, and paint conduits, mounting accessories and other unfinished items.

3.4 PAINT SYSTEMS

.1 System references listed are based on Chapters 4A and 4B of OPCA Manual and are OPCA Premium Grade, unless noted otherwise.

3.5 INTERIOR FINISHES

.1 Wood, where applicable:

- .1 Miscellaneous trim: INT. 1-A, Alkyd Semi-Gloss Finish, Premium Grade
- .2 Casework and miscellaneous wood items:
  - .1 Exterior surfaces: INT. 1-A, Alkyd Semi-Gloss Finish, Premium Grade
  - .2 Interior surfaces: INT. 1-A, Alkyd Semi-Gloss Finish, Premium Grade
  - .3 Wood Benches and Upper Shelves: INT. 2-F, Stained Alkyd Satin Finish, Premium Grade.
  - .4 Gym Storage Shelves: INT. 3-A, Stain Finish, Custom Grade

.2 Gypsum board: INT.4-B, Latex Eggshell Finish, Premium Grade.

.3 Acoustical wall panels: INT. 6-A, Latex Flat Finish, Custom Grade.

.4 Concrete Block: EP - All corridors, stairwells and vestibules - 100 percent zero VOC two- part epoxy.

.5 Concrete Block: INT.8-C -modified; Areas other than corridors, stairwell and vestibules - Latex Semi-Gloss Finish, Premium Grade. Modified system refers to all work where 2 full coats of block filler shall be applied.

.6 Concrete Floors; refer to Section 03 35 05 Concrete Floor Hardeners

.7 Miscellaneous metal:

- .1 Primed: INT. 12-A, Alkyd Semi-Gloss Finish, Premium Grade
- .2 Galvanized: INT. 13-A, Alkyd Semi-Gloss Finish, Premium Grade
- .3 INT. 12-G, Water based Epoxy finish, two coats on a rust inhibitive primer for all exposed steel railings, guards, etc..

.8 Galvanized metal: INT. 13-A, Alkyd Semi-Gloss Finish, Premium Grade

.9 Hollow Metal Doors and Frames: Without exception, all wipecoated Galvanized Hollow Metal Doors, Frames and Screens, interior and exterior shall be field cleaned with solvent, galvanized prime paint coated and then finished with INT. 13-A Premium Grade, Gloss Finish. Base coat primer shall be submitted for review in advance or door/frame painting shall be rejected by Consultant. For exterior hollow metal frames, if any, adjacent to aluminum windows, provide finish coat as an exterior premium grade metallic gloss finish to match anodized windows or Aluminum Composite panels. Colour to be confirmed by Architect during construction.

.10 Other Painting:

.1 In the any rooms with exposed metal deck including mechanical rooms and storage rooms:

.1 Allow for single colour for deck and joists.

.2 Allow for complete painting of all hangers and equipment brackets including but not limited to, electrical and mechanical equipment, etc.

.3 painting deck/floor slab and structural steel is part of painting contract.

3.6 EXTERIOR PAINTING

.1 Pavement markings: To CGSB 1-GP-74M, alkyd traffic paint.

.1 Sandblast existing line painting on asphalt to Owner's satisfaction, prior to application of new markings.

.2 Colour: to CGSB 1-GP-12C, white 513-301.

.3 Thinner: to CAN/CGSB-1.5

.4 All paint to confirm to OPSS #1712 and be supplied by one of the following suppliers.

White Paint Code	
Niagara Paint and Chemical Co. Ltd.	#87932
Ibis Products Ltd.	#40-2478
CIL	#7612-26992
Sherwin Williams	#C97WG129
Sico Paints	#3007649W

.2 Miscellaneous metal:

.1 Primed: EXT. 11-A-Gloss, Premium Grade

.2 Galvanized: Touch up any welds, cuts or damage with 'Galvafroid' Paint by W.R. Meadows prior to prime and finish coats.; Finish System EXT. 12-A-Gloss, Premium Grade

.3 Galvanized Structural Steel: Touch up any welds, cuts or damage with 'Galvafroid' Paint by W.R. Meadows prior to prime and finish coats.; Finish System: EXT. 12-A-Gloss, Premium Grade.

.4 Steel - high heat: EXT. 15-A

.5 Paint exterior vents and louvres located in masonry to match adjacent masonry in colour.

3.7 INSPECTIONS

.1 Provide Architect with all formulations at outset of project.

.2 Cooperate at all times with the paint inspection agency in the performance of their duties as required as part of the work of this Section.

.3 Inspection costs to be paid from Cash Allowance.

END OF SECTION

Part 1 General

1.1 GENERAL FINISH NOTES

.1 The Material and Colour Schedule will be issued by the Consultant after tender. It shall be read in conjunction with the Drawings, Specifications, Room Schedule and Door Schedule. Colour and material references named will be based on one manufacturer, as carried by the Contractor or, in the case that no specific manufacturer is carried, based on the Consultant's choice.

.2 Approved alternative manufacturers will be acceptable only as indicated in the specifications. However, approved alternate products submitted must match the products named in the Specification to the Consultant's selection. Alternate products other than those named in the specifications will not be allowed unless previously approved by the Consultant.

.3 Consult Consultant prior to painting any surface not included in the formulae as listed.

.4 Final colour for exterior painted surfaces and prominent interior areas shall be approved on the job site by the Consultant.

.5 Paint samples: Contractor to submit paint samples for all areas required to "Match Adjacent Finish".

.6 All similar paint formulations are to be identical when dry. Variations in tone, texture or sheen shall not be accepted.

.7 Submit two 300 mm x 300 mm paint samples of each colour required for approval by the Architect.

.8 Exact locations of accent paint called for in the Material and Colour Schedule, to be issued after Contract award, not specifically identified on the drawings are to be verified on site with the Consultant.

1.2 EXTERIOR FINISH NOTES

.1 All exposed metal (doors, frames, lintels, stairs, handrails, mechanical equipment, etc.) to be painted except for prefinished metal louvres, stainless steel, and aluminum. Mechanical equipment is to be painted whether delivered to the site prepainted or not (exhaust fans, goosenecks, exhaust stacks, supports, HVAC units, HRU units, etc.). Colours to match adjacent material-generally either to match brick or tan to match flashing or siding material. Do not paint exposed white PVC pipe covers on interior. Architect will advise on jobsite which other items mentioned above, if any, do not require painting.

.2 All unfinished metal work provided by landscaping is to be painted by Section 099122-Painting.

1.3 INTERIOR FINISH NOTES

.1 All heating units, recessed convectors, grilles, pipes, access panels, hangers and miscellaneous exposed metal work (except stainless steel or anodized aluminum) to be painted to match the surfaces on which they occur unless noted otherwise on the colour schedule, prefinished in suitable colour or directed by the Consultant. If prefinished equipment is damaged, it shall be re-painted. Painting to be by formulations specified in Section 09 91 12- Painting.

.2 All interior fitments, casework, millwork, etc. to be melamine unless otherwise noted. Refer to Sections for specific requirements regarding materials, construction, finishes and hardware. Note that drawer and cupboard interiors are to be considered as exposed surfaces and will therefore be finished.

.3 Do not paint over nameplates, identification tags, etc.

.4 Make good all existing surfaces and finishes that are damaged during construction.

END OF SECTION

PART 1 - GENERAL

1.1 General Notes

1. Find the **Room Finish Schedule** on the large format drawings.

2. Refer to interior elevations, plans sections and reflected ceiling plans to coordinate finish notes and extents of materials.

3. Refer to various specifications sections for different types of materials including, but not limited to:
   - .1 flooring materials such as resilient tile
   - .2 ceiling materials such as Lay-In Acoustical panel (LAP)
   - .3 Acoustical wall treatment

4. Abbreviations Legend:

Code	Reference
ASD	Acoustic Steel Deck
ASF	Acoustic Sheet Flooring
CMT	Ceramic Mosaic Tile
CPT	Carpet Tile
CWT	Ceramic Wall Tile
CB	Concrete Block
GWB	Gypsum Board
LAP	Lay-in Acoustic Panel
LVT	Luxury Vinyl Tile
EP	Epoxy Paint
EX	Existing
EXIST	Existing
POR	Porcelain Tile
PT	Paint
RE/RE	Remove existing and replace with new
RR	Resilient Rubber
RSTR	Rubber Stair Tread & Riser
RS / SF	Resilient Sheet Flooring (refer to spec for acoustic version)
RSF	Rubber Sheet Flooring
S.CONC	Sealed Concrete (refer to Section 03 35 05)
SF-SP	Resilient Sheet Flooring - Sport
TER	Terazzo
VCT	Vinyl Composite Tile
WRGB	Water-Resistant Gypsum Board

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 – Submittal Procedures.

.2 Section 08 14 10 – Wood Doors.

.3 Section 08 80 50 – Glazing: Mirrors.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM)

.1 ASTM A167-[99], Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.

.2 ASTM B456-[95], Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.

.3 ASTM A653/A653M-[99], Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.4 ASTM A924/A924M-[99], Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-1.81-[M90], Air Drying and Baking Alkyd Primer for Vehicles and Equipment.

.2 CAN/CGSB-1.88-[92], Gloss Alkyd Enamel, Air Drying and Baking.

.3 CAN/CGSB-12.5-[M86], Mirrors, Silvered.

.4 CGSB 31-GP-107Ma-[90], Non-inhibited Phosphoric Acid Base Metal Conditioner and Rust Remover.

.3 Canadian Standards Association (CSA)

.1 CAN/CSA-B651-[95], Barrier-Free Design.

.2 CAN/CSA-G164-[M92], Hot Dip Galvanizing of Irregularly Shaped Articles.

1.3 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures

.2 Shop drawings of units for use by the handicapped shall be distinctly marked and cross-referenced to the corresponding article in the specifications.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan.

Part 2 Products

2.1 MATERIALS

.1 Ferrous Steel: Sheet, cold-rolled furniture steel, double annealed, mill stretched and leveled, and fully pickled. Otherwise, steel shall be hot-rolled or cold-rolled of alloy to suit needs of fabrication, use, and appearance.

.2 Galvanized Steel: For sheet, Z275 zinc coating designation in accordance with ASTM Specification A525. For irregular sections, hot dip galvanized to comply with CSA G164.

.3 Stainless steel sheet metal: to ASTM A167, Type 304, with No. 4 finish.

.4 Anchors and Fastenings: Where exposed, use stainless steel and otherwise to match metal anchored. Where non-exposed, use the same as that specified for exposed, or use galvanized steel. Anchors and fastenings shall be of the type appropriate for the substrate to which accessory unit is secured.

2.2 COMPONENTS

.1 Hand Dryers – Semi-recessed (HD): refer to Electrical specifications.

.2 Fixed Grab Bars (GB): 32 mm outside diameter; 1.2 mm thick stainless steel; pended non-slip finish; round or oval concealed flange attachments, as described below:

- .1 Straight Profile: e.g. Frost Model 1001-DP-24.
- .2 L-Shaped Profile: e.g. Frost Model 1003-DP-30x30.
- .3 All bars to have concealed mounting hardware
- .4 Quantity: refer to drawings
- .5 All bars to withstand horizontal and vertical pull of 2.2 Kn
- .6 Location: Washrooms, refer to contract drawings.

.3 Handicapped Grab Bars - Flip-Up (GBF)

- .1 18 gauge stainless steel, 32 mm diameter, 800 mm long flip-up grab bar with white wall mounting bracket, automatic locking system.
  Model: Flip-up by Dunleavy Cordun Associates (Tel: 905-470-6685)
- .2 If locking grab bar not required, provide Bobrick B4998.99 and/or 812825 (with toilet paper holder).
- .3 Location: Third Floor washroom. Refer to drawings for locations and quantities.

.3 Sanitary Napkin Disposal (SN): Model 620, by Frost

- .1 Quantity: refer to drawings
- .2 Location: Washrooms, refer to drawings

.4 Sanitary Napkin Dispenser (SND): Surface Mounted Model 618-3-FREE, by Frost

- .1 Quantity: refer to drawings
- .2 Location: Washrooms, refer to drawings

.5 Safety Release Coat Hook (SCH):

- .1 Refer to drawings for locations.

.2 High strength polycarbonate coat hook with safety release weight under downward pressure to not exceed 12 kg (26 lbs.)

.3 Supply all suitable mounting hardware for a vandal proof, secure installation using stainless steel sleeve bolts on partition doors or panels. Do not supply standard Robertson or Phillips head screws.

.4 Colours:

.1 Allow for one (1) colour from Manufacturers standard line

.5 Acceptable Materials: “Henkel Hook” as manufactured/distributed by Henkel Diversified Inc, London ON, tel (519) 641-5872.

.6 Locations:

.1 Barrier-Free Washrooms

.2 Refer to drawings for locations

.6 Mirrors

.2 Fixed Mirrors (designation Type ML):

.1 Best quality, 6 mm thick float glass complete with concealed, tamperproof clip fasteners

.2 24 ga., Type 302 or 304 No 4 finish stainless steel frames on all edges and galvanized iron backing with concealed mounts.

.3 Sizes: each unit 610 mm x 1520 mm.

.4 Locations: as shown on Drawings.

.5 Acceptable Materials: Bobrick Model B-290 2460; 24” x 60” each.

.6 Acceptable alternate: equivalent size and details by Bobrick or Twin Cee

.3 Barrier-Free/Tilt Mirrors (designation Type TM):

.1 Acceptable Materials: Frost ‘Stock series’ model 941FG Tempered Glass; Bobrick 290 series or Frost F974FT series

.2 18” x 24” each.

.3 Locations: as shown on drawings.

.4 Frames: Type 302 or 304 No. 4 finish stainless steel.

.5 Mirror Cushioning: PVC pressure-sensitive foamed tape, 6 mm thick with adhesive on one side.

.4 Washrooms Partition Mirrors:

Vandal-proof stainless steel frameless mirrors.

.1 Locations: One to be installed in every washroom stall on the inside face of the door. Refer to Floor Plans for quantity of washroom stalls in the renovation area.

.2 Mount mirrors using tamperproof stainless-steel fasteners. Length of fasteners to be as required to fasten on inside face of partition stall door. Mounting height to be 1250mm to bottom and 1690mm AFF to top (confirm exact mounting location with School Board prior to installation).

.3 Sizes: Each unit 285mm x 440mm

.4 Acceptable Products: ‘Bobrick B-942’ and ‘Bradley SA05’ stainless steel frameless mirror.

.7 Toilet Paper Dispenser (TP): SUPPLIED BY OWNER

.1 To be supplied by Owner and installed by Contractor.

.2 Quantity: refer to drawings

.3 Location: Washrooms, refer to drawings.

.8 Soap Dispenser (SD): SUPPLIED BY OWNER
- .1 To be supplied by Owner and installed by Contractor.
- .1 Quantity: refer to drawings
- .2 Location: refer to drawings.

.9 Acceptable Alternates to those items listed above as manufactured by Bradley Corp. & Supplied by Wentworth Assoc. Ltd., Frost Products Ltd., Watrous (ASI) or Bobrick Washroom Equipment Co. and Saferail meeting or exceeding these specifications.

2.3 FABRICATION

.1 Construction**:** Fabricate with materials, component sizes, metal gauges, reinforcing, anchors and fasteners of adequate strength to withstand intended use.

.2 Where specified as frameless, provide stainless steel accessories with one-piece fronts having 90 degree formed returns at their edges and openings.

.3 Where accessory fronts are framed, frame edges, both inside and outside, with 90 degree formed returns continuously welded and ground smooth at the corners. Doors shall also have 90 degree formed returns as specified.

.4 Unless otherwise specified, hinges shall be semi-concealed stainless steel piano hinges extending full-length of hinged element. Provide hinged elements with concealed, mechanically-retained rubber bumpers for silent closing, and shall close flush with faces of fronts or frames.

.5 Ensure that work will remain free of warping, buckling, opening of joints and seams, distortion and permanent deformation.

.6 No exposed fixings permitted. Cut edges and openings square and smooth. Chamfer corners of edges and cut-outs 1.6 mm.

.7 Assembly: Accurately cut, machine and fit joints, corners, copes and mitres so that junctions between components fit together tightly and in true planes.

.8 Fasten work with concealed methods, unless otherwise indicated on Drawings.

.9 Weld all connections where possible, bolt where not possible and cut off bolts flush with nuts. Countersunk bolt heads, and provide method to prevent loosening of nuts. Ream holes drilled for fastening.

.10 Welded joints shall be tight, flush, and in true planes with base metals. Make welds continuous at joints where entry of water into voids of members or assemblies is possible.

.11 Provide for differential movements within assemblies and at junctions of assemblies with surrounding work.

.12 Welds in exposed locations shall be ground and polished smooth.

.13 Finish Work**:** Provide holes and connections for related work installed under other Sections of this specification, if applicable.

.14 Cleanly and smoothly finish exposed edges of materials, including holes.

Part 3 Execution

3.1 INSPECTION OF SECTION

.1 Take site measurements to ensure that work is fabricated to fit surrounding construction around obstructions and projects in place, or as shown on drawings, and to suit service locations.

3.2 INSTALLATION

.1 Install all accessories in accordance with manufacturers' instructions at their recommended mounting heights unless noted otherwise on drawings.

.2 Securely fasten accessories plumb, true, square, straight, level, and accurately and tightly fitted together and to surrounding work. Install in locations shown and specified herein. Mounting heights as shown or in accordance with the OBC in the case of barrier-free accessories.

.3 Work shall include anchor bolts, bolts, washers and nuts, lag screws, expansion shields, toggles, straps, sleeve brackets, clips, and other items necessary for secure installation, as required by loading and by Jurisdictional Authorities.

.4 Attach work at wood by screws through countersunk holes in metal.

.5 Attach work to masonry with lead plugs and non-corrosive fastenings, to support load with a safety factor of 3. Perform all drilling necessary to install the work.

.6 Insulate between dissimilar metals or between metals and masonry or concrete with bituminous paint, to prevent electrolysis.

.7 Coordinate installation with the work of other trades adjacent to accessories to achieve the reveals or other edge conditions shown, where their front faces are flush with the finished wall surfaces.

.8 Owner to supply and install remainder of washroom accessories not specified here (toilet paper dispensers, etc.). Cooperate with Owner as required.

3.3 CLEANING UP AND ADJUSTMENT

.1 Upon completion of the work, or when directed, remove all traces of protective coatings or paper.

.2 Test mechanisms, hinges, locks and latches, and where necessary, adjust and lubricate and ensure that accessories are in perfect working order.

END OF SECTION