

Remediations to Bay St. George
Long-Term Care Centre
Western Health
Corner Brook, NL

WH Reference # 0971-1820
Issued for Tender September, 2018

	PROVINCE OF NEWFOUNDLAND PERMIT HOLDER
	This Permit Allows
	<u>ANDERSON ENGINEERING CONSULTANTS LTD.</u>
	To practice Professional Engineering in Newfoundland and Labrador.
	Permit No. as issued by APEGN <u>R0092</u> which is valid for the year <u>2018</u> .



Consultants:

Prime

Anderson Engineering Consultants Ltd.

Title Page
Index
Instructions to Bidders
Supplementary Instructions to Bidders
Tender Form
 Appendix A – List of Sub-contractors
 Appendix B – Description of Drawings
 Appendix C – Tender Price Table
Agreement Between Owner & Contractor
General Conditions
Certificate of Insurance

OWNER’S POLICIES

Oath / Affirmation of Confidentiality
Health Information Management & Privacy Manual
Smoke Free Properties Policy
Contractor’s Safety Program
Contractor’s Safety Handbook

DIVISION 1 - GENERAL REQUIREMENTS

Section #01 11 00 - Summary of Work
Section #01 21 00 – Allowances
Section #01 25 00 – Substitution Procedures
Section #01 31 00 – Project Management and Coordination
Section #01 32 00 – Construction Progress Documentation
Section #01 33 00 - Submittal Procedures
Section #01 35 29.06 - Health and Safety Requirements
Section #01 35 43 – Environmental Procedures
Section #01 35 99 – Dust Control Procedures
Section #01 41 00 - Regulatory Requirements
Section #01 45 00 - Quality Control
Section #01 51 00 - Temporary Utilities
Section #01 52 00 - Construction Facilities
Section #01 56 00 - Temporary Barriers and Enclosures
Section #01 61 00 - Common Product Requirements
Section #01 73 00 - Execution
Section #01 74 11 - Cleaning
Section #01 74 21 - Construction/Demolition Waste Management and Disposal
Section #01 77 00 - Closeout Procedures
Section #01 78 00 - Closeout Submittals

DIVISION 2 – EXISTING CONDITIONS

Section #02 41 16 – Structure Demolition

DIVISION 4 - MASONRY

Section #04 05 12 – Masonry Mortar and Grout

DIVISION 6 – WOOD, PLASTICS AND COMPOSITES

Section #06 05 73 – Wood Treatment

Section #06 10 53 – Miscellaneous Rough Carpentry

Section #06 20 00 – Finish Carpentry

DIVISION 7 – THERMAL & MOISTURE PROTECTION

Section #07 21 20 – Low Expanding Foam Sealant

Section #07 21 29.03 – Sprayed Insulation – Polyurethane Foam

Section #07 92 00 – Joint Sealants

DIVISION 8 – OPENINGS

Section #08 11 00 – Metal Doors and Frames

Section #08 71 00 – Door Hardware

Section #08 80 50 – Glazing

DIVISION 9 – EXTERIOR PAINTING

Section #09 91 13 – Exterior Painting

Section #09 92 23.01 – Interior Re-Painting

LIST OF DRAWINGS:

A1.0 Building Lay Plan, Deconstruction, New Construction

A1.1 Elevations, Deconstruction, New Construction

A1.2 Miscellaneous Details

A1.3 Door Schedule, Frame Schedule, Hardware Schedule, Door Elevations

**STIPULATED PRICE CONTRACT
INDEX
INSTRUCTION TO BIDDERS**

1. Tenders
2. Tender Documents
3. Tender Surety and Bonding
4. Completion of Tender Form
5. Unacceptable Tenders
6. Amendments to Tender
7. Withdrawal of Tender
8. Substitution of Materials
9. Use of Bid Depository
10. Acceptance of Tender
11. Performance of Contractor
12. Contractor's Safety Agreement

INSTRUCTION TO BIDDERS

1. TENDERS

- (a) Envelopes containing the Tender are to be clearly marked:

Tender for:

**Remediations to Bay St. George Long-Term Care Centre
Western Health WH Reference # 0971-1820**

Addressed to:

**c/o Paul Wight, Regional Director – Materials Management
PO Box 2005
Western Memorial Regional Hospital
Corner Brook, NL A2H 6J7**

The name and address of the Bidder and the closing time must be shown on the envelope.

- (b) Tenders must be received at the above address on or before the exact closing time and date indicated in the advertisement. **TENDERS RECEIVED AFTER THAT TIME WILL NOT BE CONSIDERED.**
- (c) The Form of Agreement is included in the Contract Documents at the time of tendering for the purpose of information to Bidders and shall not be completed at the Time of Tendering.
- (d) Before submitting a Tender, tenderers shall carefully examine the Contract Documents and the site of the proposed work and fully inform themselves of the existing conditions and limitations. No subsequent allowance under the Contract Documents will be considered for any Bidder who had failed to become familiar with all aspects of the work.
- (e) The Owner will not defray any expenses incurred by the tenderers in the preparation and submission of their tenders.
- (f) All Bids, including attachments and any documentation, submitted to and accepted by Western Health in response to this tender become the property of Western Health. A Bidder's Bid package may be subject to disclosure under the *Access to Information and Protection of Privacy Act, 2015*. By submitting a Bid, the Bidder agrees to the appropriate disclosure of the information supplied, subject to the provisions of the Act. Western Health cannot guarantee the confidentiality of the content of any Bid after tender close.

2. TENDER DOCUMENTS

- (a) The Tender Documents consist of the Instructions to Bidders, Tender Form, Agreement, Drawings, Specifications, and any Amendments /Addenda to the Contract Documents issued during the tender period.
- (b) Every interpretation of or addition to the Contract Documents to be considered a valid part of the Contract Documents will be issued in the form of a written addendum.
- (c) No addendums will be issued less than seven (7) calendar days prior to the closing date of the Tender.

3. TENDER SURETY AND BONDING

(a) Bid Bonds

Every tenderer shall submit with his Tender a bid bond issued by an approved Surety Company licensed to do business in the Province of Newfoundland and made out in favour of the Newfoundland Exchequer Account.

The bid bond shall be at least ten percent (10%) of the tendered amount. No bidding security will be required for a tendered amount of less than \$25,000 unless specifically called for elsewhere in the tender document. An approved certified cheque may be substituted in lieu of the bid bond. The bidding security will be returned upon receipt of the Performance and Labour and Materials Bonds.

The terms of the bid security will be invoked and the amount retained by the Owner if the Bidder fails to enter into an agreement when notified of the award of the work within the tender validity period; or fails to provide the Performance and Labour and Materials Bonds in the amount and within the period specified.

(b) Performance Bonds, & Labour and Materials Payment Bond.

A Performance Bond will be required in the amount of fifty percent (50%) of the contract price. The Performance Security is to be received not later than two (2) weeks after the award of the contract by the letter of intent and prior to the formal execution of the agreement. No work is to be undertaken until the Performance Security has been received. Performance Security will not be required for a contract value of less than

\$25,000.

In lieu of the Performance Bond, the Minister may accept at his sole discretion an approved certified cheque for ten percent (10%) of the tendered amount. The cheque will be retained until satisfactory completion of the work including the guarantee period, after which this amount will be returned to the Contractor together with the accrued interest thereon at the current bank rate.

(c) Labour and Materials Payment Bond

A Labour and Materials Payment Bond will be required in the amount of fifty percent (50%) of the contract price. The Labour and Materials Payment Bond is to be received not later than two (2) weeks after the award of the contract by the letter of intent and prior to the execution of the formal agreement. No work is to be undertaken until the Labour and Materials security has been received. Labour and Materials security will not be required for a contract valued at less than \$25,000.

In lieu of the Labour and Materials Bond, the Minister may accept at his sole discretion an approved certified cheque of ten percent (10%) of the tendered amount. The cheque will be retained until substantial completion of the work as defined by the Mechanics Lien Act and upon receipt of a completed and approved Statutory Declaration Form. This security, if in the form of a cheque, will be returned to the Contractor together with the accrued interest thereon at the current bank rate.

4. COMPLETION OF TENDER FORM

- (a) The Tender Form is to be completed in its entirety and submitted in a sealed envelope with the tender number, project description and name of the Tenderer clearly marked on the envelope. The Tenderer should retain a copy of the tender for his records.
- (b) Type or legibly print the information required on the Tender Form.
- (c) Type or legibly print the Tenderer's full business name and address in the spaces provided on the Tender Form.
- (d) Sign the Tender Form in the space provided as indicated:

In the case of a Sole Proprietorship, signature of Sole Proprietor will sign where indicated in the presence of a witness who will sign where indicated. Insert the words "Sole Proprietor" next to the signature.

In the case of a Partnership, signature of all partners will sign where indicated in the presence of a witness who will sign where indicated. Insert the word "Partner" next to signatures.

In the case of a Limited Company, signatures of authorized signing officers in the presence of a witness who will sign where indicated, and the corporate seal will be affixed. Indicate next to signature the corporate title of each signer.

- (e) Spaces or Appendices will be provided with the Tender Form if required for a list of sub- contractors, use of bid depository, contractor's experience, list of equipment. All such spaces and appendices must be completed in their entirety legibly by computer/typewriter or by printing in ink.
- (f) If it becomes necessary to correct an error made on the Tender Form, such correction must be initialed and dated by the person or persons signing the Tender Form.

5. UNACCEPTABLE TENDERS

- (a) Tenders not submitted on the Tender Form provided will not be considered.
- (b) Telegraphic or faxed tenders will not be accepted.
- (c) Tenders received after the Tender Closing time will not be considered.
- (d) Incomplete Tenders will be rejected.
- (e) Tenders not accompanied by an approved security in the correct amount will be rejected.
- (f) Tenders containing qualification or additional clauses to the Tender Form will be rejected.
- (g) Incorrectly prepared tenders may be rejected.

6. AMENDMENTS TO TENDER

Properly documented amendments to the Tender will be permitted up to the Tender closing time. Amendments documented by telegram or fax will be acceptable.

7. WITHDRAWAL OF TENDERS

Bids may be withdrawn without penalty by written telegraphic or fax request if received prior to the time fixed for the opening.

8. SUBSTITUTION OF MATERIALS

- (a) Tenders shall be based upon using the materials or products as specified without substitution. Where two or more brand names are specified the choice shall be left to the contractor. Where only one brand name is stated there shall be no substitution.
- (b) Where the Specifications include the "or approved equal" clause, substitutions may be proposed provided that:
 - 1. the request for a substitution is made in writing at least fourteen (14) calendar days prior to the bid date;
 - 2. the request shall clearly define and describe the product for which the substitution is requested;
 - 3. the substituted article is equivalent to the specified article with regards to design, function, appearance, durability, operation and quality.

Approval of the substitution by the Engineer/Architect shall be in the form of an addendum to the Specifications issued at least seven (7) calendar days prior to the Tender closing date to all of those contractors listed as having received a copy of the Contract Documents.

9. USE OF BID DEPOSITORY

The attention of the Bidder is drawn to the fact that the Bid Depository of the Newfoundland and Labrador Construction Association will not be used for this Tender.

10. ACCEPTANCE OF TENDER

- (a) The Owner will not necessarily accept the lowest or any tender.
- (b) Upon written acceptance of the tender within the tender validity period, the Tender Form becomes part of the Contract Documents and the successful tenderer becomes the Contractor. The Contractor will be required to execute a formal agreement with the Owner within thirty (30) days of the date of the letter of intent.
- (c) The Contractor shall, within fourteen (14) calendar days of receipt of the letter of intent, submit to the Owner a breakdown of the bid to the satisfaction of the Owner.

11. PERFORMANCE OF CONTRACTOR

No contract will be awarded to a bidder whose past performance has been determined to be less than acceptable by Western Health Authority.

12. CONTRACTOR'S SAFETY AGREEMENT

The Contractor agrees to comply will all provisions outlined in the Section "Occupational Health and Safety Program Guidelines for Contractor Safety" contained herein. The Contractor must complete and sign the Contractor's Safety Agreement contained in the above Guidelines prior to the start of any work under this tender.

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

1 TENDER SURETY AND BONDING

(a) Bidding Security

Please delete sentence

"No bidding security will be required for a tendered amount of less than \$25,000.00 unless specifically called for elsewhere in the tender documents"

and replace with:

"All tenders, regardless of monetary value require a Bid Security of at least ten percent (10%) of the total tendered amount, with a minimum security of five hundred dollars (\$500.00)." Bid Securities shall be in the form of a Bid Bond or Certified Cheque in favour of Western Health.

Add The Following:

For tenders less than \$25,000.00, the terms of the Bid Security will be invoked and the amount retained by the Owner, if the Bidder fails to provide the required insurances and commence work within 30 days of being notified of the award of the work within the tender validity period.

The Tender Security of the unsuccessful bidders numbers 2 & 3 will be returned to them upon award of the contract, Tender Securities of bidders higher than 3 will be returned after the tender opening. The Tender Security of the successful bidder will be retained until the first progress payment.

Bidders are reminded that the failure to submit a bid security in accordance with this requirement will result in rejection of bid submitted.

THE OWNER RESERVES THE RIGHT TO WAIVE THESE REQUIREMENTS IN PART OR IN WHOLE FOR ANY PROJECT, BY FURTHER SUPPLEMENTARY INSTRUCTIONS TO BIDDERS.

2 TENDER SURETY AND BONDING

Bidders are advised that both the 50% Performance Bond referenced in 3(b) and the 50% Labour & Materials Payment Bond referenced in 3(c) will be based on the Contract Price which will either be the Sub-Total of Tender Prices or the Total Estimated Tender Items, **not including the Harmonized Sales Tax (HST).**

3 INSTRUCTIONS TO BIDDERS, ISSUANCE OF ADDENDUM

Reference is made to Section 2. (c) - Tender Documents regarding the time frame permitted for the issuance of addendum prior to the tender closing date. Change seven (7) calendar days to read three (3) calendar days.

Reference is also made to Section 8. - Substitution of Materials. Change seven (7) calendar days to read five (5) calendar days.

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

4 CONTRACTOR'S PERFORMANCE EVALUATION SYSTEM

Contractors are advised that effective July 1, 2000 a Contractor Performance Evaluation System will be introduced. Upon completion of each contract, the contractor's performance will be evaluated according to prescribed criteria.

In accordance with the Public Tender Act Regulations 1998, NFLD Reg. 103/98, Section 3(4), contractors may be required to maintain a certain performance rating to bid. Contractors whose performance on previous contracts falls below the required minimum may have their bids disqualified.

Complete details of the Performance Evaluation System are available upon request.

5 TENDER FORM, APPENDIX 'A' AND APPENDIX 'B'

Notwithstanding Article 7 of the Tender Form, Bidders are not required to complete or submit Appendix "A" or Appendix "B" at time of tender. Bidders may be required to complete these appendices after tender close, if requested by the Owner, and in such instance the appendices shall be submitted by Bidders within seventy-two (72) hours of request.

**TENDER FORM
STIPULATED PRICE CONTRACT**

Tender for: **Remediations to Bay St. George Long-Term Care Centre
Western Health WH Reference # 0971-1820**

To: **c/o Paul Wight, Regional Director – Materials Management
PO Box 2005
Western Memorial Regional Hospital
Corner Brook, NL A2H 6J7**

1. Having carefully examined the site of the proposed work and all conditions affecting such, as well as the Contract Documents including the Specifications, all Drawings listed in the Specifications, (if drawings are not listed in the specifications such a list appears as Appendix "B") all Addenda, and the Instructions to Bidders for this project,

WE, THE UNDERSIGNED, hereby offer to furnish all necessary Labour, materials, superintendence, plant, tools and equipment, and everything else required to perform expeditiously and complete in a satisfactory manner the work for the sum of _____

_____ (\$ _____) in lawful money of Canada which includes all prime costs, allowances and Government sales or excise taxes, including HST, in force at this date, except as otherwise provided in the tender documents.

2. The Work will be substantially performed within _____ months from the date of notification of award of contract.
3. WE ENCLOSE HEREWITH if required by the Instructions to Bidders
- (a) A Bid Bond in an acceptable form and correct amount issued by a company licenced to carry on such a business in the Province of Newfoundland or
 - (b) A certified cheque in the correct amount.

In the event of this tender being accepted within the time stated in Section 4 below and our failure to enter into a contract in the form hereinafter mentioned for the amount of our tender the said security may at the option of the Owner be forfeited. The forfeiting of the security does not limit the right of action of the Owner against us for our failure or refusal to enter into a contract.

4. IF NOTIFIED IN WRITING BY THE OWNER OF THE ACCEPTANCE OF THIS TENDER WITHIN THIRTY (30) CALENDAR DAYS OF THE TENDER CLOSING DATE SUBJECT TO SUCH OTHER PERIOD AS MAY BE SPECIFIED IN THE TENDERING DOCUMENTS, WE WILL:

- (a) execute the Standard Form of Construction Contract;
- (b) if specified, furnish the security for the proper completion of the work, the said security, if in the form of bonds, to be issued on an acceptable form;
- (c) complete substantially all the work included in the contract within the time and under conditions specified.

5. WE understand that Performance Bond, Labour and Materials Bond and Insurance as required by the Contract Documents must be provided and in force prior to the commencement of any work and satisfactory proof of such be provided to the Owner.

6. WE confirm that the sums herein tendered include all sales taxes, royalties, custom duties, foreign exchange charges, transportation, travelling costs, all overhead and profit, all co-ordination fees, insurance premiums, and all other charges.

7. WE understand and agree to list the names of sub-contractors whose bids have been used in the preparation of this tender price in Appendix "A". The list will be subject to the approval of the Owner. "By Own Forces" will be considered valid and satisfactory only if the tenderer is recognized by the Newfoundland and Labrador Construction Association or by the Road Builders Association as being a "bona fide" contractor of that particular trade or item.

WE agree to authorize the Owner to release the names of subcontractors used in our tender where such information is requested from the Owner.

WE reserve to us the right to substitute other sub-contractors for any trades in the event of any sub-contractor becoming bankrupt after the date hereof. Any such substitution shall be subject to the approval of the Owner and contingent upon satisfactory evidence of bankruptcy.

8. WE understand and agree that the Owner may order changes to the work in the form of additions or deletions in accordance with the General Conditions, Supplementary General Conditions and the intent of the Contract Documents.

9. WE hereby acknowledge receipt of the following addenda:

Addendum No.: _____

10. In order for a Tender to be valid, it must be signed by duly authorized officials as indicated in the Instructions to Bidders.

SIGNATURE OF TENDERER

Firm Name: _____

Address: _____

Postal Code: _____ E-Mail _____

Ph # _____ Fax # _____

Signing Officer

Signing Officer

Corporate Seal

Witnessed by

APPENDIX "A"

Herewith is the list of Sub-contractors and Suppliers referred to in Section 7 of the tender submitted by

to

dated _____ and which is an integral part of the above noted tender.

IF NOT USED, BAR AND INITIAL THE SPACE BELOW.

Sub-Contract/Equipment	Names and Addresses of Sub-Contractors/Suppliers included in our Tender Price

APPENDIX "B"

Hereunder is the list of description of drawings referred to in Section I of the tender submitted by

to

dated _____ and which is an integral part of the above noted tender.

IF NOT USED, BAR AND INITIAL THE SPACE BELOW

APPENDIX "C"
TENDER PRICE TABLE

<i>Sections</i>	<i>Description</i>				<i>Amount (\$)</i>
C1	Base Tender				
C2	Separate Prices				
	1				
	2				
	3				
	Subtotal Separate Prices				-
C3	Unit Prices		<i>Quantity</i>	<i>Unit Price (\$)</i>	
	1	Supply all labour, materials & equipment for brick re-painting per linear meter.	730 LM		
	2	Supply all labour, materials & equipment for brick foundation support remedial per linear meter.	27 LM		
	Subtotal Unit Prices				-
C4	Cash Allowances				
	1	Per Section 01 21 00			
	Subtotal Cash Allowances				
C5	SubTotal Tender Prices (Sum of Sections C1-C4)				
C6	Harmonized Sales Tax (HST) (Multiply Section C5 by 15%)				
C7	TOTAL TENDER AMOUNT (Add Sections C5 + C6 and transfer this amount to Section 1 on page 1 of the Tender)				

Notes:

1. For the purposes of the Public Tender Act and the evaluation of tenders received, the bid shall be the Total Tender Amount.
2. Work associated with the Separate Prices may be deleted at the sole discretion of the Owner at the time of contract award and a deduction(s) will be made to the Total Tender Amount equal to the amount(s) in C2 of the Tender Price Table.
3. Costs associated with the Unit Price work will vary depending upon the quantities authorized by the Engineer/Architect during the course of construction and the final contract amount will be adjusted accordingly, upwards or downwards, based upon the quoted unit rate.

AGREEMENT

AGREEMENT BETWEEN OWNER AND CONTRACTOR

**for use when a stipulated price forms the
basis of payment and to be used only
with the General Conditions of the Contract**

THIS AGREEMENT made on the ____ day of _____ in the year two thousand and _____.

BY AND BETWEEN

hereinafter called the "Owner"

AND

hereinafter called the "Contractor"

WITNESSETH: that the Owner and Contractor undertake and agree as follows:

ARTICLE A-1 THE WORK

The Contractor shall:

- (a) perform all the Work required by the Contract Documents for _____
_____. (See Tender Form for Description)
which have been signed in triplicate by both the parties,
- (b) do and fulfil everything indicated by this Agreement, and
- (c) commence the Work by the ____ day of _____, 20__ and substantially perform the
Work of this Contract as certified by the Engineer/Architect by the ____ day of _____
20__.
- (d) The "Engineer/Architect" is the person designated as such from time to time by the Owner.

ARTICLE A-2 CONTRACT DOCUMENTS

The following is an exact list of the Contract Documents referred to in Article A-1: (SEE TABLE OF CONTENTS FOR LIST OF DOCUMENTS AND DRAWINGS). **See Attached**

ARTICLE A-3 CONTRACT PRICE

THE CONTRACT PRICE IS \$ _____

(HST INCLUDED) Canadian funds which price shall be subject to adjustments as may be required in accordance with the General Conditions of the Contract.

ARTICLE A-4 PAYMENT

- (a) Subject to applicable legislation and, where such legislation does not exist or apply, in accordance with such prescribed regulations or industry practice respecting holdback percentages and in accordance with the provisions of the General Conditions of the Contract, the Owner shall:
 - (1) make monthly payments to the Contractor on account of the Contract Price. The amounts of such payments shall be as certified by the Engineer/Architect; and
 - (2) upon Substantial Performance of the work as certified by the Engineer/Architect pay to the contractor any unpaid balance of holdback monies then due; and
 - (3) upon Total Performance of the Work as certified by the Engineer/Architect pay to the contractor any unpaid balance of the Contract Price then due.

- (b) If the Owner fails to make payments to the Contractor as they become due under the terms of this Contract or in any award by a court, interest at the rate and in the manner specified in GC21-Certificates and Payments, shall become due and payable until payment. Such interest shall be calculated and added to any unpaid amounts monthly.

ARTICLE A-5 ADDRESSES FOR NOTICES

All communications in writing between the parties or between them and the Engineer/Architect shall be deemed to have been received by the addressee if delivered to the individual or to a member of the firm or to an officer of the Corporation for whom they are intended or if sent by post or by facsimile addressed as follows:

AGREEMENT

The Owner at: _____

The Contractor at: _____

The Engineer/Architect at: _____

ARTICLE A-6 SUCCESSION

The General Conditions of the Contract hereto annexed, and all other aforesaid Contract Documents, are all to be read into and form part of this Agreement and the whole shall constitute the Contract between the parties and subject to law and the provisions of the Contract Documents shall ensure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representatives, successors and assigns.

AGREEMENT

IN WITNESS WHEREOF the parties hereto have executed this Agreement under their respective corporate seals and by the hands of their proper officers hereunto duly authorized.

SIGNED, SEALED AND DELIVERED

in the presence of:

OWNER:

CONTRACTOR

signed

signed

name and title

name and title

date

signed / witnessed

name and title

date

N.B. Where any legal jurisdiction, local practice or client requirement calls for proof of authority to execute this document, proof of such authority in the form of a certified copy of a resolution naming the person or persons in question as authorized to sign the Agreement for and on behalf of the Corporation or Partnership, should be attached.

GENERAL CONDITIONS
OF
STIPULATED PRICE CONTRACTS

INDEX

GENERAL PROVISIONS

- 1 Definitions
- 2 Contract Documents
- 3 Emergencies
- 4 Laws, Notices, Permits and Fees
- 5 Patent Fees
- 6 Status of the Contractor
- 7 Worker's Compensation
- 8 Certificate of Recognition Program
- 9 Unsuitable workers
- 10 Public ceremonies and Signs
- 11 Security and Protection of Documents
- 12 Time of the Essence
- 13 Warranty

ADMINISTRATION OF THE CONTRACT

- 14 Assignment
- 15 Succession
- 16 Project Managers' Decisions and Instructions
- 17 Superintendence
- 18 Subcontractors

EXECUTION AND CONTROL OF THE WORK

- 19 Use of Premises
- 20 Construction Schedule
- 21 Cutting And Remedial Work
- 22 Shop Drawings
- 23 Samples
- 24 Tests and Mix Designs
- 25 Materials and Substitutions
- 26 Material, Plant and Real Property become property of the Owner
- 27 Labour
- 28 Preconstruction Meetings & Orientations
- 29 Construction Safety
- 30 Inspection of the Work
- 31 Defective Work
- 32 Contractor's Responsibilities and Control of the Work
- 33 Other Contractors and Owners' Forces
- 34 Owner's Right to do Work
- 35 Cleanup and Final Cleaning Of Work

PROTECTIVE MEASURES

- 36 Protection of Work and Property
- 37 Precautions against damage, infringement of rights, fire and other hazards
- 38 Material, Plant and Real Property supplied by the Owner
- 39 Contaminated site conditions
- 40 Damages and Mutual Responsibility
- 41 Indemnification

TERMS OF PAYMENT

- 42 Taxes and Duties
- 43 Application for Payment
- 44 Certificates and Payments
- 45 Right of Setoff
- 46 Assessment of Liquidated Damages for Late Completion

DELAYS AND CHANGES IN THE WORK

- 47 Changes in the Work
- 48 Change Directive
- 49 Concealed or Unknown Conditions
- 50 Delay
- 51 Valuation and Certification of Changes in the Work

DEFAULT, SUSPENSION OR TERMINATION OF THE CONTRACT

- 52 Owner's Right to Stop Work, Suspend Work or Terminate Contract
- 53 Contractor's Right to Stop Work or Terminate Contract

DISPUTE RESOLUTION

- 54 Settlement of Disputes and Claims

CONTRACT SECURITY & INSURANCE

- 55 Liability Insurance
- 56 Property Insurance
- 57 Bonds

Form – Certificate of Insurance

Form – Statutory Declaration

GC 1 DEFINITIONS

1.1 "Contract Documents"

The Contract Documents consist of the INSTRUCTIONS TO BIDDERS, executed AGREEMENT BETWEEN OWNER AND CONTRACTOR, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, any representations made by the Contractor during the tender period, Specifications, Drawings and such other documents as are listed in Article A-2 of the Agreement, including all amendments thereto incorporated before their execution and subsequent amendments thereto made pursuant to the provisions of the contract or agreed upon between the parties. The Successful bidder's tender, and any addenda to the Specifications issued during the bidding period shall also form part of the Contract Documents.

1.2 "Contract"

The legal agreement, represented by the Contract Documents, between the Contractor and Owner by which the Contractor agrees to undertake and perform the Work for the Contract Amount stipulated, for the quality prescribed and by the scheduled completion date detailed in the Agreement Between Owner and Contractor.

1.3 "Final Completion"

Final Completion shall mean when the entire Work has been performed to the requirements of the Contract Documents and is so certified by the Project Manager.

1.4 "Materials and Equipment" and/or "Products"

The terms Materials and Equipment and/or Products means all materials, machinery, equipment and fixtures forming the completed work as required by the Contract Documents but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the work and normally referred to as construction machinery and equipment.

1.5 "Other Contractor"

The term Other Contractor means any person, firm or corporation employed by or having a separate contract directly or indirectly with the Owner for work other than that required by the Contract Documents.

1.6 "Owner", "Project Manager", "Contractor"

The Owner, Project Manager and Contractor are the persons, firms or corporation identified as such in the Agreement between Owner and Contractor and referred to throughout the Contract Documents as if singular in number and gender neutral. They also mean the Owner, Project Manager or Contractor or their authorized representatives as designated by each party in writing. Reference to the "Engineer", "Architect/Engineer", "Consultant" or other similar terms as may be used elsewhere in the Contract Documents, including the technical specifications and drawings, shall mean the Project Manager.

1.7 "Place of the Work"

The Place of the work is the designated site or location of the Work identified in the Contract Documents.

1.8 "The Project"

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part.

1.9 "Subcontractor / Supplier"

- a) A Subcontractor is a person, firm or corporation having a direct contract with the Contractor to perform a part or parts of the Work included in the Contract, or to supply products worked to a special design according to the Contract Documents, but does not include one who merely supplies products not so worked.
- b) A Supplier is a person or entity having a direct contract with the Contractor to supply Products not worked to a special design for the Work.

1.10 "Substantial Completion"

Subject to GC 44, a Contract shall be deemed to be substantially completed

- a) when the work or a substantial part thereof is ready for use or is being used for the purpose intended; and
- b) when the work to be done under the contract is capable of completion or correction at a cost of not more than:

- (i) three percent of the first two hundred and fifty thousand dollars (\$250,000) of the contract price, and
- (ii) two percent of the next two hundred and fifty thousand dollars (\$250,000) of the contract price, and
- (iii) one percent of the balance of the contract price.

Notwithstanding any convention of the construction industry in Canada and despite any other definitions herein, the contract shall not be substantially completed until the Project Manager has determined that with respect to the Work:

- (.1) all regulatory occupancy permits are in place;
- (.2) fire safety systems have been certified and are fully operational;
- (.3) building systems have been inspected, performance tested and placed into satisfactory operation for a period of at least 5 days prior to occupancy of the Work; and
- (.4) The contract price, for the purposes of this article, shall be the original contract price as identified in Art. A-3 of the Agreement between Owner and Contractor plus the net value of all approved change orders.

The value of portions of the work that cannot be completed expeditiously for reasons beyond the control of the Contractor shall be deducted from the contract price in determining if Substantial Completion has been attained. The date of Substantial Completion of the Work is the date certified by the Project Manager.

1.11 "Substantial Defects or Deficiencies"

Those defects or deficiencies in the Work which affect the Project to such an extent or in such a manner that a significant part or the whole of the Work is unfit for the purpose specified in the Contract Documents as determined by the Project Manager.

1.12 "Time"

- a) The Contract Time is the time stated in Article A-1 (c) of the AGREEMENT BETWEEN THE OWNER AND THE CONTRACTOR
- b) The term day, as used in the Contract Documents, shall mean the calendar day.
- c) The term working day means any working day observed by the construction industry in the area of the place of Work up to a maximum of twelve (12) hours per day.

1.13 "Work"

Work includes the whole of the undertakings, Materials, Equipment, Products, matters and things required to be done, furnished and performed by the Contractor under the Contract.

GC 2 CONTRACT DOCUMENTS

- 2.1 The AGREEMENT BETWEEN OWNER AND CONTRACTOR shall be signed in duplicate by the Owner and the Contractor.
- 2.2 Words which have well known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.
- 2.3 In the event of conflicts between Contract Documents the following shall apply:
 - a) Documents of later date shall govern.
 - b) Figured dimensions shown on the Drawings shall govern even though they may differ from scaled dimensions.
 - c) Drawings of larger scale shall govern over those of smaller scale of the same date.

- d) Specifications shall govern over Drawings
 - e) The GENERAL CONDITIONS of Contract shall govern over Specifications.
 - f) SUPPLEMENTARY GENERAL CONDITIONS (if any) shall govern over the GENERAL CONDITIONS of the Contract.
 - g) The AGREEMENT BETWEEN OWNER AND CONTRACTOR shall govern over all documents.
- 2.4 Only electronic copies of the Contract Documents will be made available to the Contractor without charge. Printed copies required by the Contractor will be at their sole cost.
- 2.5 The Contractor shall keep one copy of all current Contract Documents submittals, reports, records of meetings and shop drawings on the site, in good order and available to the Project Manager. This requirement shall not be deemed to include the executed Contract Documents.
- 2.6 All Contract documents and copies thereof, and all models, are and shall remain the property of the Owner and are not to be used on other Work. Such documents are not to be copied, except for purposes related to the work under this Contract, or revised in any manner without the written authorization of the Owner.
- 2.7 The specifications and drawings may be subdivided into sections. They should be read as a whole and are not intended to be a means of separating the work under the Contract. Unless specifically delineated in the Specifications or Drawings, the Owner shall not be responsible for the separation of work between Subcontractors, Suppliers, and the Contractor. The headings contained in the Contract Documents are inserted for the purpose of convenient reference only and are not to be considered in any construction or interpretation of the Contract Documents.
- 2.8 The Contractor acknowledges that the General Conditions are revised or amended from time to time by the Owner and acknowledges that the provisions herein represent the most current version. The Contractor understands and agrees that it shall not use an interpretation or understanding from a previous version to support an interpretation or understanding of the Contract Documents which has specifically changed or been amended by this version.

GC 3 EMERGENCIES

- 3.1 The Project Manager has authority in an emergency to stop the progress of the work whenever the Project Manager is of the opinion that such stoppage may be necessary to ensure the safety of life, or the work, or neighboring property. This includes authority to make changes in the work, and to order, assess and award the cost of such work, extra to the Contract or otherwise, as may in the Project Manager's opinion be necessary. The Project Manager shall, within two (2) working days, confirm in writing any such instructions. In such a case if work has been performed under direct order of the Project Manager, the Contractor shall retain the right to claim the value of such work.
- 3.2 Should the work be stopped by civil pickets, or other disorder, neither the Owner nor the Contractor shall have claim for change in the price of the Contract.
- 3.3 When requested in writing by the Owner, the Contractor shall make appropriate alterations in the method, Products or work force at any time the Owner considers the Contractor's actions to be unsafe, or damaging to either the Work or existing facilities or the environment.

GC 4 LAWS, NOTICES, PERMITS AND FEES

- 4.1 The laws of the Province of Newfoundland and Labrador shall govern the Work and the Contract Documents.
- 4.2 The Contractor shall obtain all applicable permits, licenses and certificates and pay all fees required for the performance of the Work which are in force at the date of tender submission, but this shall not include the obtaining of permanent easements or rights of servitude. The Contractor shall provide written evidence of compliance to the Project Manager. The Owner is not required by law to obtain any permit from any municipality in this Province related to the Work. As such, the Contractor is not to carry the cost of a municipal permit related to the conduct of the Work as part of the Contractor's tender price related to the same. If any such permit is found by the Owner to be required as it deems fit, the payment for such to the municipality concerned will either be directly by the Owner, or alternately by the Contractor on behalf of the Owner. If payment of any such permit is

by the Contractor on behalf of the Owner, the Owner will issue a change order to allow for its payment at direct cost only, with no markup if any kind. Nothing in this General Condition relieves the Contractor of its obligation to make such filings and to submit such documents and notices with respect to the Work on behalf of the Owner as are normally required by the municipality to facilitate its conduct. Further the Contractor is to advise the Owner of any request by a municipality that the Contractor pay for and obtain a permit related to the conduct of the Work. The Owner and the Contractor will jointly deal with any such requests in the manner provide for above. All other permits are remaining the responsibility of the Contractor.

- 4.3 The Contractor shall give all required notices and comply with all laws, ordinances, rules, regulations, codes and order of all authorities having jurisdiction relating to the Work or to the preservation of public health and construction safety, which are or become in force during the performance of the Work.
- 4.4 The Contractor shall not be responsible for verifying that the Contract Documents are in compliance with the applicable laws, ordinances, rules, regulations and codes relating to the Work. If the Contract Documents are at variance therewith, or changes which require modification to the Contract Documents are made to any of the laws, ordinances, rules, regulations and codes by the authorities having jurisdiction subsequent to the date of tender submission, any resulting change in the cost shall constitute a corresponding change in the Contract Price. The Contractor shall notify the Project Manager in writing requesting immediate direction if any such variance or change is found.
- 4.5 If the Contractor fails to notify the Project Manager in writing and obtain direction as required in GC 29.4 and performs any work knowing it to be contrary to any laws, ordinances, rules, regulations, codes and orders of any authority having jurisdiction, the Contractor shall be responsible for and shall correct any violations thereof and shall bear all costs, expense and damages, attributable to their failure to comply with the Provisions of such laws, ordinances, rules, regulations, codes and orders.
- 4.6 All notices, claims, payments, reports and other communications required under this Agreement shall be in writing. The address for service are as follows:

For the Client:

c/o Paul Wight, Reginal Director – Materials Management
PO Box 2005
Western Memorial Regional Hospital
Corner Brook, NL A2H 6J7

Notices, requests or documents shall be deemed to have been received by the addressee as follows:

- a) As of the date on which they are delivered where delivery is by a party or by messenger or special courier service;
 - b) As of the date on which they are sent where delivery is by facsimile, e-mail or other means of electronic communication; and
 - c) Six (6) days after delivery to Canada Post Corporation where the postal service is used.
- 4.8 The address of either party, or the person authorized to receive notices, may be changed by notice in the manner set out in this provision.

GC 5 PATENT FEES

- 5.1 The Contractor shall pay all royalties and patent license fees required for the performance of the contract and such royalties or fees shall be deemed to have been included in the contract price. The Contractor shall hold the Owner harmless from and against all claims, demands, losses, costs, damages, actions, suits or proceedings arising out of the Contractor's performance of the Contract which are attributable to an infringement or an alleged infringement of any patent or invention by the Contractor or anyone for whose acts the Contractor may be liable.
- 5.2 The Owner shall hold the Contractor harmless against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the Contractor's performance of the Contract which are attributable to an infringement or an alleged infringement of any patent or invention in executing anything for the purpose of the Contract, the model, plan or design of which was supplied to the Contractor by the Owner.

GC6 STATUS OF THE CONTRACTOR

- 6.1 The Contractor is engaged under the Contract as an independent contractor.
- 6.2 The Contractor and any employee of the Contractor are not engaged by the Contract as an employee, servant or agent of the Owner.
- 6.3 For the purposes of the Contract the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for the Owner, Canada Pension Plans, Employment Insurance, Worker's Compensation, provincial health or insurance plans, and Income Tax.
- 6.4 Contractors shall provide, prior to signing of Contract, a current certification of good standing from the Registry of Companies, Province of Newfoundland and Labrador.

GC 7 WORKER'S COMPENSATION

- 7.1 The Contractor shall, within ten (10) working days of the date of the Letter of Award and prior to commencement of the work, provide evidence of compliance with all requirements with respect to worker's compensation in the Province, including payments due thereunder. The Contractor shall again provide similar evidence, in accordance with GC 44.7 - CERTIFICATES AND PAYMENTS, prior to receiving any holdback monies.
- 7.2 At any time during the term of Contract, when requested by the Project Manager, the Contractor shall also provide such evidence of their compliance, including any Subcontractors and any other persons performing work who are required to comply with such legislation.
- 7.3 Non incorporated companies (i.e. partnerships, sole proprietorships, and independent operators) must provide coverage for any employees and personal coverage for the principals.
- 7.4 The Contractor shall provide to the Owner with each progress claim a Worker's Compensation Certificate from the Province of Newfoundland and Labrador.

GC 8 CERTIFICATE OF RECOGNITION PROGRAM

- 8.1 The Contractor may be required to, within ten (10) working days of the date of the Letter of Award and prior to commencement of the work and at the Client's sole discretion, provide a valid Letter of Good Standing under the Certificate of Recognition Program from the Newfoundland and Labrador Construction Safety Association. The Letter of Good Standing must be unexpired and verify that the Contractor has reached full "Certificate of Recognition" status. The Contractor shall be responsible for maintaining this status for the duration of the contract and, if the validity date of the Letter of Good Standing precedes completion of the Work, the Contractor may be requested to provide additional letters of good standing to substantiate continuing compliance. In the event the Contractor's status is "pending", the Contractor shall comply with all measures directed by the Owner as the Owner sees fit at his sole and unfettered discretion.
- 8.2 For contracts valued at less than \$100,000 and deemed by the Owner to present a low level risk for occupational, health and safety, the Owner, in its sole discretion, may accept a Letter of Good Standing at the "Audit Pending" status, provided this is the Contractor's first contract with the Owner.
- 8.3 In accordance with GC 18.1 - SUBCONTRACTORS, at any time during the term of the Contract, when requested by the Owner, the Contractor shall provide similar evidence of compliance by any Subcontractors undertaking construction work on the Contract.
- 8.4 Failure to provide a Letter of Good Standing or meet the requirements of GC 8.1 or GC 8.2 may be deemed an act of default by the Contractor and subject to the provisions of GC 52 – OWNER'S RIGHT TO STOP WORK OR TERMINATE CONTRACT.
- 8.5 The Contractor will be required to perform all works in strict accordance with the Owner's Nosocomial Infection Protocol policy and the latest edition of CSA Z317 (Infection Control During Construction or Renovation of Health Care Facilities).
- 8.6 The Contractor shall be required to abide by the Newfoundland and Labrador Occupational Health and Safety Act and Regulations, the Personal Health Information Act and all Owner policies including, but not limited to, :
 - a) Contractor and Vendor Safety Policy (OHS-10-0100)
 - b) Incident Reporting (PSQ-5-020)
 - c) Management of Adverse Events (PSQ-5-030)
 - d) Identification of Personnel (HR-3-010)

- e) Oath / Affirmation of Confidentiality (P&A-9-020)
- f) Security of Confidential Information (P&A-9-030)
- g) Privacy/Confidentiality Breach Management (P&A-9-040)
- h) Construction, Renovation or Maintenance in health care Facilities (IC-6-60)

GC 9 UNSUITABLE WORKERS

- 9.1 The Owner shall instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Contract who, in the opinion of the Owner acts, and continues to act after having been warned twice in writing, with or without conditions, by the Owner through the Contractor, in failing to display the technical, managerial, safety, timeliness, integrity or any other regulated or industry recognized skills required of a person performing equivalent Work or has otherwise acted improperly, and the Contractor shall not permit a person who has been removed to return to the site of the Work. Nothing herein is to be construed as giving the Owner any right to dismiss or terminate an employee, agent, Subcontractor or Supplier of the Contractor but represents the right of the Owner to preserve and protect its property. This does not affect any legal right of a Contractor to dismiss or terminate an employee, agent Subcontractor or Supplier as it may decide in its sole discretion.

GC 10 PUBLIC CEREMONIES AND SIGNS

- 10.1 The Contractor shall not permit any public ceremony in connection with the Work without the prior consent of the Owner.
- 10.2 The Contractor shall not erect nor permit the erection of any sign or advertising on the Work or its site without the prior consent of the Owner.

GC 11 SECURITY AND PROTECTION OF DOCUMENTS

- 11.1 The Contractor shall guard and protect Contract Documents, drawings, information, models and copies thereof, whether supplied by the Owner or the Contractor, against loss or damage from any cause or against any unauthorized, prohibited, illegal or any other non-related Work use or application.
- 11.2 The Contractor shall keep confidential all information provided to the Contractor by or on behalf of The Owner in connection with the Work, and all information developed by the Contractor as part of the Work, and shall not disclose any such information to any person without the written permission of the Owner, except that the Contractor may disclose to a subcontractor, authorized in accordance with the Contract, information necessary to the performance of a subcontract. This section does not apply to any information that
- (a) is publicly available from a source other than the Contractor; or
 - (b) is or becomes known to the Contractor from a source other than the Owner, except any source that is known to the Contractor to be under an obligation to the Owner not to disclose the information.
- 11.3 When the Contract, the Work, or any information referred to in paragraph 11.2 is identified as SECRET, CONFIDENTIAL or PROTECTED by the Owner, the Contractor shall, at all times, take all measures reasonably necessary for the safeguarding of the material so identified, including such measures as may be further specified elsewhere in the Contract or provided, in writing, from time to time by the Owner.
- 11.5 Without limiting the generality of paragraphs 11.2 and 11.3, when the Contract, the Work, or any information referred to in paragraph 11.2 is identified as SECRET, CONFIDENTIAL or PROTECTED by the Owner, the Owner shall be entitled to inspect the Contractor's premises and the premises of its subcontractors or suppliers and any other person at any tier, for security purposes at any time during the term of the Contract, and the Contractor shall comply with, and ensure that any such subcontractors or suppliers comply with all written instructions issued by the Owner dealing with the material so identified, including any requirement that employees of the Contractor and its subcontractors and suppliers and any other person at any tier execute and deliver declarations relating to reliability screenings, security clearances and other procedures.

GC 12 TIME OF THE ESSENCE

- 12.1 Time is of the essence of the Contract.

GC 13 WARRANTY

- 13.1 Without restricting any warranty or guarantee implied or stipulated by law, the Contractor hereby warrants that the Work shall be free of any and all defects, deficiencies or faults and the Contractor shall bear the expense, rectify and make good any defect or fault appearing within a period of one year from the date of Substantial Completion of the Work or within such other warranty period as may be specified in the Contract Documents or in connection with those applicable parts of the Work described in the Certificate of Substantial Completion any defect appearing within a period of one year of Final Completion, provided that the Contractor shall not be responsible for any defect or fault caused by the Owner's improper operation or maintenance, or resulting from the design of the work, unless under the Contract, the Contractor has responsibility for such design.
- 13.2 The Contractor shall correct at its own cost, and if not corrected be responsible for the payment to correct, any new or additional damage done to already completed Work, or to the adjoining or integrated property of the Owner, which results from the responsibility of the Contractor under GC 13.1
- 13.3 The Contractor shall transfer and assign to the Owner, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the Contract covering periods beyond the one year period stipulated in GC 13.1. Extended warranties or guarantees referred to herein shall not extend the one year period whereby the Contractor, except as may be provided elsewhere in the Contract Documents, must rectify and make good any defect or fault that appears in the Work or come to the attention of the Owner.
- 13.4 Neither the Project Manager's Final Completion certificate nor payment thereunder shall relieve the Contractor from this responsibility hereunder.
- 13.5 The Owner and/or the Project Manager shall promptly give the Contractor written notice of any observed defects or deficiencies occurring during the Warranty Period.
- 13.6 Any defect or fault appearing within the warranty period and prior to the issuance of a Final Completion Certificate shall be subject to the set-off provisions outlined in GC 44.12(d) – CERTIFICATES AND PAYMENTS.

GC 14 ASSIGNMENT

- 14.1 The Contractor shall not to assign the contract or any part thereof or any benefit or interest therein or thereunder without the prior written consent of the Owner

GC 15 SUCCESSION

- 15.1 The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and, subject to GC 14 ASSIGNMENT, permitted assigns.

GC 16 PROJECT MANAGER'S DECISIONS AND INSTRUCTIONS

- 16.1 The Project Manager, in the first instance, shall decide on questions arising under the Contract Documents and interpret the requirements therein. Such decisions shall be given in writing.
- 16.2 The Contractor shall notify the Project Manager in writing within ten (10) working days of receipt of a decision of the Project Manager referred to in GC 16.1 should the Contractor hold that such decision is in error and/or at variance with the Contract Documents. Unless the Contractor fulfills this requirement, subsequent claims by the Contractor for extra compensation, arising out of the decision, will not be accepted.
- 16.3 If the question of error and/or variance is not resolved immediately, and the Project Manager decides that the disputed work shall be carried out, the Contractor shall act according to the Project Manager's written decision. Any question of change in Contract Price and/or extension of Contract Time due to such error and/or variance shall be decided as provided in GC 54 - SETTLEMENT OF DISPUTES AND CLAIMS.
- 16.4 During the progress of the Work the Project Manager shall furnish to the Contractor such additional instructions as may be necessary to supplement the Contract Documents. All such instructions shall be consistent with the intent of the Contract Documents and issued with reasonable promptness and in accordance with any schedule agreed upon. Additional instructions may include minor changes to the Work which affect neither the Contract Price nor the Contract Time and may be in the form of drawings, samples, models or written instructions.

GC 17 SUPERINTENDENCE

- 17.1 The Contractor shall employ a competent superintendent(s) and necessary assistants who shall be in continuous attendance at the Work site at all times while work is being performed. Provisions must be made by the Contractor to have adequate replacement / additional superintendence personnel of equal qualifications and experience on site for work during extended hours, weekends, turnaround and any time while work is being undertaken and the primary superintendent is not available. The superintendent shall be satisfactory to the Project Manager and shall not be changed except for good reason.
- 17.2 Upon request of the Owner, the Contractor shall remove any superintendent who, in the opinion of the Project Manager, acts, and continues to act after having been warned twice in writing, with or without conditions, by the Owner through the Contractor, in failing to display the technical, managerial, safety, timeliness, integrity or any other regulated or industry recognized skills required of a person performing equivalent Work or has been otherwise acted improperly and shall forthwith designate another superintendent who is acceptable to the Project Manager. Nothing herein is to be construed as giving the Owner any right to dismiss or terminate an employee, agent, Subcontractor or Supplier of the Contractor but represents the right of the Owner to preserve and protect its property. This does not affect any legal right of a Contractor to dismiss or terminate an employee, agent Subcontractor or Supplier as it may decide in its sole discretion.
- 17.3 The superintendent shall represent the Contractor at the Work site and directions received from the Project Manager shall be held to have been given to the Contractor. Important directions shall be confirmed to the Contractor in writing, other directions will be so confirmed if requested.
- 17.4 The superintendent shall maintain good order among employees of the Contractor and Subcontractors and advise the Project Manager of any instances of disturbances, disruptions or any and all other matters required to be reported to the Project Manager, on behalf of the Owner, under the Contract Documents or by law, regulation or policy

GC 18 SUBCONTRACTORS

- 18.1 The Contractor agrees to preserve and protect the rights of the Owner under the Contract with respect to any work to be performed under any subcontract. The Contractor shall:
- a) require Subcontractors to perform their work in accordance with and subject to the terms and conditions of the Contract Documents, and
 - b) be fully responsible to the Owner for acts and omissions of Subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the Contractor, and
 - c) ensure compliance with worker's compensation, obtain bonding and insurance from Subcontractors if required by the Contract and, if requested, provide evidence of compliance, and
 - d) require Subcontractors undertaking construction work on the Contract to maintain compliance with the requirements of GC 8 - CERTIFICATE OF RECOGNITION PROGRAM and, if requested, provide evidence of compliance.

The Contractor therefore agrees to incorporate all the terms and conditions of the Contract Documents into all Subcontract Agreements.

- 18.2 The Contractor shall employ those Subcontractors proposed in writing and accepted by the Owner prior to the signing of the Contract for such portions of the work as may be designated in the bidding requirements. The Owner may, in its sole, absolute and unfettered discretion and for reasonable cause, object to the use of a proposed Subcontractor and may require the Contractor to employ one of the other Subcontractor Bidders. In the event that the Owner requires a change from any proposed Subcontractor, the Contract Price shall be adjusted by the difference in cost as may be occasioned by such required change. The Contractor shall not be required to employ as a Subcontractor any person or firm to whom they may reasonably object.
- 18.3 The Project Manager may, upon reasonable request, provide to a Subcontractor, information as to the percentage of the Subcontractor's work which has been certified for payment.
- 18.4 Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor or Supplier and the Owner.

GC 19 USE OF PREMISES

- 19.1 The Contractor shall confine his apparatus, the storage of products and the operations of his workmen to limits indicated by laws, ordinances, permits or by directions of the Project Manager and shall not unreasonably encumber the premises with his products.
- 19.2 The Contractor shall not load or permit to be loaded any part of the Work with a mass that will endanger its safety.
- 19.3 The Contractor shall enforce the Project Manager's instructions regarding signs, advertisements, fires and smoking.
- 19.4 Unless otherwise provided the Contractor shall, at his own expense, and without extra cost to the Owner, make suitable provision to accommodate all traffic either pedestrian or vehicular, over or around, the project upon which work is being performed, in a manner satisfactory to the Project Manager.
- 19.5 The Contractor shall provide and maintain at his own expense such fences, barriers, signs, lights and watchmen as may be necessary to prevent avoidable accidents to residents or to the public generally.

GC 20 CONSTRUCTION SCHEDULE

- 20.1 The Contractor shall, within fifteen (15) days of receipt of the Letter of Award, provide the Project Manager with a schedule of work acceptable to the Owner in digital form and in native file format and subject to any conditions identified elsewhere in the Contract. Such schedule shall indicate the timing of the major activities of the Work and provide sufficient detail of the critical events and their interrelationship to demonstrate the Work will be performed in conformity with the Contract Time.
- 20.2 The Contractor shall provide updated schedules during the progress of the Work, if at any point, the existing or future Work deviates from the current schedule.
- 20.3 The Contractor shall advise the Project Manager in writing of any changes required to the schedule as a result of extensions to the completion time granted under GC 47 – CHANGES IN THE WORK.
- 20.4 The Contractor shall provide to the Project Manager, upon issuance of a Certificate of Substantial Completion, an update of the schedule with full details of a timetable, acceptable to the Project Manager, for the completion of any unfinished portion of the Work and the correction of all listed deficiencies or defects.

GC 21 CUTTING AND REMEDIAL WORK

- 21.1 The Contractor shall do all cutting and remedial work that may be required to make the several parts of the Work come together properly.
- 21.2 The Contractor shall coordinate the schedule for the Work to ensure that this requirement is kept to a minimum.
- 21.3 Should the Owner or anyone employed by him be responsible for ill-timed work necessitating cutting and/or remedial work shall be valued as provided in GC17 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK and added to the Contract Price.
- 21.4 Cutting and remedial work shall be performed by specialists familiar with the materials affected and shall be performed in a manner to neither damage nor endanger any Work.

GC 22 SHOP DRAWINGS

- 22.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data which are to be provided by the Contractor to illustrate details of a portion of the Work.
- 22.2 The Contractor shall arrange for the preparation of clearly identified shop drawings as called for by the Contract Documents or as the Project Manager may reasonably request.

- 22.3 Prior to Submission to the Project Manager the Contractor shall review all shop drawings. By this review the Contractor represents that he has determined and verified all field measurements, field construction criteria, materials, catalogue numbers and similar data or will do so and that he has checked and coordinated each shop drawing with the requirements of the Work and of the Contract Documents. The Contractor's review of each shop drawing shall be indicated by stamp, date and signature of a responsible person.
- 22.4 The Contractor shall submit shop drawings to the Project Manager for his review with reasonable promptness and in orderly sequence so as to cause no delay in the Work or in the Work of Other Contractors. If either the Contractor or the Project Manager so requests they shall jointly prepare a schedule fixing the dates for submission and return of shop drawings. Shop drawings shall be submitted in the form of a responsible transparency or prints as the Project Manager may direct. At the time of submission the Contractor shall notify the Project Manager in writing of any deviations in the shop drawings from the requirements of the Contract Documents.
- 22.5 The Project Manager will review and return shop drawings in accordance with any schedule agreed upon, or otherwise with reasonable promptness so as to cause no delay. The Project Manager's review shall be for conformity to the design concept and for general arrangement only and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the Contract Documents unless a deviation on the shop drawings has been approved in writing by the Project Manager.
- 22.6 The Contractor shall make any changes in shop drawings which the Project Manager may require consistent with the Contract Documents and resubmit unless otherwise directed by the Engineer/Architect. When resubmitting the Contractor shall notify the Project Manager in writing of any revisions other than those requested by the Project Manager.

GC 23 SAMPLES

- 23.1 The Contractor shall submit for the Project Manager's approval such standard manufacturers' samples as the Engineer/Architect may reasonably require. Samples shall be labelled as to origin and intended use in the Work and shall conform to the requirements of the Contract Documents.
- 23.2 The Contractor shall provide samples of special products, assemblies, or components when so specified. The cost of such samples not specified shall be authorized as an addition to the Contract Price as provided in GC 47 - CHANGES IN THE WORK.

GC 24 TESTS AND MIX DESIGNS

- 24.1 The Contractor shall furnish to the Project Manager test results and mix designs as may be requested. The testing company must first be approved by the Project Manager.
- 24.2 The cost of tests and mix designs beyond those called for in the Contract Documents or beyond those required by laws, ordinances, rules and regulations relating to the work and the preservation of public health, shall be authorized as an addition to the Contract Price as provided in GC 47 - CHANGES IN THE WORK.

GC 25 MATERIALS AND SUBSTITUTIONS

- 25.1 Materials, described and named in the specifications with "or approved equal" clause after the Manufacturer's name, or so described as to establish quality only and substitutions of a similar material may be made after award of the contract provided the Project Manager's approval is obtained.
- 25.2 Requests for substitutions must be accompanied by sufficient information in the form of shop drawings, manufacturer's literature, samples and other data to permit proper investigation of the substitutes proposed. Also, indicate the increase or decrease in price.
- 25.3 Whenever a substitute is proposed for approval the Contractor shall guarantee that such proposed substitute will not adversely affect the space requirements allocated on the drawings for the material specified, and he shall agree to bear any additional expense incurred due to his use of the proposed substitute.

- 25.4 The Project Manager may accept or reject any or all of the proposed substitutions as he sees fit, and his decision on a question of equality shall be final.

GC 26 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF THE OWNER

- 26.1 Subject to GC 4 - LAWS, NOTICES, PERMITS AND FEES, all Material and Plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Work shall, immediately after the time of their purchase and/or delivery to site, use or consumption be the property of the Owner for the purposes of the Work and they shall continue to be the property of the Owner
- a) in the case of Material, until the Owner indicates that the Materials shall not be required for the Work; and
 - b) in the case of Plant, real property, licences, powers and privileges, until the Owner indicates that the interest vested in the Owner therein is no longer required for the purposes of the Work.
- 26.2 Material or Plant, that is the property of the Owner by virtue of 26.1, shall not be taken away from the site of the Work nor used nor disposed of except for the purposes of the Work without the written consent of the Owner.
- 26.3 The Owner is not liable for loss of nor damage from any cause to the Material or Plant referred to in 26.1, and the Contractor is liable for such loss or damage notwithstanding that the Material or Plant is the property of the Owner.

GC 27 LABOUR

- 27.1 In carrying out the duties under this contract, the Contractor shall comply with all Provincial and Federal legislation respecting labour and the employment of labour, where applicable, including the labour standards code and shall not operate in conflict with Human Rights legislation.
- 27.2 The Contractor and Subcontractors shall maintain and keep available for inspection by the Owner, a record of the names and addresses of all persons employed on the Project.
- 27.3 All work shall be done by persons skilled in their various trades.
- 27.4 There shall be no discrimination in the selection of workers for employment on the project in respect of political affiliation.
- 27.5 The Owner may instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Work who, in the opinion of the Project Manager, acts, and continues to act after having been warned twice in writing, with or without conditions, by the Owner through the Contractor, in failing to display the technical, managerial, safety, timeliness, integrity or any other regulated or industry recognized skills required of a person performing equivalent Work or is guilty of improper conduct, or has failed to comply with applicable security clearance requirements of the Contract Documents and the Contractor shall not permit a person who has so been removed to return to the site of the Work. Nothing herein is to be construed as giving the Owner any right to dismiss or terminate an employee, agent, Subcontractor or Supplier of the Contractor but represents the right of the Owner to preserve and protect its property. This does not affect any legal right of a Contractor to dismiss or terminate an employee, agent Subcontractor or Supplier as it may decide in its sole discretion.

GC 28 PRECONSTRUCTION MEETINGS & ORIENTATIONS

- 28.1 Within 10 days after award of Contract, The Contractor shall request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities. The Contractor shall establish time and location of meetings and notify parties concerned minimum 5 days before meeting. Agenda to include following:
- a) Appointment of official representative of participants in Work.
 - b) Schedule of Work
 - c) Schedule of submission of shop drawings, samples, colour chips
 - d) Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences
 - e) Delivery schedule of specified
 - f) Site security
 - g) Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.

- h) Record drawings
- i) Maintenance manuals
- j) Take-over procedures, acceptance, and warranties
- k) Monthly progress claims, administrative procedures, photographs, and holdbacks.
- l) Appointment of inspection and testing agencies or firms

This meeting shall be minuted by the Owner and approval of said minutes by both the Owner and the Contractor is required before Works can proceed.

GC 29 CONSTRUCTION SAFETY

- 29.1 The Contractor shall be solely responsible for construction safety at the place of the Work and for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. In any emergency, the Contractor shall either stop the Work, make changes or order extra work to ensure the safety of life and the protection of the Work and neighbouring property and shall promptly notify the Project Manager of its actions.
- 29.2 Prior to commencing the Work, the Contractor shall notify the authorities having jurisdiction for construction safety at the site of the Work with respect to the intended commencement of the Work, and shall provide such authority with whatever additional information may be required by that authority.

GC 30 INSPECTION OF WORK

- 30.1 The Owner and his authorized representatives shall have access to the Work for inspection wherever it is in preparation or progress. The Contractor shall cooperate to provide reasonable facilities for such access.
- 30.2 If special tests, inspections or approvals are required by the Contract Documents or the Project Manager's instructions or the laws or ordinances of the place of building, the Contractor shall give the Project Manager timely notice requesting inspection. Inspection by the Project Manager shall be made promptly. The Contractor shall arrange inspection by other authorities and shall notify the Project Manager of the date and time.
- 30.3 If the Contractor covers or permits to be covered any of the Work that is subject to inspection or before any special tests and approvals are completed without the approval of the Project Manager, the Contractor shall uncover the Work, have the inspection satisfactorily completed and make good the Work at the Contractor's expense.
- 30.4 Examination of any questioned work may be ordered by the Project Manager. If such work be found in accordance with the Contract the Owner shall pay the cost of examination and replacement, together with the cost of subsequent verification testing. If such Work be found not in accordance with the Contract through the fault of the Contractor, the Contractor shall pay such cost.
- 30.5 The Contractor shall provide to the Project Manager all assistance, including access to the Work, necessary for the provision of required assurances to regulatory agencies respecting substantial conformance of the construction of the Work with the design approved by the applicable authority for issuance of the building permit.
- 30.6 The Contractor shall furnish promptly to the Project Manager two (2) copies of all certificates and inspection reports relating to the Work.

GC 31 DEFECTIVE WORK

- 31.1 Defective Work, whether the result of poor workmanship, use of defective Products or damage through carelessness or other act or omission of the Contractor, and whether incorporated in the Work or not, which has been rejected by the Project Manager as failing to conform to the Contract Documents shall be removed promptly from the premises by the Contractor and replaced and/or re-executed promptly in accordance with the Contract Documents at the Contractor's expense.
- 31.2 Other Contractor's work destroyed or damaged by such removals or replacements shall be made good promptly at the Contractor's expense.
- 31.3 If in the opinion of the Project Manager it is not expedient to correct defective Work not done in accordance with the Contract Documents, the Owner may deduct from the Contract Price the difference in value between the Work as done and that called for by the Contract, the amount of which shall be determined by the Project Manager.

- 31.4 The failure of the Project Manager to reject any defective Work shall not constitute a deemed acceptance of any portion of the Work which is not in accordance with the requirements of the Contract Documents.

GC 32 CONTRACTOR'S RESPONSIBILITIES AND CONTROL OF THE WORK

- 32.1 The Contractor shall have complete control of the Work except as provided in GC 3 - EMERGENCIES. The Contractor shall effectively direct and supervise the Work and be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all parts of the Work under the Contract.
- 32.2 The Contractor shall provide or furnish, and pay for, all professional services, labour, Plant, Material, Products, construction machinery and equipment, water, heat, light, power, transportation, and other facilities and services necessary for the performance of the Work in accordance with the Contract.
- 32.3 The Contractor shall, at all times, perform the Work in a proper, diligent and expeditious manner as is consistent with construction industry standards and in accordance with the progress schedule prepared pursuant to GC 20 - CONSTRUCTION SCHEDULE and shall provide sufficient personnel to fulfill the Contractor's obligations in accordance with that schedule.
- 32.4 The Contractor shall have the sole responsibility for the design, erection, operation, maintenance and removal of temporary structural supports, fill and other temporary facilities and the design and execution of construction methods required in their use. The Contractor shall engage and pay for registered professional engineering personnel skilled in the appropriate discipline to perform these functions where required by law or by the Contract Documents and in all cases where such temporary facilities and their method of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 32.5 Notwithstanding the provisions of GC 32.1 and 32.4 above, or any provisions to the contrary elsewhere in the Contract Documents where such Contract Documents include designs for temporary structural supports, fill and other temporary facilities and methods shall be deemed to comprise part of the overall design of the Work and the Contractor shall not be held responsible for that part of the design or the specified method of construction. The Contractor shall, however, be responsible for the execution of such design or specified method of construction in the same manner that he is responsible for the execution of the Work.
- 32.6 The Contractor shall carefully examine the Contract Documents and shall promptly report to the Project Manager any error or omission discovered. Failure to do so will not necessarily relieve the Contractor from being liable for any damage resulting from any such errors or omissions in the Contract Documents.
- 32.7 The Contractor, in consultation with the Project Manager, shall arrange following execution of the Contract and during performance of the Work, site meetings at regular intervals requiring the attendance of all parties involved with the Work in order to ensure proper coordination of the Work.
- 32.8 Any use of the Place of Work for which the Contractor is deemed to be licensed to use by virtue of the Contract Documents, ceases upon the last day of the conduct of the Work, or earlier as provided in the Contract Documents.

GC 33 OTHER CONTRACTORS AND OWNERS' FORCES

- 33.1 The Owner reserves the right to award separate contracts or have separate work performed by the Owner's own forces in connection with the Project, of which the Work is part, even if such separate work is not described in the Contract. Such separate work may include, but not necessarily be limited to, the installation of equipment and storage of material.
- 33.2 Unless specified elsewhere in the Contract Documents, the Owner shall coordinate the separate work and insurance coverage of Other Contractors and Owners' forces as it affects the Work of this Contract. The Project Manager shall issue instructions, as may be necessary, to resolve any areas of overlap or conflict.
- 33.3 The Contractor shall cooperate and make reasonable efforts to coordinate their work with that of Other Contractors or Owners' forces for any such work identified in the Contract Documents. Any change in the costs incurred by the Contractor in the planning and performance of such work which is not shown or included in the Contract Documents shall be evaluated as provided under GC 51 - VALUATION AND CERTIFICATION OF CHANGES IN THE WORK. Any costs incurred by the Contractor resulting from failure to coordinate work specified in the Contract Documents will not be reimbursed by the Owner.

- 33.4 The Contractor shall report to the Project Manager any apparent deficiencies in Other Contractor's work which would affect the Work of this Contract immediately upon discovery and, prior to proceeding with that part of the Work, shall confirm such report in writing. Failure by the Contractor to so report shall invalidate any claims against the Owner by reason of the deficiencies of Other Contractor's work except as to those of which the Contractor was not reasonably aware.

GC 34 OWNER'S RIGHT TO DO WORK

- 34.1 If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of the Contract, the Owner may notify the Contractor in writing that the Contractor is in default of their contractual obligations and instruct them to correct or rectify the default within five (5) working days of receiving the notice.
- 34.2 If the correction or rectification of the default as enumerated by the provisions of GC 34.1 above, cannot be completed within the five (5) working days specified, the Contractor shall be considered to be in compliance with the Owner's instructions if he or she:
- a) commences the correction or rectification of the default within the specified time;
 - b) provides the Owner with a schedule, acceptable to the Owner, for such correction; and
 - c) completes the correction in accordance with such schedule.
- 34.3 If the Contractor fails to comply with the provisions in GC 34.1 and GC 34.2 the Owner may, without prejudice to any other right or remedy the Owner may have, including but not limited to GC 45 and 52, correct or rectify such default and may deduct the cost thereof from the payment then or thereafter due the Contractor.

GC 35 CLEANUP AND FINAL CLEANING OF WORK

- 35.1 The Contractor shall maintain the Work in a tidy condition and free from the accumulation of waste products and debris, other than that caused by the Owner, other Contractors or their employees.
- 35.2 When the Work is Substantially Performed the Contractor shall remove all of his surplus products, tools, construction machinery and equipment not required for the performance of the remaining work. He shall also remove any waste products and debris and leave the Work clean and suitable for occupancy by the Owner unless otherwise specified.
- 35.3 When the Work is Totally Performed, the Contractor shall remove all of his surplus Products, tools, construction machinery and equipment. He shall also remove any waste products and debris, other than that caused by the Owner, other Contractors or their employees.

GC 36 PROTECTION OF WORK AND PROPERTY

- 36.1 The Contractor shall protect the property adjacent to the Place of Work from damage resulting from their operations under the Contract.
- 36.2 The Contractor shall protect the Work and the Owner's property from damage and shall be responsible for any damage which may arise as the result of or is contributed to by the Contractors' operations under the Contract
- 36.3 Should any damage occur to the Work and/or Owner's property for which the Contractor is responsible, either directly or by contribution, the Contractor shall make good such damage and bear the expense or pay all costs incurred by others in making good such damage. The degree of contribution shall be determined by the Project Manager.
- 36.4 Should any damage occur to the Work and/or Owner's property for which the Contractor is not deemed responsible as provided in GC 41 - INDEMNIFICATION, the Contractor shall make good such damage to the Work and, if the Owner so directs, to the Owner's property, and the Contract Price and Contract Time shall be adjusted in accordance with GC 47 - CHANGES IN THE WORK.
- 36.5 The Contractor shall be completely responsible for the safety of the Work as it applies to protection of the public and property and the construction of the Work and maintain strict compliance with all applicable codes and

product manufacturers' recommendations, particularly the Newfoundland and Labrador Occupational Health and Safety Act.

- 36.6 In the event of a shutdown or interruption, the Contractor shall be responsible for the care, protection and maintenance of the Work, subject to the provisions of GC 50 – DELAY.

GC 37 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE & OTHER HAZARDS

- 37.1 The Contractor shall do whatever is necessary to ensure that
- a) no person, property, right, easement nor privilege is injured, damaged or infringed upon by reasons of the Contractor's activities in performing the Work;
 - b) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted nor endangered by the performance or existence of the Work;
 - c) fire hazards in or about the Place of the Work are eliminated and any fire is promptly extinguished;
 - d) the health and safety of all persons employed in the performance of the Work is not endangered by the methods nor means of their performance;
 - e) adequate medical services are available to all persons employed on the Place of the Work at all times during the performance of the Work;
 - f) adequate sanitation measures are taken in respect of the Place of the Work; and
 - g) all stakes, buoys and marks placed on the Work or its site by the Owner are protected and are not removed, defaced, altered nor destroyed.
- 37.2 The Owner may direct the Contractor to do such things and to perform such work as the Owner considers reasonable and necessary to ensure compliance with or to remedy a breach of 37.1, and the Contractor shall promptly comply with the direction of the Owner.

GC 38 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY THE OWNER

- 38.1 The Contractor is liable to the Owner for any loss of or damage to Material, Plant or real property that is supplied or placed in the care, custody and control of the Contractor by the Owner for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 38.2 The Contractor is not liable to the Owner for any loss or damage to Material, Plant or real property referred to in 38.1 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 38.3 The Contractor shall not use any Material, Plant or real property supplied by the Owner except for the purpose of performing the Contract.
- 38.4 When the Contractor fails to make good any loss or damage for which the Contractor is liable under 38.1 within a reasonable time, the Owner may cause the loss or damage to be made good at the Contractor's expense, without prejudice to any other right or remedy the Owner may have, including but not limited to GC 52, and the Contractor shall thereupon be liable to the Owner for the cost thereof and shall, on demand, pay to the Owner an amount equal to that cost
- 38.5 The Contractor shall keep records of all Material, Plant and real property supplied by the Owner as the Owner requires and shall satisfy the Owner, when requested, that such Material, Plant and real property are at the place and in the condition in which they ought to be.

GC 39 CONTAMINATED SITE CONDITIONS

- 39.1 A contaminated site condition exists when a solid, liquid, gaseous, thermal or radioactive irritant or contaminant, or other hazardous or toxic substance or material, including moulds and other forms of fungi, is present at the site of the Work to an extent that constitutes a hazard, or potential hazard, to the environment, property, or the health or safety of any person.
- 39.2 If the Contractor encounters a contaminated site condition of which the Contractor is not aware or about which the Contractor has not been advised, or if the Contractor has reasonable grounds to believe that such a site condition exists at the site of the Work, the Contractor shall:
- a) take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;

- b) immediately notify the Project Manager of the circumstances in writing; and
 - c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 39.3 Upon receipt of a notification from the Contractor, the Owner shall promptly determine whether a contaminated site condition exists, and shall notify the Contractor in writing of any action to be taken, or work to be performed, by the Contractor as a result of the Owner's determination
- 39.4 If the Contractor's services are required by the Owner, the Contractor shall follow the direction of the Owner with regard to any excavation, treatment, removal and disposal of any polluting substance or material.
- 39.5 The Owner, at the Owner's sole discretion, may enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of contaminated site conditions, and the Contractor shall allow them access and co-operate with them in the carrying out of their duties and obligations.
- 39.6 Except as may be otherwise provided for in the Contract, the provisions of GC 51- VALUATION AND CERTIFICATION OF CHANGES IN THE WORK shall apply to any additional work made necessary because of a contaminated site condition.

GC 40 DAMAGES AND MUTUAL RESPONSIBILITY

- 40.1 If either party to this Contract should suffer damage in any manner because of any wrongful act or neglect of the other party or anyone employed by them, then they shall be reimbursed by the other party for such damages. The party reimbursing the other party shall be subrogated to the rights of the other party in respect of such wrongful act or neglect if it be that of a third party.
- 40.2 Claims shall be made in writing to the party liable within reasonable time after the first observance of such damage and not later than the time limits stipulated in GC 44 - CERTIFICATES AND PAYMENTS, and may be adjusted by agreement or in the manner set out in GC 54 - SETTLEMENT OF DISPUTES AND CLAIMS.
- 40.3 If the Contractor has caused damage to any Other Contractor on the work, the Contractor agrees upon due notice, to settle with such Other Contractor by agreement, mediation or arbitration, if the Other Contractor will so settle. If such Other Contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor and may require the Contractor to defend the action at the Contractor's expense. If any final order or judgment against the Owner arises therefrom the Contractor shall pay or satisfy it and pay all costs incurred by the Owner.
- 40.4 If the Contractor becomes liable to pay or satisfy any final order, judgment or award against the Owner then the Contractor, upon undertaking to indemnify the Owner against any and all liability for costs, shall have the right to appeal in the name of the Owner such final order or judgment to any and all courts of competent jurisdiction.
- 40.5 The provisions of this GC 40 shall survive the Contract

GC 41 INDEMNIFICATION

- 41.1 Except as provided in GC 41.2, the Contractor shall be liable to the Owner for, and shall indemnify and hold harmless the Owner against, all claims, demands, losses, costs, damages, actions, suits or proceedings, whatsoever arising under any statute or common law:
- (a) in respect of personal injury to or the death of any person whomsoever arising out of, or in the course of, or caused by the carrying out of the Work; and
 - (b) in respect of any injury or damage whatsoever to any property, real or personal or any chattel real, insofar as such injury or damage arises out of, or in the course of, or by reason of the carrying out of the Work.
- 41.2 The Contractor shall not be liable to or indemnify the Owner under GC 41.1 if the injury, death, loss or damage is due to any negligence of the Owner or the Project Manager.

GC 42 TAXES AND DUTIES

- 42.1 The Contractor shall pay all government sales taxes, customs duties and excise taxes with respect to the Contract. The Owner will pay the Contractor with each regular progress payment the applicable portion of the Harmonized Sales Tax (HST). Contractors are advised the provincial government is not exempt from the HST. The lump sum price quoted by the contractor on the tender form should include the HST. The Owner will pay the HST to the Contractor with each regular progress billing.

- 42.2 Any increase or decrease in costs to the Contractor due to changes in such taxes and duties as outlined in GC 42.1, after the date of tender submission and prior to issuance of a Final Completion Certificate, shall increase or decrease the Contract Price accordingly. The Contractor shall cooperate with the Project Manager and Owner and permit access to books and records in order to establish the amount of such taxes involved.
- 42.3 The Contractor shall maintain full records of their estimates and actual costs of the work, together with all proper tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, shall make them available to audit and inspection by the Owner, the Auditor General for Newfoundland and Labrador or by persons acting on their behalf, shall allow them to make copies thereof and to take extracts therefrom, and shall furnish them with any information which they may require from time to time in connection with such records.

GC 43 APPLICATION FOR PAYMENT

- 43.1 Applications for payment on account as provided for in Article A-4 of the AGREEMENT BETWEEN OWNER AND CONTRACTOR shall be made monthly, on a date to be agreed between the Owner and the Contractor, as the Work progresses.
- 43.2 For Work covered by unit prices, application for payment shall be for the value of work performed and products delivered to the site at the date agreed in GC 43.1.
- 43.3 For Work covered by lump sum prices, application for payment shall be for the value, proportionate to the amount of the lump sum work, of the Work performed and products delivered to the site at the date agreed in GC 43.1. If requested by the Project Manager, the Contractor shall submit, at time of delivery of Construction Schedule pursuant to GC 20.1 before the first application for payment, a schedule of values of the various parts of the lump sum work, aggregating the total amount of the lump sum work and divided so as to facilitate evaluation of applications for payment. This schedule shall be made out in such form, and supported by such evidence as to its correctness, as the Project Manager may reasonably direct, and when approved by the Project Manager shall be used as the basis for application for payment. When making application for payment, the Contractor shall submit a statement based upon this schedule. Claims for products delivered to the site but not yet incorporated into the Work shall be supported by such evidence as the Project Manager may reasonably require to establish the value and delivery of the products. No payment shall be made in advance unless specifically agreed to.
- 43.4 Applications for release of holdback monies following the Substantial Completion of the Work and the application for final payment shall be made at the time and in the manner set forth in GC 44 - CERTIFICATES AND PAYMENTS.

GC 44 CERTIFICATES AND PAYMENTS

- 44.1 Except as provided in GC 44.6 and GC 44.8, the Project Manager shall, within ten (10) days of receipt of an application for payment from the Contractor submitted in accordance with GC 43 - APPLICATION FOR PAYMENT with all required supporting documentation, issue a certificate for payment in the amount applied for or such other amount as shall be determined to be properly due. If the Project Manager amends the application, the Contractor shall be promptly notified in writing stating the reasons for the amendment.
- 44.2 The Owner shall within twenty-one (21) days of the issuance of a certificate for payment by the Project Manager, make payment to the Contractor on account, in accordance with the provisions of the Contract Documents .
- 44.3 If payment is not made within sixty (60) days of receipt of the Contractor's application for payment to the Project Manager, the Owner will be liable for interest on the amount owing at the approved rate per annum from the sixty-first (61st) day to the date of payment. The approved rate is the provincial prime lending rate of the Owner, plus one percent (1%), as is established on a quarterly basis.
- 44.4 Notwithstanding any other provisions of this Contract:
- a) If on account of climatic or other conditions reasonably beyond the control of the Contractor there are items of work that cannot be performed, the payment for that which has been performed as certified by the Project Manager shall not be withheld or delayed by the Owner on account thereof, but the Owner may withhold from the Contract Price until the remaining work is finished an amount equal to two times of the cost to the Owner of performing such remaining work and to adequately protect the Owner.

- b) Where legislation permits and where, upon application by the Contractor, the Project Manager has certified that a Subcontract has been totally performed prior to the Substantial Completion of this Contract, the Owner shall pay the Contractor the holdback retained for such Subcontractor on the day following the expiration of the Statutory Limitations Period stipulated in the Mechanics' Lien Act applicable to the place of building.

The holdbacks will be released on the following conditions:

- i) a copy of the contract between the Subcontractor and the Contractor, or some other suitable Document satisfactory to the Owner, must be presented to the Owner,
- ii) the Subcontract is completed without deficiencies;
- iii) the warranty for the Subcontract will not start until Substantial Completion of the General Contract;
- iv) the Contractor provides an approved statutory declaration that all monies have been paid to the Subcontractors.

- 44.5 Notwithstanding the provisions of GC 44.4(b) and notwithstanding the wording of such certificate, the Contractor shall ensure that such work is protected pending the Final Completion of the Contract and be responsible for the correction of any defects in it regardless of whether or not they were apparent when such certificates were issued.
- 44.6 The Project Manager shall, within fifteen (15) days of receipt of an application from the Contractor for a Substantial Completion Certificate, make an inspection and assessment of the work to verify the validity of the application. The Project Manager shall within five (5) days of the inspection notify the Contractor if the application will be approved and issue a certificate of payment, if warranted, in accordance with GC 15.1. When the Project Manager finds the Work to be substantially completed, a Substantial Completion certificate shall be issued indicating the date on which the Work was determined to have reached Substantial Completion. Immediately following the issuance of the certificate of Substantial Completion, the Project Manager, in consultation with the Contractor, shall establish a reasonable date for the Final Completion of the Contract, if not otherwise specified.
- 44.7 Following the issuance of the certificate of Substantial Completion and upon receipt from the Contractor of all documentation called for in the Contract Documents including evidence of compliance with worker's compensation per GC 7.1 WORKER'S COMPENSATION, the Project Manager shall issue a certificate for payment of holdback monies. Holdback monies authorized by this certificate shall become eligible for release on the day following the expiration of the Statutory Limitation Period stipulated in the Mechanics' Lien Act applicable to the place of building, providing that no lien or privilege claims against the Work exist and the Contractor has submitted to the Owner an approved statutory declaration that all accounts for labour, subcontracts, products, construction machinery and equipment and any other indebtedness which may have been incurred by the Contractor in the Substantial Completion of the Work and for which the Owner might in any way be held responsible, have been paid in full except holdback monies properly retained.
- 44.8 The Project Manager shall, within fifteen (15) days of receipt of an application from the Contractor for payment upon Final Completion of the Contract, make an inspection and assessment of the work to verify the validity of the application. The Project Manager shall within five (5) days of the inspection notify the Contractor if the application has been approved. When the Project Manager finds the Work to be totally performed, a Final Completion certificate will be issued and payment will be certified for the remaining monies due to the Contractor under the Contract less any holdback monies which are required to be retained. The Final Completion certificate shall indicate the date on which the Work was determined to have reached Final Completion. The Owner shall within 30 days of issuance of the Final Completion certificate make payment to the Contractor in accordance with the provisions of Article A-4 of the Agreement.
- 44.9 No certificate for payment, or any payment made thereunder, or any partial or entire use of occupancy of the Work by the Owner, shall constitute an acceptance of any work or products not in accordance with the Contract Documents.
- 44.10 The issuance of the certificate of Final Completion shall constitute a waiver of all claims by the Owner against the Contractor except those previously made in writing and still unsettled, if any, and those arising from the provisions of GC 13 - WARRANTY, breach of contract or those arising from negligence on the part of the Contractor or those made in writing within a period of two years from the date of Substantial Completion and arising from any liability of the Contractor for damages resulting from the Contractor's performance of the Contract

with respect to Substantial Defects or Deficiencies in the Work for which the Contractor is responsible. Similarly, the issuance of the certificate of Final Completion and of the payment due thereunder shall constitute a waiver of all claims by the Contractor against the Owner except those made in writing prior to the application for payment upon Final Completion of the Contract and still unsettled, if any.

- 44.11 The holdback value to be used by the Project Manager when issuing a certificate of payment will be ten (10) percent of the value of the work completed at the date of the Contractor's claim.
- 44.12 Notwithstanding the provisions of GC 44.3 or any other provision of this Contract, the Owner may:
- a) in the event of a claim by the Owner against the Contractor for damages arising out of the performance or non-performance of the Contract, withhold payment of any amount equal to the alleged damages until the liability for damages is established and no amount of interest will be paid on amounts held under this clause;
 - b) set-off amounts owing by the Contractor to the Owner,
 - c) set-off amounts to cover costs of remedying defective or uncompleted work,
 - d) following the issuance of the certificate of Substantial Completion, withhold payment of an amount equal to twice the cost, as estimated by the Project Manager, of remedying set-off items under GC 15.13(c) until the issuance of a certificate of Final Completion and no amount of interest will be paid on amounts held under this clause.
- 44.13 Costs related to the inspection and assessment of applications from the Contractor submitted for Substantial Completion or Final Completion in accordance with GC 44.6 or GC 44.8, that are disapproved by the Project Manager, may be deducted from amounts payable to the Contractor by issuance of a credit change order by the Owner in accordance with GC 51 – VALUATION AND CERTIFICATION OF CHANGES IN THE WORK if, in the opinion of the Project Manager, a second or subsequent inspection and assessment will be needed because the extent of the remaining Work or deficiencies from the disapproved application was such that the Contractor's application was judged by the Project Manager to have been unwarranted.

GC45 RIGHT OF SETOFF

- 45.1 Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, the Owner may set off any amount payable to the Owner by the Contractor under the Contract, or under any current contract or on any other project, against any amount payable to the Contractor under the Contract.
- 45.2 For the purposes of 45.1, "*current contract*" means a contract between the Owner and the Contractor under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or in respect of which the Owner has, since the date of the Contract, exercised any right to take the work that is the subject of that contract out of the Contractor's hands.

GC 46 ASSESSMENT OF LIQUIDATED DAMAGES FOR LATE COMPLETION

- 46.1 For purposes of this Section;
- (a) The Work shall be deemed to be completed on the date of the Certificate of Substantial Completion referred to in GC44.6 – CERTIFICATES AND PAYMENTS, and
 - (b) "Period of delay" means the number of days commencing on the day fixed by the Agreement Between Owner and Contractor for completion of the Work and ending on the day immediately preceding the day on which the work is completed but does not include any day in which, in the opinion of the Project Manager, completion of the work was delayed for reasons beyond the control of the Contractor.
- 46.2 If the Contractor does not complete the work by the day fixed for its completion in the AGREEMENT BETWEEN OWNER AND CONTRACTOR but completes it thereafter, the Contractor shall pay the Owner, if demanded, as liquidated damages and not as a penalty, an amount equal to the aggregate of
- (a) all salaries, wages and traveling expenses incurred by the Owner in respect of persons overseeing the performance of the work during the period of delay, and

- (b) all other expenses and consequential damages of any kind incurred or sustained by the Owner during the period of delay as a result of the work not being completed by the day fixed for its completion as defined by GC 46.1.

46.3 Notwithstanding, this right is without prejudice to the rights of the Owner as set forth in GC 52 - OWNER'S RIGHT TO STOP WORK OR TERMINATE CONTRACT which are cumulative and remain in force.

GC 47 CHANGES IN THE WORK

47.1 The Owner may make changes by altering, adding, or deducting from the Work, with the contract price and the contract time being adjusted accordingly.

- a) When a change in the Work is proposed or required, the Project Manager will provide the Contractor with a written description of the proposed change in the Work.
- b) The Contractor shall promptly present, in a form acceptable to the Project Manager, a method of adjustment or an amount of adjustment in the Contract Price, if any, and the adjustment in the Contract Time, if any, for the proposed changes in the Work.
- c) When the Owner and the Contractor agree to the adjustments in the Contract Price and Contract Time or to the method to be used to determine the adjustments, such agreement shall be effective immediately and shall be recorded in a Change Order. The value of the work performed as a result of the Change Order shall be included in the application for progress payment.

47.2 Except as provided in GC 3 - EMERGENCIES, no change shall be made without a written order from the Project Manager and no claim for an addition or deduction to the Contract Price or change in the Contract Time shall be valid unless so ordered by the Project Manager.

GC 48 CHANGE DIRECTIVE

48.1 If the Owner requires the Contractor to proceed with a change in the Work prior to the Owner and the Contractor agreeing upon the corresponding adjustment in Contract Price and Contract Time (or in the event the Owner and the Contractor cannot agree), the Owner shall issue a Change Directive.

48.2 A Change Directive shall be used to direct a change in the Work which is within the general scope and intent of the Project in the Owner's sole discretion.

48.3 Upon receipt of a Change Directive, the Contractor shall proceed immediately with the change in the Work.

48.4 The adjustment in the Contract Price for a change carried out by way of a Change Directive shall be determined on the basis of the cost of the Contractor's actual and reasonable expenditures and savings attributable to the Change Directive, valued in accordance with GC 51.1 (c)

GC 49 CONCEALED OR UNKNOWN CONDITIONS

49.1 If the Owner or the Contractor discovers conditions at the Place of the Work which are:

- (a) concealed physical conditions or subsurface conditions which existed before the commencement of the Work which differ materially from those indicated in the Contract Documents; or
- (b) physical conditions or subsurface conditions of a nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents;

Then the observing party shall notify the other party in writing before conditions are disturbed and not later than five (5) working days after the first observance of the conditions.

49.2 The Project Manager will promptly investigate such conditions and make a finding. If the finding is that the conditions differ materially, and this would cause an increase or decrease in the Contractor's costs or time to perform the Work, the Project Manager, with the Owner's approval, shall issue appropriate instructions for a change in the Work as provided for in GC 47.

49.3 If the Project Manager finds that the conditions at the Place of the Work are not materially different or that no change in the Contract Price or Contract Time is justified, the Project Manager shall report the reasons for this finding to the Owner and the Contractor in writing.

- 49.4 Where the Contractor finds Items of possible historical or archeological significance, in or immediately adjacent to the Place of Work, the Project Manager shall be notified promptly and thereafter the Contractor shall use reasonable efforts to continue the Work without disturbing such items and shall continue to do so until such time as a preliminary inspection and determination has been made by the Owner. Where preservation or recovery of the items is determined to be required by the Owner, the necessary adjustments to the Contract Documents shall be negotiated. Ownership of the items shall be that of the Owner despite anything herein to the contrary.

GC 50 DELAY

- 50.1 If it can be clearly shown that the Contractor is delayed in the performance of the work by any act contrary to the Contract Documents or fault of the Owner, Other Contractor or the Project Manager, then the contract time shall be extended for such reasonable time as the Project Manager may decide in consultation with the Contractor. The Contractor shall be reimbursed for any reasonable costs incurred as a result of such a delay occasioned by the act or fault, provided that it can be clearly shown that the Contractor's forces cannot work efficiently elsewhere on the project and that the incurred cost is limited to that which could not reasonably have been avoided.
- 50.2 If the Contractor is delayed in the performance of the Work by a STOP WORK ORDER issued by any court or other public authority, and providing that such order was not issued as the result of any act or fault of the Contractor or of anyone employed directly or indirectly by the Contractor, then the Contract Time shall be extended for such reasonable time as the Project Manager may decide, in consultation with the Contractor, and the Contractor shall be reimbursed for any reasonable costs incurred as the result of such delay.
- 50.3 If the Contractor is delayed in the performance of the Work by civil disorders, labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized Contractor's Association, of which the Contractor is a member) fire, unusual delay by common carriers or unavoidable casualties or, without limit to any of the foregoing, by any cause of any kind whatsoever beyond the Contractor's control, then the Contract Time shall be extended for such reasonable time as may be decided by the Project Manager in consultation with the Owner and the Contractor, but in no case shall the extension of time be less than the time lost as the result of the event causing the delay, unless such shorter extension of time be agreed to by the Contractor. The Contractor shall not be entitled to payment for costs incurred by such delays unless such delays result from actions by the Owner or the Project Manager.
- 50.4 No extension shall be made for delay unless written notice of claim is given to the Project Manager within ten (10) working days of its commencement, providing that in the case of a continuing cause of delay only one notice shall be necessary.
- 50.5 The foregoing does not relieve the Contractor from any duty to mitigate its loss.

GC 51 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK

- 51.1 The value of any change shall be determined by one or more of the following methods:
- a) by estimate and acceptance in a lump sum;
 - b) by unit prices agreed upon or as listed in the Contract; or
 - c) by cost and a fixed or percentage fee

In the case of changes in the work valued as outlined in GC 51.1(a), the Contractor shall submit a lump sum estimate. If the estimate is not deemed acceptable or sufficient for evaluation, the Contractor shall, upon request from the Project Manager, provide a detailed breakdown of the lump sum estimate, acceptable to the Project Manager, for all Materials and Labour to complete the extra work, including subcontractors' and suppliers' signed quotations and breakdown estimates. Such lump sum estimate shall be inclusive of overhead and profit of the Contractor and be reasonable and consistent with market rates in the local market for such labour and materials.

Pursuant to GC 51.1(b), in the case of changes in the work using unit prices not listed in the Contract, the Contractor shall submit for approval an itemized estimate acceptable to the Project Manager for areas of work where quantities can be measured. The Owner will pay the Contractor only for those quantities which are incorporated into the work. Unit prices provided shall be deemed to be fully inclusive of all markups for overhead and profit.

In the case of changes in the work valued as outlined in GC 51.1(c), the Contractor shall submit detailed original invoices, vouchers and time sheets for all materials and labour required to complete the extra work.

If the change in the work necessitates a change in the Contract Time, or has an impact on the work, the Contractor shall identify the change in the Contract Time and include the resulting cost, if any, in its breakdown.

51.2 Changes calculated in accordance with GC51.1(a) or (c) shall be based upon reasonable and proper amounts payable by the Contractor which are directly attributable to the performance of the change and fall into one or more of the following classes of expenditure, plus allowable markups as determined in accordance with GC 51.3;

- a) the cost of necessary materials, supplies and equipment incorporated or consumed in the work.
- b) subject to the provisions of GC 51.6, the cost of labour to perform the work including, where applicable, travel and living expenses.
- c) subject to the provisions of GC 51.4, rental costs for machinery and equipment or an amount equivalent to the rent if the machinery or equipment is owned by the contractor, including all applicable discounts.
- d) costs for the preparation, inspection, delivery, installation and removal of material and equipment necessary for the execution of the work.
- e) payments to Subcontractors and Suppliers.
- f) subject to the approval of the Project Manager, such other costs that may be deemed necessary for the execution of the work.

51.3 For changes in the work valued as outlined in GC51.1(a) or (c), the maximum markup shall be a maximum of fifteen (15) percent for the portion of the change performed by the Contractor's or Sub-contractor's own forces and a maximum of ten (10) percent for the portion of the change performed by subcontract. The markups shall be applied to the aggregate agreed costs, for changes valued in accordance with GC 51.1(a), or aggregate actual costs, to the extent reasonable and proper, that can be verified by the Contractor, for changes valued in accordance with GC51.1(c). Changes agreed by lump sum, without the need of a breakdown estimate, shall be deemed to include the above markups.

Mark-ups for both the Contractor and Subcontractor shall be limited to and considered full compensation for:

- a) all head office costs including salaries (specifically including the costs of superintendence pursuant to GC 17), financing, overhead, profit and risk of undertaking the work;
- b) all normal administration, communications, supervision and coordination costs generally associated with routine change orders;
- c) all costs associated with the normal preparation of the change order quotation, such as investigation time, miscellaneous discussions, and coordination and negotiations; and
- d) costs related to
 - i) the purchase or rental of material, plant and equipment.
 - ii) small tool and supplies.
 - iii) incidental or routine safety and protective measures, except not including labor and materials associated with special safety processes and procedures.
 - iv) permits, bonds, insurance, engineering, as-built drawings, project record documents, commissioning and site office facilities. The Contractor will be compensated, without markup, at the end of the Contract, upon presentation of specific invoices or supporting documentation, clearly demonstrating the additional costs incurred for permits, bonds, and insurance associated with the net value of all change order work.
 - v) fines and any insurance deductibles payable upon fault of the Contractor in performance of the Work; and
 - vi) all other costs not included in the foregoing.

51.4 For changes in the work valued as outlined in GC 51.1 (a) or (c), costs for Contractor owned equipment will be

calculated in accordance with the latest version of the equipment rental rate schedule published by the Highway Design Division of the Department of Transportation and Works or, for rates not contained in the booklet, at local industry rates. Rates from the equipment rental rate schedule include applicable markups and will not be subject to the markups provided in GC 51.3. Costs for equipment rented by the Contractor shall be based upon detailed invoices for work done under GC 51.1(c), or the equipment rental rate schedule for work done under GC 51.1(a) and the rates shall be entitled to markup provided under GC 51.3 except the markup amount shall be ten (10%) percent. Small tools and equipment normally supplied by either the Contractor or Subcontractor or their employees will not be considered as owned or rented equipment for the purposes of this article and the Contractor shall be deemed to be fully compensated for such costs as provided in GC 51.3.

- 51.5 Credits will be based on the net cost of material and labour or the net difference in unit price quantities. For change orders involving related additions and deletions to the Work, the percentage markups referred to in GC 51.3 shall apply only when the cost of the additions minus the cost of the deletions would result in an increase in the Contract Price. The percentage mark-ups shall only be applied to that portion of the costs of the additions that are in excess of the cost of the deletions.
- 51.6 For changes in the work valued as outlined in GC 51.1 (a) or (c), hourly labour rates for the Contractor and Subcontractor shall be calculated from a base labour rate established in accordance with one of the following methods:
- a. actual employee pay rate, supported by payroll information submitted by the Contractor
 - b. rates which may be published periodically in the Fair Wage Schedule by Human Resources and Social Development Canada or other recognized survey deemed acceptable to the Owner
 - c. for unionized employees only, the rates stipulated in applicable collective agreements, including associated benefits

The base hourly labour rate may be increased by an amount, not to exceed 30%, to cover labour burden which shall be deemed to include, but not limited to, statutory contributions for employment insurance, payroll taxes, Canada pension plans, worker's compensation, insurance and health premiums, statutory holidays and other applicable labour burdens paid directly by the employer such as vacation pay, health benefits, and fringe benefits.

The Contractor shall submit to the Project Manager a detailed breakdown of the base hourly labour rate, calculated in accordance with this article, for each trade involved in the change.

Time spent by a working foreperson may be included in the number of labour hours if the working foreperson is actually performing the work covered by the change.

Time attributable to material handling, productivity factors, and approved rest periods shall be included in the number of hours required for the change and shall not be included in the calculation of the base hourly labour rate.

- 51.7 When a change in the work is proposed or required, the Contractor shall present to the Project Manager for approval a claim for any change in the Contract Price and/or change in the Contract Time. When the Project Manager is satisfied as to the correctness of such claim and, when approved, shall issue a written change order to the Contractor to proceed with the change. The value of work performed in the change shall be included for payment with the regular certificate for payment.
- 51.8 For changes in the Work to be paid under methods (b) and (c) of GC 51.1, the form of presentation of costs and methods of measurement shall be agreed to by the Project Manager and Contractor before proceeding with the change. The Contractor shall keep accurate records, as agreed upon, of quantities or costs and present an account of the cost of the change in the Work, together with vouchers where applicable.
- 51.9 If the method of valuation, measurement and the change in Contract Price and/or change in Contract Time cannot be promptly agreed upon, and the change is required to be proceeded with, then the Project Manager shall direct the change in the manner herein appearing and determine the method of valuation, measurement and the change in Contract Price and/or Contract Time subject to final determination in the manner set out in GC 54 – SETTLEMENT OF DISPUTES AND CLAIMS. On receipt of this directive, the Contractor shall proceed promptly with the change in the Work and, should the Contractor disagree with the method of valuation, measurement, change in Contract price and/or change in Contract Time, he or she shall provide written notice as set out in GC 16 - PROJECT MANAGER'S DECISIONS. The Project Manager shall issue a written authorization

for the change as noted above setting out the method of valuation and if by lump sum the Project Manager's valuation of the change in Contract Price and/or Contract Time.

- 51.10 In the case of a dispute in the valuation of a change authorized in the Work pending final determination of such value, the Project Manager shall certify the value of work performed and include the undisputed amount with the regular certificates for payment.
- 51.11 It is intended in all matters referred to above that both the Project Manager and Contractor shall act promptly.

GC 52 OWNER'S RIGHT TO STOP WORK, SUSPEND THE WORK, OR TERMINATE CONTRACT

- 52.1 If the Contractor should be adjudged bankrupt or insolvent, or makes a general assignment for the benefit of creditors or if a receiver is appointed on account of insolvency, the Owner may, without prejudice to any other right or remedy he or she may have, by giving the Contractor written notice, terminate the Contract.
- 52.2 The Owner may notify the Contractor in writing that he or she is in default of their contractual obligations, if the Contractor:
- a) fails to proceed regularly and diligently with the work or in accordance with the schedule agreed to under GC 20 - CONSTRUCTION SCHEDULE
 - b) without reasonable cause wholly suspends the carrying out of the work before the completion thereof;
 - c) refuses or fails to supply sufficient properly skilled persons or proper workmanship, products or construction machinery and equipment for the scheduled performance of the work within five (5) working days of receiving written notice from the Project Manager, except in those cases provided in GC 50 - DELAY;
 - d) fails to make payments due to Subcontractors, suppliers or workers;
 - e) persistently disregards laws or ordinances, or the Project Manager's instructions; or
 - f) otherwise violates the provisions of the Contract.

Such written notice by the Owner shall instruct the Contractor to correct or rectify the default within five (5) working days from the receipt of the written notice.

- 52.3 If the correction or rectification of the default, as enumerated by the provisions of GC 52.2 above, cannot be completed within the five (5) working days specified, the Contractor shall be considered to be in compliance with the Owners' instructions if the Contractor:
- a) commences the correction or rectification of the default within the specified time;
 - b) provides the Owner with a schedule, acceptable to the Owner, for such correction; and
 - c) completes the correction in accordance with such schedule.
- 52.4 If the Contractor fails to correct or rectify the default within the time specified or subsequently agreed upon, the Owner may, without prejudice to any other right or remedy, stop the work or terminate the Contract.
- 52.5 Subject to the Contract being terminated under the conditions set out above, the Owner shall be entitled to:
- a) take possession of the premises and products and utilize the temporary buildings, plants, tools, construction machinery and equipment, goods, materials, intended for, delivered to and placed on or adjacent to the work and may complete the work by whatever method deemed expedient but without undue delay or expense;
 - b) withhold any further outstanding payments to the Contractor until the work is finished;
 - c) upon Final Completion of the work, charge the Contractor by way of setoff the amount by which the full cost of finishing the work including compensation to the Project Manager for their additional services and

a reasonable allowance to cover the cost of any corrections required by GC 13 - WARRANTY, exceeds the unpaid balance of the Contract Price, or if such cost of finishing the work is less than the unpaid balance of the Contract Price, pay the Contractor the difference; and

- d) on expiry of the warranty period, charge the Contractor the amount by which the cost of corrections under GC 13 - WARRANTY exceeds the allowance provided for such corrections, or if the cost of such corrections is less than the allowance, pay the Contractor the difference.

- 52.6 The Contractor's obligation under the Contract as to quality, correction and warranty of the work performed by the Contractor up to the time of termination shall continue in force after such termination.
- 52.7 When, in the Owner's opinion, it is in the public interest to do so, the Owner may require the Contractor to suspend performance of the Work either for a specified or an unspecified period, by giving a notice of suspension in writing to the Contractor in accordance with Article A5 of the Agreement.
- 52.8 When a notice of suspension is received by the Contractor, the Contractor shall suspend all operations in respect of the Work except those that the Owner determines are necessary for the care and preservation of the Work. Subject to any directions in the notice of suspension, the Contractor shall discontinue ordering materials if facilities and supplies and make every effort to delay delivery of existing orders.
- 52.9 During a period of suspension, the Contractor shall not remove any part of the Work from its site without the consent of the Owner.
- 52.10 If a period of suspension is 60 days or less, the Contractor shall resume the performance of the Work on the expiration of that period, and the Contractor is entitled to be paid the extra costs necessarily incurred by the Contractor as a result of the suspension, determined in accordance with GC 51 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK.
- 52.11 If a period of suspension is more than 60 days, the Owner and the Contractor may agree that the performance of the Work will be continued by the Contractor, and the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by the Owner and the Contractor. If the Owner and the Contractor do not agree that performance of the Work will be continued by the Contractor, or upon the terms and conditions under which the Contractor will continue the Work, the notice of suspension may, at the option of either the Owner or the Contractor be deemed to be a notice of termination .

GC 53 CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

- 53.1 If the Owner should be adjudged bankrupt or insolvent, or makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of insolvency, the Contractor may, without prejudice to any other right or remedy, by giving the Owner written notice, terminate the Contract.
- 53.2 If the work should be stopped or otherwise delayed for a period of thirty days or more under an order of any court, or other public authority, and providing that such order was not issued as the result of any act or fault of the Contractor or of any one they may have directly or indirectly employed, the Contractor may, without prejudice to any other right or remedy, by giving the Owner fifteen (15) working days written notice, terminate the Contract.
- 53.3 The Contractor may notify the Owner in writing that the Owner is in default of their contractual obligations if:
- a) the Project Manager fails to issue within a reasonable period, a certificate in accordance with GC 44 - CERTIFICATES AND PAYMENTS;
 - b) the Owner fails to pay to the Contractor, when due, any amount certified by the Project Manager and verified by the audit of the Owner.

Such written notice shall advise the Owner that if such default is not corrected within fifteen (15) working days from the receipt of the written notice the Contractor may, without prejudice to any other right or remedy he or she may have, stop the work and/or terminate the contract.

- 53.4 Subject to the Contract being terminated under the conditions set out above, the Contractor shall be entitled to be paid for all work performed and for any loss sustained upon products and plant supplied, and accepted by the Owner with reasonable overhead, profit and damages.

GC 54 SETTLEMENT OF DISPUTES AND CLAIMS

54.1 In the case of any dispute or claim arising between the Owner and the Contractor as to their respective rights and obligations under the Contract, either party hereto shall give the other written notification of such dispute or claim. The notification of dispute or claim shall be made within ten (10) working days of the dispute or cause of action arising and thereafter the parties shall attempt to resolve the matter through discussions and/or negotiations.

a) If the dispute or claim cannot be first resolved to the satisfaction of both parties through discussions and/or negotiations, either party may refer the matter to mediation. The parties agree to jointly select a mediator. If they are unable to do so, a mediator will be chosen, upon application by the parties, by the Alternative Dispute Resolution Institute of Canada.

b) If within 30 days of the appointment of the mediator, the parties do not resolve some or all of the issues in dispute, the parties shall submit those issues in dispute to binding arbitration pursuant to the provincial arbitration act or the equivalent thereof.

c) All information exchanged during the dispute resolution process shall be regarded as "without prejudice" communications for the purposes of settlement negotiations and shall be treated as confidential by the parties and their representatives unless otherwise required by law. However, evidence that is independently admissible or discoverable shall not be rendered inadmissible or non-discoverable by virtue of its use during negotiation or mediation.

d) The parties agree that the representatives selected to participate in the dispute resolution process will have the authority required to resolve the dispute, or will have a rapid means of obtaining the requisite authorization.

f) The parties agree that they will each be responsible for the costs of their own legal counsel and personal travel. Fees and expenses of the mediator or arbitrator and all administrative costs, such as the cost of a meeting room, if any, shall be borne equally by the parties..

54.2 Legal proceedings shall not take place until after Substantial Completion of the Work and only if no resolution is reached through the above attempts described in GC 54.1 except:

a) where either party can show that the matter in dispute requires immediate consideration while evidence is available; or

b) in the case of legal proceedings, where the action may become proscribed by reason of delay.

54.3 Notwithstanding the process described under this GC 54 , the Contractor shall also have the sole right to first submit the dispute to a Dispute Resolution Committee, as may be designated or established by the Owner. Authority of the Dispute Resolution Committee may be limited to address specific types of disputes and shall act in accordance with guidelines, as may be published and modified periodically by the Owner. Referrals to the Committee shall be made after Substantial Completion of the contract and decisions by the Committee will be non-binding on either party.

GC 55 LIABILITY INSURANCE

55.1 Commercial General Liability Insurance

(a) Without restricting the generality of GC 41 - **Indemnification**, the Contractor shall provide and maintain, either by way of a separate policy or by an endorsement to his existing policy, Commercial Liability Insurance acceptable to the Owner and subject to limits set out in detail in the Certificate of Insurance inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof.

(b) This insurance shall include as an additional insured the Owner and the Occupant/Operator of the property. The Contractor shall not commence any work until he obtains, at his expense, all required insurances as specified in the General Conditions and the Supplementary General Conditions. Such insurance must have the approval of the Engineer/Architect and be to the limits, form and amounts

specified. The Contractor will not permit any Subcontractor to commence work on this Project until the same insurance requirements have been compiled with by the Subcontractor.

- (c) The insurance shall also include as Unnamed Insureds the architectural and engineering consultants of the Owner with respect to work performed by the Contractor, but excluding professional liabilities associated with such architectural and engineering consultants.
- (d) The Commercial General Liability Insurance will not be limited to, but shall include coverage for:
 - 1) premises and operations liability
 - 2) products or complete operations liability
 - 3) blanket contractual liability
 - 4) broad form property damage
 - 5) cross liability
 - 6) elevator and hoist liability
 - 7) contingent employer's liability
 - 8) personal injury liability
 - 9) liability with respect to non-owned licensed vehicles
 - 10) shoring, blasting, excavating, underpinning, demolition, pile driving and caisson work, work below ground service, tunneling and grading, as applicable only.

55.2 Automobile Liability Insurance

- (i) The Contractor shall provide and maintain liability insurance in respect of (i) owned licensed vehicles and (ii) leased vehicles, subject to limits set out in the Supplementary General Conditions inclusive.

55.3 Aircraft and Watercraft Liability Insurance

The Contractor shall provide and maintain liability insurance with respect to owned and non-owned aircraft and watercraft, as may be applicable, subject to limits set out in the Supplementary General Conditions inclusive. Such insurance shall be in the names of the Contractor, Her Majesty the Queen in Right of Newfoundland, the Owner and the Engineer/Architect as defined in 26.1(b) and (c) where they have an insurable interest in the use and operation of such aircraft and watercraft.

55.4 Completed operations shall be maintained continuously until twelve (12) months after the date the Engineer/Architect issues a Certificate of Substantial Performance.

55.5 All insurance policies shall contain an endorsement requiring notification of Her Majesty and the Named Insured, in writing, thirty (30) days prior to cancellation of any policy or material change, except in the event of non-payment where policy conditions dealing with termination will apply.

GC 56 PROPERTY INSURANCE

56.1 The Contractor shall provide and maintain property insurance for contracts over \$25,000, acceptable to the Owner, insuring the full value of the work in the amount of the contract price and the full value as stated of products for incorporation into the Work, subject to such exclusion as may be stated in the Certificate of Insurance.

56.2 Property insurance coverage shall be provided for by either a Broad Form Builders' Risks Policy, or an Installation Floater, or a Piers, Wharves, and Docks Rider.

56.3 The policies shall insure on a Broad Form basis direct loss or damage subject to any exclusion as may be specified in the Supplementary General Conditions. Such coverage shall apply to:

- (a) all products, labour, and supplies of any nature whatsoever, the property of the Insureds or of others for which the Insureds may have assumed responsibility, to be used in or pertaining to the site preparations, demolitions of existing structures, erections and/or fabrication and/or reconstruction and/or repair of the insured project, while on the site or in transit, subject to the exclusion of the property specified.

- (b) the installation, testing and any subsequent use of machinery and equipment including boilers, pressure vessels or vessels under vacuum.
- (c) damage to the Work caused by an accident to and/or the explosion of any boiler(s) or pressure vessel(s) forming part of the Work.

Such coverage shall exclude construction machinery, equipment, temporary structural and other temporary facilities, tools, and supplies used in the construction of the work and which are not expendable under the Contract.

- 56.4 Policies provided shall contain an endorsement requiring notification of the Owner and the Named Insured, in writing, thirty (30) days prior to cancellation of any policy or material change of coverage except in the event of non-payment where policy conditions dealing with termination will apply.
- 56.5 All such insurance shall be maintained continuously until the date the Project Manager issues a Certificate of Substantial Completion. All such insurance shall provide for the Owner to take occupancy of the work or any part thereof during the term of the insurance. Any increase in the cost of this insurance arising out of such occupancy shall be at the Owner's expense.
- 56.6 The policies shall provide that in the event of a loss, payment for damage to the Work shall be made to the Owner and the Contractor as their respective interests may appear. The Contractor shall act on behalf of the Owner for the purpose of adjusting the amount of such loss with the Insurers. On the determination of the extent of the loss, the Contractor shall immediately proceed to restore the Work and shall be entitled to receive from the Owner (in addition to any sum due under the Contract) the amount at which the Owner's interest in the restoration work has been appraised, such amount to be paid as the work of restoration proceeds and in accordance with the Project Manager's certificates for payment. Damage shall not affect the rights and obligations of either party under the Contract except that the Contractor shall be entitled to such reasonable extension of time for Substantial and Final Completion of the work as the Project Manager may decide.
- 56.7 Further to the requirements of GC 55 and 56, the Contract Documents contain a Certificate of Insurance indicating type and limit of insurance required for the Work. The Contractor will be required to have the Certificate of Insurance completed by their insurance company and delivered to the Owner prior to commencement of work but not later than ten (10) working days after the date of the Letter of Award.
- 56.8 The Contractor shall be responsible for any deductible amounts under the policies and the payment of monies up to the deductible amount made in a satisfaction of a claim shall be borne by the Contractor.
- 56.9 The Contractor shall be responsible for providing such additional insurance as may be required to protect the insured against loss on items excluded from the policies referred to in the Contract. The provisions of the insurance coverage requirements contained in the Contract are not intended to cover all of the Contractor's obligations under GC 41 INDEMNIFICATION. Any additional risk management measures or additional insurance coverages the Contractor may deem necessary to fulfill the Contractor's obligations under GC 41 shall be at the Contractor's discretion and expense.

GC 57 BONDS

- 57.1 The Owner shall have the right, during the period stated in the tender documents for acceptance of the tender, to require the Contractor to provide and maintain in good standing until the fulfillment of the Contract, bonds covering the faithful performance of the Contract including the requirements of the Warranty provided for in GC 13 - WARRANTY, and the payment of all obligations arising under the Contract.
- 57.2 All such bonds shall be issued by a duly incorporated surety company approved by the Owner and authorized to transact a business of suretyship in the Province of Newfoundland and Labrador.
- 57.3 Unless stated elsewhere in the Contract Documents, the Contractor is required to provide, as a minimum, a 50% Labour and Materials Bond and a 50% Performance Bond. The costs attributable to providing such bonds shall be and are deemed to be included in the tender price.
- 57.4 Should the Owner require the provision of additional bond or bonds by the Contractor other than those provided for under GC 57.3 or requested in the tender period, the Contract Price shall be increased by all costs attributable

to providing such bonds.

- 57.5 The Contractor shall promptly provide the Owner with any bonds that are required in accordance with the Contract.
- 57.6 The Contractor shall notify the bonding company of all changes to the Work and Contract Documents with a copy to the Project Manager.

GC58 CLAIMS AGAINST, AND OBLIGATIONS OF, THE CONTRACTOR

- 58.1 The Owner may, in order to discharge lawful obligations of and satisfy lawful claims against the Contractor by a Sub- Contractor, with whom the Contractor has a direct contract, for Works rendered to, or on behalf of, the Contractor, pay an amount from money that is due and payable to the Contractor directly to the claimant Sub-Contractor.
- 58.2 For the purposes of GC58.1 a claim shall be considered lawful when it is so determined
- a) by a court of legal jurisdiction, or
 - b) by an arbitrator duly appointed to arbitrate the said claim, or
 - c) by a written notice delivered to the Owner and signed by the Contractor authorizing payment of the said claim or claims.
- 58.3 A payment made pursuant to subsection 1 is, to the extent of the payment, a discharge of the Owner 's liability to the Contractor under the Agreement and will be deducted from any amount payable to the Contractor under the Agreement.
- 58.4 GC58.1 shall only apply to claims and obligations
- a) the notification of which has set forth the amount claimed to be owing and a full description of the Services or a part of the Services for which the claimant has not been paid. The notification must be received by the Owner in writing before the final payment is made to the Contractor and within one hundred twenty (120) days of the date on which the claimant
 - i. should have been paid in full under the claimant's Agreement with the Contractor where the claim is for an amount that was lawfully required to be held back from the claimant; or
 - ii. performed the last of the Work pursuant to the claimant's Agreement with the Contractor where the claim is not for an amount referred to in (i) above, and
 - b) the proceedings to determine the right to payment of which shall have commenced within one year from the date that the notification referred to in GC58.4.(a) was received by the Owner.
- 58.5 The Owner may, upon receipt of a notification of claim referred to in GC58.4.(a), withhold from any amount that is due and payable to the Contractor pursuant to the Agreement the full amount of the claim or any portion thereof.
- 58.6 The Owner shall notify the Contractor in writing of receipt of any notification of claim and of the intention of the Client to withhold funds pursuant to GC58.5. The Contractor may, at any time thereafter and until payment is made to the claimant, post with the Owner, security in a form acceptable to the Owner in an amount equal to the value of the said claim. Upon receipt of such security the Owner shall release to the Contractor any funds which would be otherwise payable to the Contractor, that were withheld pursuant to the provision of GC58.5.
- 58.7 The Contractor shall discharge all lawful obligations and shall satisfy all lawful claims against the Contractor for Services rendered to, or on behalf of, the Contractor in respect of the Agreement at least as often as the Agreement requires the Owner to discharge its obligations to the Contractor.

CERTIFICATE OF INSURANCE

Chemo Hood Installation Sir Thomas Roddick Hospital,
Stephenville, NL

PROJECT NO:	AWARD DATE:	VALUE \$:
--------------------	--------------------	-------------------

INSURER:

ADDRESS:

BROKER:

ADDRESS:

INSURED NAME OF CONTRACTOR:

ADDRESS:

ADDITIONAL INSURED (Excluding Automobile Liability Policy)
 The OWNER: "Her Majesty the Queen in Right of the Province of NL as represented by the Minister of Transportation & Works, Dept. of Transportation & Works, P.O. Box 8700, St. John's, NL., A1B 4J6, Attn: Tendering & Contracts
 The Occupant/Operator of the Property:
 Project Consultants of the OWNER (excluding professional liabilities)

This document certifies that the following policies of insurance and indicated coverage are at present in force subject to the terms, conditions and exclusions as contained therein covering the operations of the insured in connection with the above noted contract made between the named insured and the Owner.

POLICY TYPE	NUMBER	INCEPTION DATE	EXPIRY DATE Y/M/D	LIMITS OF LIABILITY
1.1 COMMERCIAL GENERAL LIABILITY or 1.2 WRAP-UP LIABILITY (Including where indicated) A. BLASTING B. PILE DRIVING OR CAISSON WORK C. REMOVAL OR WEAKENING OF SUPPORT				\$2,000,000 Minimum
2A. BUILDERS' RISK "BROAD FORM" or 2B. INSTALLATION FLOATER "BROAD FORM" or 2C. PIERS, WHARVES, & DOCKS RIDER				100% Contract Value if Exceeds \$25,000
3. AUTOMOBILE LIABILITY INSURANCE				\$2,000,000 Minimum
4. AIRCRAFT and/or WATER CRAFT LIABILITY INSURANCE	Not required			
5. ENVIRONMENTAL IMPAIRMENT LIABILITY				
6. SHIPBUILDER'S or SHIP REPAIRER'S LIABILITY INSURANCE	Not required			
7. HULL & MACHINERY INSURANCE, and PROTECTION & INDEMNITY Insurance including 4/4th COLLISION LIABILITY	Not required			

The Insurer agrees to notify the Owner, as defined above, in writing, thirty (30) days prior to cancellation, termination or material change of any policy.

NAME OF INSURER'S OFFICER or AUTHORIZED REPRESENTATIVE :	SIGNATURE:	Date:
		Tele.:
		Email:

Issuance of this certificate shall not limit or restrict the right of the Owner to request at any time duplicate certified copies of said insurance policies.



Western Health

Contractor Safety Handbook

Project Name: _____

Project Number: _____

INTRODUCTION:

All contractors while on Western Health property must abide by the regulations of the Newfoundland and Labrador Occupational Health and Safety Act. Any contractors or their employees, including sub-contractors, breaching the Act or Western Health safety regulations will be required to stop work. Prior to commencement of any contracted work, contractors are required to complete and sign the Contractor's Safety Handbook.

DEFINITIONS:

CONTRACTORS

Any person or representative of a firm which is engaged by contract or purchase order to perform repairs and/or maintenance or capital works (i.e. repairs to plant, buildings and works or machine installations, new or modified buildings and works).

SITE REPRESENTATIVE

The individual identified by Western Health as its' contact person for the contract.

PROJECT SPECIFIC INFORMATION

SITE REPRESENTATIVE: _____ **Date:** _____

CONTRACTOR: _____ **Date:** _____

SUB-CONTRACTORS: _____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

PROPERTY PROTECTION

Site Entry

Contractors must, under no circumstances, move outside the area allocated for the work at hand, unless approval is obtained from the Site Representative. Only the contractor, their designated employees and related Sub-Contractors and their employees are permitted on site. Under no circumstances are contractors to bring other people onto site without prior approval from the Site Representative.

Note: That the term "personnel" used in this document refers to the Contractors and related Sub-Contractor employees for the work at hand.

When on Facility premises:

- Only vehicles required to facilitate the work at hand should be at the work site.
- Contractor's employees are to park private vehicles in the Western Health general parking areas.
- Posted speed limits are to be observed while travelling on Facility property.

Identification

While on Western Health property the contractor and their employees shall be required to wear appropriate identification. The Infrastructure Support Department shall be contacted regarding identification prior to the commencement of any work. The site representative shall require a list of all personnel of the contractor on site. Infrastructure Support will provide all contractors and their personnel with a contractor ID which must be returned to Infrastructure Support, at the completion of the project or when the personnel are no longer required for the work at hand.

Contractor's Tools and Equipment

Contractors must supply all tools and equipment while working on Facility property.

Contractors are to ensure that all tools and equipment comply with the appropriate CSA standard and OH&S legislation.

The Site Representative in charge will prohibit the use of equipment including hand tools, which are considered to be faulty or dangerous.

Water for use is available in most locations within the facility. Use of water from these locations must have prior approval of the Site Representative.

Cartridges and Fasteners

Contractors shall ensure that any work with cartridges and fasteners shall conform to OH&S regulations and Western Health's policy regarding cartridges and fasteners.

Equipment and Material Deliveries

Contractors are to make all arrangements for delivery, off loading, storage of equipment and stocktaking, etc., prior to its arrival on site with the Site Representative. Storage shall be in those areas approved by the Site Representative.

UNIVERSAL EMERGENCY CODES

Western Health has implemented a Universal Emergency Code system which must be followed by all contractors working for Western Health. Shown below are those relevant to contractors working within Western Health facilities.

Code Red (Fire)

A fire, or threat of fire (smoke, sparks etc.).

Code Grey (External Air Exclusion)

Noxious fumes or smoke outside the building or moving in the direction of the building. The response involves shutting down the mechanical systems for movement of air into and out of the building, as well as closing off windows and doorways (Button Down). The decision to "Shelter in Place" is usually based on inadequate time for a full evacuation.

Code Brown (Chemical Spill or Leak)

A toxic chemical spill or leak inside a facility of Western Health. The response involved would exceed that usually able to be contained by the staff working in that area. It may involve a partial or total evacuation of the building, and possibly a Hazardous Material (HAZMAT) response by an external agency (Fire Department).

Code Orange (External Disaster/Mass Casualty Incident)

An external disaster with the potential for a mass casualty response (multiple people injured including multiple fatalities) from acute care. This type of event involves scaling back of regular services, mobilizing extra staff, and redeploying existing staff. It may also involve rapid redistribution of in-patients throughout the region and to adjacent health regions.

Code Green (Evacuation)

An evacuation of the facility/building operated by Western Health. This can be partial, precautionary, or STAT based on the nature and imminence of the threat.

This type of response will involve the location to evacuate to, the processes involved for orderly movement, and the transfer of critical processes to the evacuation site.

Code Black (Bomb Threat/Suspicious Package)

A bomb threat or bio-terrorism threat which involves a facility of Western Health. This response will involve notification of police and fire authorities early. Partial or complete evacuation of the facility may be prudent depending on the nature of the perceived threat.

Code Purple (Hostage Taking/Abduction)

A hostage taking or abduction occurring in a facility operated by Western Health. This is generally exclusive of children (Code Amber), and involves the hostage taker, with his/her hostage, in a stand off position within a facility operated by Western Health. Police are generally involved early in this type of response.

SAFE WORK PRACTICES

Asbestos Awareness

Traces of asbestos have been found throughout some of the Facilities operated by Western Health. If the contracted work involves potential asbestos exposure then appropriate asbestos abatement procedures must be complied with to ensure that contracted personnel are not exposed to asbestos hazards. The Site Representative must be consulted prior to any work commencing that involves potential asbestos exposure. The site representative shall contact the Asbestos Abatement Coordinator to obtain Asbestos Abatement Permit #.

If a contractor needs to perform work outside of the scope of the tender document then the Site Representative must be notified so that it can be determined if there is a potential for asbestos exposure. If there is potential for asbestos exposure then appropriate asbestos abatement procedures must be followed.

Dust Control

Work completed in Western Health facilities must be done in compliance with the standards established under Canadian Standards Association, reference number CSA Z317.13-03 - Infection Control during Construction or Renovation of Health Care Facilities: A Practical Reference Guide

Medical Gases

Any contractor performing work in walls or ceilings must be aware of the presence of medical gas piping in many of the facilities under Western Health jurisdiction and procedures must be implemented to ensure that all medical gas

codes are met. The Site Representative must be consulted before work proceeds in any area where medical gases are present.

Qualified Personnel

All contracted work must be undertaken by appropriately qualified personnel. The contractor's personnel shall hold any professional designations required to perform the contracted work.

Plant and Machinery

Locks and appropriate tags shall be used to isolate hazardous plant or machinery after contacting the Site Representative first to arrange appropriate isolation. Isolation equipment and safety guards shall not be removed without special permission from the Site Representative.

Operating Equipment

Contracted employees shall not attempt to operate any equipment, machinery, switches, valves, etc, owned by the Facility without prior approval of the Site Representative. Under no circumstances are contractors or their employees to operate or ride on elevated work platforms without prior approval of the Site Representative.

Any powered lifting equipment or vehicle supplied by contractors will be permitted on site only if the driver is licensed.

Electrical Equipment

Contracted employees shall not tamper with or remove any electrical wires / tagging or equipment, nor operate any electrical switch gear on the Facility premises without the permission of the Site Representative.

The contractor is to be conversant with the law in relation to the use of electrical hand tools and appliances as well as the Canadian Electrical Code, in particular Section 24 applicable to Health Care facilities.

Entry into any electrical or mechanical room is prohibited unless:

- a) The person is certified to work on electrical equipment and
- b) Permission is obtained from the Site Representative.

Welding and Cutting

Welding and cutting with the use of arcs, naked flames or grinders is prohibited in some areas. These methods are permissible in other areas, but only if the Site Representative has been notified and advised of any such work. Fire Detection

systems shall be isolated as necessary before work starts. The Site Representative in charge will prescribe precautions and refer the contractor to the Hot Work Policy (Appendix 1).

Faulty Equipment

Any Facility equipment being used by the contractor which is damaged must be reported to the Site Representative.

Combustible Substances

Contractor shall work with combustible substances in accordance with OH & S Regulations and Western Health's Policy regarding combustible substances (Appendix 1).

WORK SITES

Appropriate barriers and signage must be erected when work is performed in occupied areas, particularly in patient care units and areas where the general public are present.

If protection around the work area is required, it should be in a form that complies with applicable Occupational Health and Safety Regulations and CSA Standards.

Equipment and work barriers must not be erected in such a way as to restrict access to patient rooms, lounges, nursing stations, examination rooms, offices, fire exit stairs and other occupied areas.

If patients have to be relocated the Site Representative must be notified. The Site Representative will make the appropriate arrangements with nursing staff.

Appropriate warning notices must be erected.

No work may commence along access routes or operating areas without prior approval from the Site Representative once all necessary precautions have been put in place.

Equipment must not be thrown from elevated structures - use lifting gear to lower.

Work which will be noisy or creates excessive vibration within the facility must be first coordinated with the Site Representative. Work may be stopped at any time if this affects the ongoing hospital's activities.

Ladders and Scaffolding

All scaffolding must be erected in accordance with OH&S requirements and CSA standards.

All ladders must be in good condition and must comply with CSA Standards and OH&S legislation.

Ladders must be of a type deemed appropriate for the type of work taking place.

Ladders are not to be used as a substitute for scaffolding.

Portable ladders, while in use, shall be secured in accordance with OH&S legislation.

Confined Space

When work is to be carried out in a confined space (as defined by the Canada Labour Code, Part II), the Site Representative must be informed prior to the commencement of work so that appropriate confined space entry procedures are implemented in accordance with Western Health's Confined Space Entry Policy (Appendix 1).

Roof Access

Access to the roof is only permitted after the Site Representative has been informed. Fall protection procedures and equipment must be used as required by the applicable Occupational Health and Safety Regulations and in accordance with Western Health's Fall Arrest Policy (Appendix 1).

Housekeeping

Contractors must maintain a clean and tidy work area at all times.

Corridors, exits, vestibules, stairs, aisles, walkways, roads, and other means of access paths must be kept clear of tools and material at all times.

When it is necessary to leave the site before completion, all materials, tools, rigging, boards and other debris must be carefully removed from the occupied work area unless in a designated construction zone. There shall be no materials or equipment left overhead or on the roof unless these are secured in place.

Adequate barricades and warnings must be erected around all openings, excavations and obstructions.

On completion of the Project, at the end of each shift and/or while the work area is unattended, the site is to be left clean and tidy.

Reporting Injuries

All injuries must be reported as soon as possible to the Site Representative who will in turn conduct an investigation and report the finding immediately to the Regional Director of Employee Wellness/Health & Safety.

Personal Protective Equipment

Hard hats must be worn in areas where designated by the OH & S Regulations.

Safety glasses must be worn whenever there is a risk of damage to eyes, i.e. grinding, chipping, etc. Contractors are to supply their own employees with safety glasses.

Appropriate safety footwear must be worn at all times on site.

Hearing protection (i.e. ear muffs or plugs) is to be worn when noise hazards are created. Contractors are to supply their personnel with such devices.

Respiratory protection must be worn whenever there are respiratory hazards present. Before respiratory protection is worn appropriate training and fit-testing must be performed as per the applicable Occupational Health and Safety Regulations and CSA Standards. Western Health reserves the right to delay any job as a result of an outbreak of an infectious disease (i.e. SARS) that requires the use of respiratory protection.

All Personal Protective Equipment must meet CSA, NIOSH or other accepted standard where applicable.

Smoking

Contractors and their employees shall comply with Western Health's Smoke-Free Policy (see attached).

Intoxicating Liquor or Drugs

The contractor will not be permitted to enter the site with any intoxicating liquor or drugs or be under the influence of same.

Compressed Air

Contracted employees will not use compressed air for any purpose other than what it is provided for. A stream of compressed air shall not be directed towards any person, or to clean down clothing.

Horseplay

Practical jokes and horseplay on the job can be dangerous and are prohibited.

Hazardous Goods

No material of a hazardous nature is to be brought on site until approval is obtained from the Site Representative.

All Material Safety Data Sheets (MSDS)/information relating to any such materials be located on site and be known to the user employees prior to beginning work.

Persons handling or transporting hazardous materials must be trained in WHMIS, TDG and/or other pertinent regulations and standards.

Notification of a Series Injury / Illness

Contractor shall report to the site representative any serious injury or noticeable occupational disease.

Directives: The Site Representative shall be informed of any Directives received by the contractor from an OH & S Inspector. The Site Representative shall copy the Directives to the Regional Director ~ Employee Wellness/Health & Safety.

Inspection: All contractor work sites shall be inspected by Western Health Site Representative on a weekly basis.

CATEGORY:	ORGANIZATIONAL – CLIENT/COMMUNITY RELATIONS
SUB-CATEGORY:	COMMUNITY RELATIONS WITH WESTERN HEALTH
GROUP:	
DISTRIBUTION:	ALL STAFF
TITLE:	SMOKE - FREE PROPERTIES

PURPOSE

Western Health is committed to providing a smoke-free environment for its patients, clients, residents, employees, physicians, volunteers, students, visitors and the general public by:

- offering tobacco cessation counselling and referral,
- protecting all from tobacco smoke on Western Health property,
- supporting our employees in adopting healthy lifestyles, and
- providing leadership in tobacco reduction initiatives.

POLICY

Smoking is not permitted in or on all Western Health owned or operated premises and facilities including the interior, exterior grounds and parking lots. Smoke-free grounds will be clearly indicated by appropriate signage. For any lease agreements entered into on behalf of Western Health, Facilities staff must ensure that the building meets the *Smoke Free Environment Act 2005* and must promote smoke free properties.

All clients, patients, residents, employees, physicians and visitors must comply with the smoke free properties policy unless they are located in an exempted area. Employees must not facilitate a client/patient/resident's smoking. For example, employees must not escort a client/patient/resident to the property perimeter so the client/patient/resident can smoke.

All clients, patients, residents, employees, physicians, volunteers and the general public have shared responsibility for supporting and complying with the Smoke-Free Properties policy.

In areas where security staff exists they must patrol entrances and grounds to ensure that all persons are in compliance with the policy. At sites where security services are not provided, management must enforce the policy.

Employees who do not comply with the policy are subject to disciplinary action as per collective agreements and the organization's human resources policies. Employees who continue to violate this policy may be subject to discharge. Subject to operational requirements, employees may be permitted to attend Smoking Cessation Group classes on work time.

The smoke free properties policy applies to the following categories of Western Health owned and/or operated facilities/sites:

- a) Hospitals
- b) Health Centres
- c) Community Clinics
- d) Long Term Care Facilities (staff only)
- e) Office buildings
- f) Parking lots and vehicles parked on Western Health property.
- g) All Western Health outbuildings, such as sheds, etc.
- h) Accommodations (staff and physicians):
 - Transient (< 3 months) accommodations
 - Accommodations physically attached to health facilities
 - Multi unit accommodations
 - Single unit accommodations: Smoking is not permitted indoors but tenants are not required to go off the property.
- i) Vehicles owned, operated or leased by Western Health no matter where they are located.

Exemptions:

- a) Buildings not owned or operated by Western Health such as leased space, which may have multiple tenants, and the landlord cannot provide a smoke free property because of other lease requirements.
- b) Long Term Care facilities with respect to residents may be phased in dependent on regulations/legislation.
- c) Patients on the Mental Health Unit at Western Memorial Regional Hospital.

PROCEDURE

A. Clients/Patients/Residents:

Inpatients

1. Inpatient staff must advise all patients of the smoke free properties policy and their obligations under the policy on admission. This discussion must be documented in the inpatient health record.
2. Inpatient staff must screen all patients for tobacco use upon admission. Tobacco use must be documented in the inpatient health record or physician's progress notes.
3. Inpatient staff must provide a supportive environment to inpatients who smoke during their involuntary tobacco abstinence, including referral to smoking cessation programs.
4. Voluntary patients, who wish to leave the premises for any purpose, including smoking, do so at their own risk.
5. As appropriate, inpatient staff will refer patients for smoking cessation support in keeping with the *Smoking Cessation Support: Community Action and Referral Effort (CARE)* policy # 6 – 01 – 25.

Outpatients

1. Outpatient staff must advise all outpatients/clients of the smoke free properties policy and their obligations under the policy on registration and/or admission. This discussion must be documented in the health record.
2. Outpatients, who wish to leave the premises for any purpose, including smoking, do so at their own risk.
3. As appropriate, outpatient staff will refer outpatients/clients for smoking cessation support in keeping with the *Smoking Cessation Support: Community Action and Referral Effort (CARE)* policy # 6 – 01 – 25.

Residents

1. Long term care staff must advise all new applicants of the smoke free properties policy and their obligations upon admission to long term care.
2. Long term care staff must provide a supportive environment to residents who smoke including provision of smoking cessation support in keeping with the *Smoking Cessation Support: Community Action and Referral Effort (CARE)* policy # 6 – 01 – 25.
3. Residents who wish to smoke must smoke in a designated area, and do so at their own risk. Long term care staff must inform families and residents of the lack of supervision in the designated smoking area.

Clients

1. Community staff must post the smoke free properties signage in all waiting areas to advise clients of the smoke free properties policy and their obligations under the policy.
2. Clients, who wish to leave the premises for any purpose, including smoking, do so at their own risk.
3. As appropriate, community staff will refer clients for smoking cessation support in keeping with the *Smoking Cessation Support: Community Action and Referral Effort (CARE)* policy # 6 – 01 – 25.
4. For staff who work in clients' homes, please refer to Smoke Free Environment For Home Based Service Provider Policy # 6 – 01 – 21.

B. Employees and Physicians

Smoking Cessation Support

As appropriate, a workplace smoking cessation program may be offered to employees and physicians. The program includes self-help materials and referral to the Smokers Help Line in keeping with the *Smoking Cessation Support: Community Action and Referral Effort (CARE)* policy # 6 – 01 – 25.

C. Compliments and Complaints

1. All staff must document compliments and complaints with respect to this policy and its implementation, from clients, patients, residents and other members of the public through the existing complaints process.
2. Supervisors must document all compliments and complaints with respect to this policy from employees through the existing complaints process.

LEGISLATIVE CONTEXT

Smoke Free Environment Act 2005

KEYWORDS

Smoke Free Properties, Smoking Cessation Support, Community Action and Referral Effort (CARE)

Approved By: Chief Executive Officer	Maintained By: Chief Operating Officer – Secondary Services
Effective Date: 30/May/2008	Reviewed: Revised: <i>(Date of most recent changes to the policy)</i>
Review Date: 30/May/2011	<input checked="" type="checkbox"/> Replaces 6 – 01 – 20 Smoke Free Work Environment

CATEGORY:	ORGANIZATIONAL – HUMAN RESOURCES
SUB-CATEGORY:	EMPLOYMENT
GROUP:	
DISTRIBUTION:	ALL EMPLOYEES, PHYSICIANS, AGENTS, CONTRACTORS, VOLUNTEERS, AND HEALTH CARE PROFESSIONALS / PROVIDERS WHO HAVE THE RIGHT TO TREAT PERSONS AT A HEALTH CARE FACILITY OPERATED BY THE CUSTODIAN
TITLE:	PRIVACY AND CONFIDENTIALITY

PURPOSE

To outline the responsibilities of employees, physicians, agents (e.g. students), contractors, volunteers, and health care professionals who have the right to treat persons at a health care facility operated by the custodian with respect to protecting confidentiality and privacy.

POLICY

Western Health has a legal and ethical responsibility to protect the privacy and confidentiality of all clients/patients/residents and their families.

All employees, physicians, agents, contractors, volunteers, and health care professionals who have the right to treat persons at a health care facility operated by the custodian are bound by Western Health’s responsibility to protect confidentiality and privacy. As well, regulated health professionals are bound by confidentiality standards as outlined by their respective professional associations. All discussions, information, and records regarding clients/patients/residents and their families will therefore be kept confidential.

Western Health considers the following information to be confidential:

- Personal information / personal health information of clients/patients/residents and their families;
- Personal information, personal health information, employment information, and compensation information of employees, physicians, agents, contractors, volunteers, and health care professionals who have the right to treat persons at a health care facility operated by the custodian;

Only the electronic version of this policy is to be considered current. Paper copies may be outdated. This policy is uncontrolled when printed.

- Information with respect to the confidential business information of Western Health that is not publicly disclosed by the organization.

While every effort is made to maintain privacy and confidentiality, the organization recognizes that, in practice, reasonable limits may be placed on the principle of confidentiality. These may include but are not limited to:

- Environmental/physical environment;
- Legislative requirements;
- Authorized research;
- Duty to warn;
- Professional practice standards/regulations;
- Organizational policies;
- Provision of health and/or related services within the Circle of Care.

Understanding the environmental limitations inherent in the health care setting, information that is considered confidential and private is not to be discussed in any public location where others, not entitled to receive that information, are present and likely to overhear it.

Any misuse, inappropriate release, inappropriate access, or failure to safeguard information may be subject to disciplinary action up to and including termination of employment / contract for service as per applicable Human Resources policy and procedure.

All breaches of confidentiality must be treated as an occurrence in accordance with the Occurrence Reporting policy (6 – 02 - 15) and an Occurrence Report must be completed. As well, the Privacy Breach policy (9-03-10) must be consulted and followed when breaches of confidentiality occur.

All individuals covered under this policy are required to:

1. Familiarize themselves with the organization's policies and procedures with respect to the collection, use, disclosure, storage, and destruction of confidential information.
2. Collect, access, and use confidential information only as authorized and required to provide care and perform the duties to which they have been assigned.
3. Consult one's manager/director/senior leader and/or Regional Manager, Information Access and Privacy or designate regarding confidentiality issues or inquiries.
4. Share, copy, transmit, disclose, or otherwise release confidential information only as authorized and required to provide care or perform assigned duties. (Please also refer to *Disclosure of Information* policies found in section 9 – *Information Management* of Western Health's policy and procedure manual).

Only the electronic version of this policy is to be considered current. Paper copies may be outdated. This policy is uncontrolled when printed.

5. Take preventative measures to maintain the security of confidential information (Please also refer to the Security of Confidential Information policy (10-01-60)
6. Identify confidential information as such when sending emails or faxing or mailing information and provide direction to the recipient if a transmission is received in error. (Please refer to E-mail Acceptable Use policy (10-01-50) and Faxing Information policy (9-01-10).
7. Discuss confidential information only with those who require this information to provide care or perform their duties and discuss this information in an appropriate environment such that others who do not require access to this information do not hear it.
8. Report to one's manager/director/senior leader and/or Regional Manager, Information Access and Privacy or designate any suspected breach of confidentiality or any practices where one believes that confidential information within the organization is at risk.
9. Continue to respect and maintain the terms of the *Oath / Affirmation of Confidentiality* both during and after the course of services provided to Western Health as the *Oath / Affirmation of Confidentiality* survives the termination of employment / engagement with Western Health.

All Employees, Managers, Directors / Senior Leaders must:

1. At the commencement of employment, contract or service provision with Western Health, ensure that the individual:

- a) Reviews this policy and completes an Oath / Affirmation of Confidentiality (Form # 12-800) to be retained on the individual's personal file;
- b) Completes a Privacy/Confidentiality education session offered by the organization including, but not limited to, the provincial *Personal Health Information Act* (PHIA) online education program and present a certificate of completion to one's manager/director/senior leader as requested;
- c) Reviews applicable program/department specific policies and procedures that relate to privacy and confidentiality.

2. As required on an ongoing basis:

- a) Address any confidentiality concerns and potential privacy breaches with the individual. Please refer to the Privacy Breach policy (9-03-10);
- b) Ensure that the individual reviews this policy and completes an *Oath / Affirmation of Confidentiality* to be retained on the individual's personal file and present a certificate of completion to one's manager/director/senior leader as requested;

- c) Identify and refer any individual for further information/education on privacy and confidentiality, as deemed appropriate, including, but not limited to, the provincial *Personal Health Information Act* (PHIA) online education program.
- d) For monitoring and tracking purposes, submit to Employee Development the names of employees who have received additional information/education on privacy and confidentiality.

3. At the time of the Employee Performance Appraisal:

- a) Review this policy with the individual. Note that for external practitioners, the review of the policy will coincide with the annual renewal of the individual's contract to provide services at Western Health.

4. Every five years, ensure that the individual:

- a) Reviews this policy and completes an *Oath / Affirmation of Confidentiality* to be retained on the individual's personal file;
- b) Completes a Privacy/Confidentiality education session offered by the organization including, but not limited to, the provincial *Personal Health Information Act* (PHIA) online education program, and presents a certificate of completion to one's manager/director/senior leader as requested.

At the commencement of service provision with Western Health all Trustees, Volunteers (includes Pastoral Care volunteers) and Students must:

1. Review this policy and complete an *Oath/Affirmation of Confidentiality (Contractors/Vendors)* (Form #12-805) to be retained on the specific department / program file;
2. Review Western Health information/learning resources regarding the duties imposed by the *Personal Health Information Act* and its regulations;
3. Review applicable program/department specific information policies and procedures that relate to privacy and confidentiality.

At the commencement of contract or service provision with Western Health all Contractors and Vendors must:

1. Review this policy and complete an *Oath/Affirmation of Confidentiality (Contractors/Vendors)* to be retained by Western Health as part of the service contract.

2. Review Western Health information/learning resources regarding the duties imposed by the *Personal Health Information Act* and its regulations, as well as the information policies and procedures of Western Health relating to same.
3. Enter into a written and binding service agreement contract with Western Health which ensures the protection of personal health information against unauthorized access, use, disclosure, disposition, loss or modification in accordance with Western Health policies and procedures.

DEFINITIONS

Please refer to s.2 of the *Personal Health Information Act* for further information with respect to interpretation.

Agent: In relation to a custodian, means a person that, with the authorization of the custodian, acts for or on behalf of the custodian in respect of personal health information for the purposes of the custodian, and not the agent's purposes, whether or not the agent has the authority to bind the custodian, is paid by the custodian or is being remunerated by the custodian. This includes physicians, volunteers, pastoral care workers, as well as staff and contractors and other persons working with Western Health or affiliated with Western Health.

Confidential business information: Information with respect to Western Health's business that is not publicly disclosed by the organization. Employees / affiliates may come in contact with such information that is not generally known to the public as they perform their duties. Examples include:

- Legal matters involving the organization that are not public knowledge,
- Financial information that is not available in Western Health's annual report,
- Contractual agreements with vendors, consultants, contractors, and third parties (The confidentiality of this information may be written into the contract, eg. non-disclosure of the cost of the service),
- Information about intellectual property such as development of new technology and treatments or unpublished reports,
- Information pertaining to Western Health's information technology access and security systems such as:
 - Information that could lead to inappropriate access to internal and external computer resources,
 - Information that is regarded as confidential between the vendor and Western Health related to negotiated product discounts,
 - Products that are part of Western Health's security infrastructure or the names of vendors of hardware / software solutions that may be vulnerable to external access attacks.

Health Care Professional: A person, including a corporation, that is licensed or registered to provide health care by a body authorized to regulate a health care professional under one of the

following enumerated Acts but does not include an employee of a health care professional when acting in the course of his or her employment:

- (i) *Chiropractors Act*,
- (ii) *Dental Act*,
- (iii) *Denturists Act, 2005*,
- (iv) *Dieticians Act*,
- (v) *Dispensing Opticians Act, 2005*,
- (vi) *Hearing Aid Practitioners Act*,
- (vii) *Licensed Practical Nurses Act, 2005*,
- (viii) *Massage Therapy Act, 2005*,
- (ix) *Medical Act, 2005*,
- (x) *Occupational Therapists Act, 2005*,
- (xi) *Optometry Act, 2004*,
- (xii) *Pharmacy Act*,
- (xiii) *Physiotherapy Act, 2006*,
- (xiv) *Psychologists Act, 2005*,
- (xv) *Registered Nurses Act*, and
- (xvi) *Social Workers Association Act*.

Health Care Facility: A facility that provides in-patient health care, including a hospital, a psychiatric unit under the *Mental Health Care and Treatment Act* , a personal care home, a community care home, a long-term care home or other facility designated in the regulations;

Personal information: As defined in the *Access to Information and Protection of Privacy Act (ATIPP)*, recorded information of an identifiable individual, but does not include the name, title, business address / telephone number of an employee.

- (i) the individual's name, address or telephone number,
- (ii) the individual's race, national or ethnic origin, colour, or religious or political beliefs or associations,

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- (iii) the individual's age, sex, sexual orientation, marital status or family status,
- (iv) an identifying number, symbol or other particular assigned to the individual,
- (v) the individual's fingerprints, blood type or inheritable characteristics,
- (vi) information about the individual's health care status or history, including a physical or mental disability,
- (vii) information about the individual's educational, financial, criminal or employment status or history,
- (viii) the opinions of a person about the individual, and
- (ix) the individual's personal views or opinions;

Personal health information: As defined in the *Personal Health Information Act (PHIA)*, means identifying information in oral or recorded form about an individual that relates to

- (a) the physical or mental health of the individual, including information respecting the individual's health care status and history and the health history of the individual's family;
- (b) the provision of health care to the individual, including information respecting the person providing the health care;
- (c) the donation by an individual of a body part or bodily substance, including information derived from the testing or examination of a body part or bodily substance;
- (d) registration information;
- (e) payments or eligibility for a health care program or service in respect of the individual, including eligibility for coverage under an insurance or payment arrangement with respect to health care;
- (f) an individual's entitlement to benefits under or participation in a health care program or service;
- (g) information about the individual that is collected in the course of, and is incidental to, the provision of a health care program or service or payment for a health care program or service;
- (h) a drug as defined in the *Pharmacy Act*, a health care aid, device, product, equipment or other item provided to an individual under a prescription or other authorization issued by a health care professional; or
- (i) the identity of a person referred to in section 7.

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Privacy: The right of individuals to control the collection, use and disclosure of information about themselves.

LEGISLATIVE CONTEXT

Access to Information and Protection of Privacy Act, 2004.

<http://www.assembly.nl.ca/legislation/sr/statutes/a01-1.htm>

Personal Health Information Act, 2008

<http://www.assembly.nl.ca/legislation/sr/statutes/p07-01.htm>

REFERENCES

Komar, Wendy, Privacy Manager. London Health Sciences Centre (LHSC) and St. Joseph’s Health Care, London. Retrieved from Canadian Policy and Procedures Network (cppn), 2006 at: <http://ca.groups.yahoo.com/mygroups>. (Used with permission).

KEY WORDS

Confidentiality, oath of confidentiality, affirmation of confidentiality, personal information, personal health information, privacy, confidential

FORMS

Oath / Affirmation of Confidentiality (Form # 12 - 800)

Oath/Affirmation of Confidentiality (Contractors/Vendors) (Form # 12-805)

TO BE COMPLETED BY INFORMATION & QUALITY STAFF ONLY

Approved By: Chief Executive Officer	Maintained By: Regional Manager, Information Access & Privacy
Effective Date: 18/April/2007	<input checked="" type="checkbox"/> Reviewed: March 2010 <input checked="" type="checkbox"/> Revised: 17/September/2015
Review Date: 17/September/2018	<input checked="" type="checkbox"/> Replaces: 5-c-160 HCSW AD-C-425 WHCC

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OATH / AFFIRMATION OF CONFIDENTIALITY
Form # 12 – 800

I, _____, of _____, solemnly
(Print name) (City / Town, Province of Residence)

Swear / Affirm [**check one**] the following:

All clients/patient/residents under the care of Western Health have a right to have their personal information/personal health information treated as confidential.

This statement confirms that I have read and understood the *Privacy and Confidentiality* policy (2-03-10) for Western Health.

I commit to hold in confidence all personal information / personal health information even after my employment / affiliation with the organization ends.

I understand that I may consult appropriate management personnel regarding this and related policies. I understand that misuse, failure to safeguard, or the disclosure of confidential information without the appropriate approval may be cause for disciplinary action up to and including:

- termination of my employment / contract for service
- reporting to an individual's professional Association / College
- civil action / criminal prosecution.

I have reviewed a copy of Western Health's *Privacy and Confidentiality* policy (2-03-10).

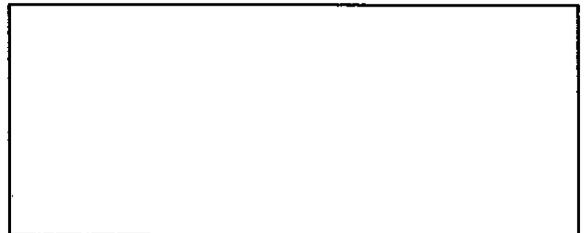
**Notary Public/Commissioner for Oaths
(who shall affix his/her seal below)**

Employee Printed Full Name: _____

Employee Number: _____

Signature: _____

Date: _____





Oath/Affirmation of Confidentiality
(Contractors/Vendors)

This Privacy/Confidentiality Oath or Affirmation (the “**Oath or Affirmation**”) encompasses confidential, private, personal and personal health information (herein referred to as “**Information**”) concerning clients, staff and the business of Western Health. As a contractor/vendor to Western Health, _____ (name of contractor/vendor), its agents, employees, or representatives (collectively, the “**Company**”) may be granted access to such information. This access will be gained through appropriate authorization and shall be used only for the purpose for which the access was granted. The Company recognizes that in the provision of goods or services or generally acting during the course of its contract with Western Health (the “**Contract**”), the Company may also inadvertently gain access to information. All information must be protected to ensure maintenance of full confidentiality and privacy.

***Please note:** An “oath” is a promise or statement of fact made upon someone or something that is sacred (i.e. God) as bearing witness; an “affirmation” may be used by those individuals who prefer to avoid the religious implications of an oath. Both an affirmation and an oath have the same legal effect).*

As a contractor/vendor, I _____ (name), an officer or director of the Company, hereby swear (or affirm) on behalf of the Company that:

- a) to read in its entirety and understand Western Health’s policies on privacy and confidentiality, attached hereto as “Schedule A” on Privacy and Confidentiality, including responsibilities regarding the protection of information obtained during and after the Contract with Western Health.
- b) to not at any time divulge to any person(s) within or outside, any information except as may be required in the course of the duties and responsibilities associated with the Contract, and then, any disclosure of information will only be the minimal amount required in the particular situation. Further, to acknowledge and agree that any information obtained during the life of the Contract shall not be divulged upon and following completion of the Contract.
- c) to communicate Western Health’s Privacy/Confidentiality requirements to the Company’s employees, contractors, subcontractors or any other party that the Company may engage to assist in any part of the completion of the Contract and to bind them to comply with the terms of Western Health’s Privacy/Confidentiality Policy.

- (d) to immediately notify Western Health if the Company becomes aware of a breach or possible breach of confidentiality, whether the awareness of the breach is by an officer, director, employee, agent, representative, contractor or subcontractor or any other party that the Company may engage to assist in any part of the completion of the Contract.
- (e) at the expiration of the Contract, to provide documentation of the secure and safe destruction of any information acquired through the Contract, if destruction is required by Western Health.
- (f) to comply with all obligations and requirements imposed under any applicable privacy laws, which may include the *Personal Health Information Act* SNL 2008 c.P-7.0, (PHIA) @ <http://assembly.nl.ca/Legislation/sr/statutes/p07-01.htm> and the *Access to Information and Protection of Privacy Act (ATIPPA)* @ <http://assembly.nl.ca/Legislation/sr/statutes/a01-1.htm> as such apply to the collection, use, disclosure, storage, retention and transfer of information. In particular, the Company is aware of its obligation to:
- i. protect the confidentiality of information that is in my custody and control or under my control about individuals and the privacy of the individuals who are the subject of that information;
 - ii. provide for the secure storage, retention and disposal of personal health information to minimize the risk of unauthorized access to or disclosure of the personal health information of individuals.
- (g) if I have questions or concerns regarding access, disclosure or use of Information, I am responsible for addressing these questions or concerns with the appropriate personnel at Western Health.

SWORN TO [or AFFIRMED] at _____ (town/city) in the Province/State of _____ this _____ day of _____, 20____.

Before me:

Notary Public or Commissioner for Oaths
(who shall affix his/her seal)

Person Swearing/Affirming
Print Name: _____
Title: _____



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
Department of Government Services
Commercial Registrations Division

THE CORPORATIONS ACT

FORM 25

STATUTORY DECLARATION
(Section 438)

TO WIT:

In the matter of *The Corporations Act*, and of _____

We, _____ of _____
_____ and _____ of _____
_____ do solemnly declare that we are respectively _____
_____ and _____ of _____
_____ and that the particulars set forth in

(name of company)
the foregoing statement of the company pursuant to Part XXII of *The Corporations Act* are true and correct.

And we severally make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if it had been made under oath and by virtue of *The Canada Evidence Act*.

Severally declared before me by the declarants
at _____ in the
_____ of _____
this _____ day of _____

Officer of the Company

A notary public, commissioner for oaths or other person authorized by the law of the place to administer oaths or take affidavits or solemn declarations (please affix stamp or seal, if applicable)

Officer of the Company

PART 1 **GENERAL****1.1** **WORK COVERED BY CONTRACT DOCUMENTS**

- .1 Work of this Contract comprises generally of the deconstruction of existing windows and exterior doors and the replacement with new as detailed on the drawings.
- .2 Work also includes remedial repair of masonry brick support, mortar joints, expansion joints, wooden canopies as detailed on the drawings.
- .3 All work must be completed within 3 months of tender award.

1.2 **OWNER SUPPLIED MATERIALS**

- .1 The owner has purchased and will provide to the contractor new replacement windows for locations indicated on the drawings. The general contractor will be responsible to supply all equipment, labour and materials to remove existing windows and install new as per the drawings. The new windows are presently stored on site.

1.3 **CONTRACTOR USE OF PREMISES**

- .1 Coordinate use of premises under direction of Owner's Representative and BSGLTC facilities management.
- .2 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .3 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .4 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Owner's Representative and as indicated on the drawings.

1.4 **OWNER OCCUPANCY**

- .1 Owner will occupy premises during entire construction period for execution of normal operations.
- .2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage. A minimum of two (2) days notice must be given prior to entry into resident rooms for window replacement. Provide detailed work schedule for approval by owner.

1.5 **ON-SITE DOCUMENTS**

- .1 Maintain at job site documents as indicated in Section 01 31 00 – Project Management and Coordination.

1.6 CONTRACT DOCUMENTS

- .1 Legends and schedules in the Issued for Tender Drawings take precedence over the Technical Specifications with respect to products and materials identified.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **CASH ALLOWANCES**

- .1 Include in Contract Price, cash allowances as stated herein:
 - .1 \$2,000.00 for window replacement
 - .2 \$2,000.00 for door replacement
 - .3 \$3000.00 for canopy repair
 - .4 \$2,000.00 for miscellaneous remediation
- .2 Expend each allowance as directed by Owner's Representative.
- .3 Cash allowances, unless otherwise specified, cover net cost to Contractor of services, products, construction machinery and equipment, freight, handling, unloading, storage installation and other authorized expenses incurred in performing Work.
- .4 Each cash allowance will be adjusted to actual cost as defined hereunder and contract price will be amended accordingly by written order.
- .5 Contract Price will be adjusted by written order to provide for an excess or deficit to each cash allowance.
- .6 Progress payments for work and material authorized under cash allowances will be made in accordance with contract terms of payment.
- .7 The Contract Price and not cash allowance, includes contractor's overhead and profit in connection with such cash allowance.
- .8 Progress payments on accounts of work authorized under cash allowances shall be included in monthly certificate for payment.
- .9 Schedule shall be prepared jointly by Owner's Representative and Contractor to show when items called for under cash allowances must be authorized by Owner's Representative for ordering purposes so that progress of work will not be delayed.
- .10 The cash allowance shall be used at the discretion of the owner's representative. Change orders, if required, will not be issued until all cash allowance is depleted.

Western Health
Remediations to Bay St. George Long-Term Care Centre
Section 01 21 00 – Allowances

September 2018

Page 2 of 2

PART 2 **PRODUCTS (NOT APPLICABLE)**

PART 3 **EXECUTION (NOT APPLICABLE)**

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED DOCUMENTS**

- .1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 **SUMMARY**

- .1 Section includes administrative and procedural requirements for substitutions.

1.3 **RELATED SECTIONS**

- .1 Section 01 61 00 – Common Product Requirements.

1.4 **DEFINITIONS**

- .1 Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by General Contractor.
- .2 Substitutions for Cause: Changes proposed by General Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
- .3 Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to General Contractor or Owner. No substitutions for convenience are permitted.

1.5 **ACTION SUBMITTALS**

- .1 Substitution Requests: Submit one (1) copy of each request, in PDF format, for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section Number and Title, and Drawing Numbers and Titles.
 - .1 Substitution Request Form: Use form provided at the end of this section.
 - .2 Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - .1 Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - .2 Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - .3 Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - .4 Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - .5 Samples, where applicable or requested.

- .6 Certificates and qualification data, where applicable or requested.
 - .7 List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - .8 Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - .9 Detailed comparison of General Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - .10 Cost information, including a proposal of change, if any, in the Contract Sum.
 - .11 General Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - .12 General Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
- .3 Owner's Representative Action: If necessary, Owner's Representative will request additional information or documentation for evaluation within five (5) working days of receipt of a request for substitution. Owner's Representative will notify General Contractor of acceptance or rejection of proposed substitution within ten (10) working days of receipt of request, or five (5) working days of receipt of additional information or documentation, whichever is later.
- .1 Forms of Acceptance: Change Order, Construction Change Order, or Owner's Representative Supplemental Instructions for minor changes in the Work.
 - .2 Use product specified if Owner's Representative does not issue a decision on use of a proposed substitution within time allocated.

1.6 QUALITY ASSURANCE

- .1 Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.7 PROCEDURES

- .1 Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 **PRODUCTS**

2.1 **SUBSTITUTIONS**

- .1 Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) days prior to the time required for preparation and review of related submittals.
 - .1 Conditions: Owner's representative will consider General Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner's Representative will return requests without action, except to record noncompliance with these requirements:
 - .1 Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - .2 Requested substitution provides sustainable design characteristics that specified product provided.
 - .3 Substitution request is fully documented and properly submitted.
 - .4 Requested substitution will not adversely affect General Contractor's construction schedule.
 - .5 Requested substitution has received necessary approvals of authorities having jurisdiction.
 - .6 Requested substitution is compatible with other portions of the Work.
 - .7 Requested substitution has been coordinated with other portions of the Work.
 - .8 Requested substitution provides specified warranty.
 - .9 If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- .2 Substitutions for Convenience: Not permitted.

PART 3 **PART 3 - EXECUTION (NOT APPLICABLE)**

END OF SECTION



Equal or Substitute Product Request Form

Request Phase Pre-Tender Post Tender
 (If Pre-tender only) Current Tender Due Date: _____ Request No.: _____ Dated: _____
 Project No.: _____ Contract No.: _____
 Project Name/Location: _____

References:	Specification(s): Drawing(s):	Section(s): _____ Drawing(s) No.(s): _____	Paragraph(s): _____ Detail(s) No.(s): _____
Contractually Specified Product: _____			
Contractor Proposed Product: _____			
Proposed Product is: Equal: <input type="checkbox"/> Substitute: <input type="checkbox"/>			

See attached data for both specified and proposed products as required by Section 01 61 00.

Data attached:	Drawings: <input type="checkbox"/>	Product Data: <input type="checkbox"/>	Reports: <input type="checkbox"/>	Samples: <input type="checkbox"/>
	Tests: <input type="checkbox"/>	Other: _____		

Reason(s) for not providing the Specified Product:

Similar Installation:	
Project:	Architect:
Address:	Owner:
	Date Installed:

Post-Tender:

Will proposed substitution impact other parts of the Work? No Yes *If yes attach explanation by*
 Will proposed substitution increase Contract Time? No Yes *number of Days.* _____

Actual Dollar Savings if substitution is accepted: \$ _____

The undersigned Certifies that the proposed Request for an Equal or Substitute conforms to all of the requirements of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.

Request Submitted By General Contractor: _____
(Firm's Name)

By: _____
(Print Name) *(Title)* *(Signature)* *(Date)*

Owner's Representative Review – This Substitution Request is: Request Received on (Date): _____

Approved: *(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)*
 Approved as Noted: *(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)*
 Rejected: **Use Specified Materials.**
 Rejected: **Request Not Received Within Specified Time Period – Use Specified Materials.**

Reviewed issue By: _____
(Print Name) *(Signature)* *(Date)*

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Coordination work with other contractors and subcontractors under administration of Owner's Representative.
- .2 Scheduled project meetings.

1.2 **RELATED SECTIONS**

- .1 Section 01 11 00 - Summary of Work.

1.3 **DESCRIPTION**

- .1 Coordination of progress schedules, submittals, use of site, temporary utilities, construction facilities, and construction Work, with progress of Work of other contractors and subcontractors under instructions of Owner's Representative.

1.4 **PROJECT MEETINGS**

- .1 Project meetings to be held at times and locations as determined by Owner's Representative.
- .2 Owner's Representative will arrange project meetings and record and distribute minutes.

1.5 **CONSTRUCTION ORGANIZATION AND START-UP**

- .1 Within ten (10) working days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Establish time and location of meetings and notify parties concerned minimum 5 days before meeting.
- .3 Agenda to include following:
 - .1 Appointment of official representative of participants in Work.
 - .2 Schedule of Work, progress scheduling in accordance with Section 01 32 00 - Construction Progress Documentation.
 - .3 Schedule of submission of shop drawings, samples, colour chips in accordance with Section 01 33 00 - Submittal Procedures.
 - .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 51 00 - Temporary Utilities.
 - .5 Delivery schedule of specified equipment in accordance with Section 01 32 00 - Construction Progress Documentation.
 - .6 Site security in accordance with Section 01 52 00 - Construction Facilities.

Western Health

Remediations to Bay St. George Long-Term Care Centre

September 2018

Section 01 31 00 - Project Management and Coordination

Page 2 of 5

- .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
- .8 Record drawings in accordance with Section 01 78 00 - Closeout Submittals.
- .9 Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.
- .10 Take-over procedures, acceptance, and warranties in accordance with Section 01 77 00 - Closeout Procedures and 01 78 00 - Closeout Submittals.
- .11 Monthly progress claims, administrative procedures, photographs, and holdbacks.
- .12 Appointment of inspection and testing agencies or firms in accordance with Section 01 45 00 - Quality Control.
- .13 Insurances and transcript of policies.
- .4 Comply with Owner's Representative's allocation of mobilization areas of site; for field offices and sheds, for access, traffic, and parking facilities.
- .5 During construction coordinate use of site and facilities through Owner's Representative's procedures for intra-project communications: Submittals, reports and records, schedules, coordination of drawings, recommendations, and resolution of ambiguities and conflicts.
- .6 Comply with instructions of Owner's Representative for use of temporary utilities and construction facilities.

1.6 ON-SITE DOCUMENTS

- .1 Maintain at job site, one copy each of the following:
 - .1 Contract drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed shop drawings.
 - .5 List of outstanding shop drawings.
 - .6 Change orders.
 - .7 Other modifications to Contract.
 - .8 Field test reports.
 - .9 Copy of approved Work schedule.
 - .10 Health and Safety Plan and other Safety related documents.
 - .11 Manufacturers' installation and application instructions.
 - .12 Labour conditions and wage schedules.
 - .13 Other documents as specified.

1.7 SCHEDULES

- .1 Submit preliminary construction progress schedule in accordance with Section 01 32 00 - Construction Progress Documents to Owner's Representative coordinated with Owner's Representative's project schedule. Schedule to show anticipated progress stages and final completion of work within time period required by contract documents.

- .2 After review, revise and resubmit schedule to comply with project schedule requirements.
- .3 During progress of Work revise and resubmit at project progress meetings or as directed by Owner's Representative.

1.8 SUBMITTALS

- .1 Make submittal to Owner's Representative for review.
- .2 Submit preliminary shop drawings, product data and samples in accordance with Section 01 33 00 – Submittal Procedures for review for compliance with Contract Documents; for field dimensions and clearances, for relation to available space, and for relation to Work of other contracts. After review, revise and resubmit for transmittal to Owner's Representative.
- .3 Submit requests for payment for review to Owner's Representative.
- .4 Submit requests for interpretation of Contract Documents, and obtain instructions through Owner's Representative.
- .5 Process change orders through Owner's Representative.
- .6 Deliver closeout submittals for review by Owner's Representative.

1.9 COORDINATION

- .1 Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
- .2 Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection and operation.
- .3 Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
- .5 Make adequate provisions to accommodate items scheduled for later installation.
- .6 Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work and completion within the specified Contract duration. Such administrative activities include, but are not limited to, the following:
 - .1 Preparation of Contractor's Construction Schedule.
 - .2 Installation and removal of temporary facilities and controls.
 - .3 Delivery and processing of submittals.
 - .4 Progress meetings.
 - .5 Start-up, check-out, and final acceptance of systems.
 - .6 Project closeout activities.

.7 Protection of existing and new work.

.7 Changes required in the Work of the Contract, caused by the Contractor's neglect to coordinate the work with others shall be made at the Contractor's own expense.

1.10 COORDINATION DRAWINGS

.1 Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

.2 Contractor to submit to the Owner's Representative, in AutoCAD format, coordination drawings, drawn accurately to a scale large enough to indicate and resolve conflicts.

.3 Indicating the functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.

.4 Do not base coordination drawings on standard printed data.

.5 Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.

.6 Show location and size of access doors required for access to concealed dampers, valves, and other controls.

.7 Indicate required installation sequences.

.8 Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements.

.9 Minor dimension changes and difficult installations will not be considered changes to the Contract.

.10 Owner's Representative will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination. If Owner's Representative determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Owner's Representative will so inform Contractor, who shall make changes as directed and resubmit.

1.11 CLOSEOUT PROCEDURES

.1 Notify Owner's Representative when Work is considered ready for Substantial Performance.

.2 Accompany Owner's Representative on preliminary inspection to determine items listed for completion or correction.

.3 Comply with Owner's Representative's instructions for correction of items of Work listed in executed certificate of Substantial Performance and for access to Owner-occupied areas.

Western Health

Remediations to Bay St. George Long-Term Care Centre

September 2018

Section 01 31 00 - Project Management and Coordination

Page 5 of 5

- .4 Notify Owner's Representative of instructions of items of Work determined in Owner's Representative's final inspection.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 77 00 - Closeout Procedures.

1.2 **SCHEDULES REQUIRED**

- .1 Submit schedules as follows:
 - .1 Construction Progress Schedule.
 - .2 Submittal Schedule for Shop Drawings and Product Data.
 - .3 Submittal Schedule for Samples.
 - .4 Product Delivery Schedule.
 - .5 Cash Allowance Schedule for purchasing Products.
 - .6 Shutdown or closure activity.

1.3 **FORMAT**

- .1 Prepare schedule in form of a horizontal bar chart.
- .2 Provide a separate bar for each major item of work, trade or operation.
- .3 Split horizontally for projected and actual performance.
- .4 Provide horizontal time scale identifying first work day of each week.
- .5 Format for listings: chronological order of start of each item of work.
- .6 Identification of listings: By Systems description.

1.4 **SUBMISSION**

- .1 Submit initial format of schedules within 15 working days after award of Contract.
- .2 Submit schedules in electronic format, forward on disc as PDF files.
- .3 Submit one opaque reproduction, plus 2 copies to be retained by Owner's Representative.
- .4 Owner's Representative will review schedule and return review copy within ten (10) working days after receipt.
- .5 Resubmit finalized schedule within seven (7) working days after return of review copy.
- .6 Submit revised progress schedule with each application for payment.
- .7 Distribute copies of revised schedule to:
 - .1 Job site office.
 - .2 Subcontractors.

- .3 Other concerned parties.
- .8 Instruct recipients to report to Contractor within ten (10) working days, any problems anticipated by timetable shown in schedule.

1.5 SUBMITTALS SCHEDULE

- .1 Include schedule for submitting shop drawings, product data, and samples.
- .2 Indicate dates for submitting, review time, resubmission time, last date for meeting fabrication schedule.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTIONS INCLUDE**

- .1 Shop drawings and product data.
- .2 Samples.
- .3 Certificates and transcripts.

1.2 **RELATED SECTIONS**

- .1 Section 01 32 00 – Construction Progress Documentation.
- .2 Section 01 45 00 – Quality Control
- .3 Section 01 78 00 – Closeout Submittals

1.3 **ADMINISTRATIVE**

- .1 This section specifies general requirements and procedures for contractor’s submissions of shop drawings, product data, samples and mock-ups to Owner’s Representative for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit 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.
- .2 Do not proceed with work until relevant submissions are reviewed by Owner’s Representative.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Owner’s Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and shall be considered rejected.
- .6 Notify Owner’s Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are coordinated.
- .8 Contractor’s responsibility for errors and omissions in submission is not relieved by Owner’s Representative’s review of submittals.

- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Owner's Representative review of submission, unless Owner's Representative gives written acceptance of specific deviations.
- .10 Make any changes in submissions which Owner's Representative may require consistent with Contract Documents and resubmit as directed by Owner's Representative. When resubmitting, notify Owner's Representative in writing of revisions other than those requested.
- .11 Notify Owner's Representative, in writing, when resubmitting, of any revisions other than those requested by Owner's Representative.
- .12 Keep one reviewed copy of each submission on site.

1.4 SUBMITTALS

- .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 Coordinate each submission with requirements of work and Contract Documents. Individual submissions will not be reviewed until all related information is available.
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow ten (10) working days for Owner's Representative review of each submission.
- .5 Adjustments made on shop drawings by Owner's Representative are not intended to change contract price. If adjustments affect value of Work, state such in writing to Owner's Representative immediately after receipt of approval of shop drawings. If value of work is to change a change order must be issued prior to proceeding with work.
- .6 Structural Attachments:
 - .1 Make changes in shop drawings as Owner's Representative may require, consistent with Contract Documents. When resubmitting, notify Owner's Representative in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.

- .5 Other pertinent data.
- .8 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .9 After Owner's Representative review, distribute copies.
- .10 Submit 3 prints plus one electronic copy in PDF format of shop drawings for each requirement requested in specification Sections and as Owner's Representative may reasonably request.
- .11 Submit electronic copy in PDF format of product data sheets or brochures for requirements requested in Specification Sections and as requested by Owner's Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Delete information not applicable to project.
- .13 Supplement standard information to provide details applicable to project.
- .14 Cross-reference product data information to applicable portions of Contract Documents.
- .15 If upon review by Owner's Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of work may proceed. If shop drawings are rejected, noted copy will be returned and

resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of work may proceed.

- .16 Samples: examples of materials, equipment, quality, finishes, workmanship. Label samples with origin and intended use.
- .17 Notify Owner's Representative in writing, at time of submission of deviations in samples from requirements of contract documents.
- .18 Where colour, pattern or texture is criterion, submit full range of samples.
- .19 Adjustments made on samples by Owner's Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Owner's Representative prior to proceeding with Work.
- .20 Make changes in samples, which Owner's Representative may require, consistent with Contract Documents.
- .21 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.
- .22 Submit drawings stamped and signed by Professional Engineer registered or licensed in the Province of Newfoundland and Labrador.

1.5 PROGRESS PHOTOGRAPHS

- .1 Progress photograph to be electronically formatted and labelled as to location and view.

1.6 SHOP DRAWINGS REVIEW

- .1 The review of shop drawings by Owner's Representative is for the sole purpose of ascertaining conformance with the general concept. This review shall not mean that Owner's Representative approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the construction and contract documents. Without restricting the generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all sub-trades.

PART 2 **PRODUCTS (NOT APPLICABLE)**

PART 3 **EXECUTION (NOT APPLICABLE)**

END OF SECTION

PART 1 **GENERAL**

1.1 **REFERENCES**

- .1 Canadian Standards Association (CSA)
 - .1 CAN/CSA-Z259.1 Body Belts and Saddles for Work Positioning and Travel Restraint.
 - .2 CAN/CSA-Z259.10 Full body Harnesses.
 - .3 CAN/CSA-Z259.11 Energy Absorbers and Lanyards.
 - .4 CAN/CSA-Z259.2.1 Fall Arresters, Vertical Lifelines and Rails.
 - .5 FCC No. 301 Standard for Construction Operations.
 - .6 CSA Z275.2 Occupational Safety Code for Diving Operations.
 - .7 CSA Z275.4 Competency Standard for Divers Operations.
 - .8 CSA Z797, Code of Practice for Access Scaffold.
- .2 FCC No. 302 Standard for Welding and Cutting.
- .3 Transportation of Dangerous Goods Act Regulations.
- .4 Newfoundland Occupational Health and Safety Act, Amended
- .5 Consolidated Newfoundland and Regulations 1149 WMIS Regulations Under the Occupational Health and Safety Act
- .6 Consolidated Newfoundland and Regulations Occupational Health and Safety Regulations under the Occupational Health and Safety Act.
- .7 Canada Labour Code, Part 2.
- .8 National Building Code of Canada.

1.2 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 43 - Environmental Procedures.
- .3 Section 01 41 00 - Regulatory Requirements.
- .4 Section 02 82 00.02 – Asbestos Abatement.

1.3 **SUBMITTALS**

- .1 At least 10 (ten) working days prior to commencing any site work: submit to Owner's Representative copies of:
 - .1 A complete Site Specific Health and Safety Plan.

- .2 If work entails confined space, submit the following:
 - .1 Copies of current confined space entry training certificates acceptable to WHSCC, as well as copies of confined space entry programs, confined space assessment, safe work practices and rescue plans.
 - .2 Acceptance of the Site Specific Health and Safety Plan and other submitted documents by the Owner's Representative shall only be viewed as acknowledgement that the contractor has submitted the required documentation under this specification section.
 - .3 Owner's Representative makes no representation and provides no warranty for the accuracy, completeness and legislative compliance of the Site Specific Health and Safety Plan and other submitted documents by this acceptance.
 - .4 Responsibility for errors and omissions in the Site Specific Health and Safety Plan and other submitted documents is not relieved by acceptance by Owner's Representative.

1.4 OCCUPATIONAL HEALTH AND SAFETY (SITE SPECIFIC HEALTH AND SAFETY PLANS)

- .1 Conduct operations in accordance with latest edition of the Newfoundland Occupational Health and Safety (OH&S) Act and Regulations, with specific reference to codes and standards referenced therein, and the Western Health Contractor Safety Handbook (Appendix A).
- .2 Prepare a detailed Site Specific Health and Safety Plan that shall identify, evaluate and control job specific hazards and the necessary control measures to be implemented for managing hazards.
- .3 Provide a copy of the Site Specific Health and Safety Plan upon request to Occupational Health and Safety Branch, Services NL, Province of Newfoundland and Labrador and the Owner's Representative.
- .4 The written Site Specific Health and Safety Plan shall incorporate the following:
 - .1 Hazard assessment results.
 - .2 Engineering and administrative demonstrative controls (work-practices and procedures) to be implemented for managing identified and potential hazards, and comply with applicable federal and provincial legislation and more stringent requirements that have been specified in these specifications.
 - .3 An organizational structure which shall establish the specific chain of command and specify the overall responsibilities of contractor's employees at the work site.
 - .4 A comprehensive work plan which shall:
 - .1 define work tasks and objectives of site activities/operations and the logistics and resources required to reach these tasks and objectives.
 - .2 establish personnel requirements for implementing the plan.
 - .5 A personal protected equipment (PPE) Program which shall detail PPE:
 - .1 Selection criteria based on site hazards.
 - .2 Use, maintenance, inspection and storage requirements and procedures.

- .3 Decontamination and disposal procedures.
- .4 Inspection procedures prior to, during and after use, and other appropriate medical considerations.
- .5 Limitations during temperature extremes, heat stress and other appropriate medical consideration.
- .6 An emergency response procedure, refer to Clause 1.5 Supervision and Emergency Response Procedure of this section for requirements.
- .7 A hazard communication program for informing workers, visitors and individuals outside of the work area as required. This will include but not be limited to a visitor safety and orientation policy and program that will include education on hazards, required PPE and accompaniment while on site.
- .8 A hearing conservation program in accordance with the OHS Regulations.
- .9 A recent (current year) inspection form for all powered mobile equipment that will be used in fulfilling the terms of the contract. The inspection form shall, at a minimum, state that the equipment is in a safe operating condition.
- .10 A complete listing of employee names, their driver's license classification, expiry date, endorsements and the type of equipment that they are qualified to operate for the complete scope of work for this project. The Driver's License Number should not be provided as this is confidential information. Provision of the License Number may breach *PIPEDA* - the Personal Information Protection and Electronic Documents Act. (Federal Act) or *ATIPPA* - *Access to Information and Protection of Privacy Act* - Part IV. (Provincial Act of Newfoundland and Labrador). This shall also include documentation where required of certification in power line hazards.
- .11 An acceptable parking policy for all powered mobile equipment to be used on this project. The policy shall, at a minimum, be based on a hazard assessment that considers factors such as equipment type, potential for roll over, load capacity of the parking area, pedestrian and vehicular traffic, and potential for equipment tampering, equipment energy, and equipment contact with power lines.
- .12 A health and safety training program which includes a safety training matrix.
- .13 General safety rules.
- .5 Periodically review and modify as required each component of the Site Specific Health and Safety Plan when a new hazard is identified during completion of work and when an error or omission is identified in any part of the Site Specific Health and Safety Plan.
- .6 Review the completeness of the hazard assessment immediately prior to commencing work, when a new hazard is identified during completion of work and when an error or omission is identified.
- .1 Be solely responsible for investigating, evaluating and managing any report of actual or potential hazards.
- .2 Clearly define accident incident investigation procedures.
- .3 Clearly define policy and processes for early and safe return to work.
- .4 Retain copies of all completed hazard assessments at the project site and make available to the Owner's Representative immediately upon request.

- .7 Implement all requirements of the Site Specific Health and Safety Plan.
 - .1 Ensure that every person entering the project site is informed of requirements under the Site Specific Health and Safety Plan.
 - .2 Take all necessary measures to immediately implement any engineering controls, administrative controls, personal protective equipment required or termination of work procedures to ensure compliance with the Site Specific Health and Safety Plan.

1.5 SUPERVISION AND EMERGENCY RESCUE PROCEDURE

- .1 Carry out work under the direct supervision of competent persons responsible for safety by ensuring the work complies with the appropriate section of OH&S Act and Regulations
- .2 Assign a sufficient number of supervisory personnel to the work site.
 - .1 Any person assigned to supervisory duties shall not conduct significant work in relation to the contract that inhibits them from the ability to properly supervise the work site.
- .3 Provide a suitable means of communications and check-in for workers required to work alone.
- .4 Develop an emergency rescue plan for the job site and ensure that supervisors and workers are trained in the emergency rescue plan.
- .5 The emergency response plan shall address, as a minimum:
 - .1 Pre-emergency planning.
 - .2 Personnel roles, lines of authority and communication.
 - .3 Emergency recognition and prevention.
 - .4 Safe distances and places of refuge.
 - .5 Site security and control
 - .6 Evacuation routes and procedures
 - .7 Decontamination procedures which are not covered by the site specific safety and health plan.
 - .8 Emergency medical treatment and first aid.
 - .9 Emergency alarm, notification and response procedures including procedures for reporting incidents to local, provincial and federal government departments.
 - .10 PPE and emergency equipment.
 - .11 Procedures for handling emergency incidents.
 - .12 Site specific emergency response training requirements and schedules.
- .6 The emergency response procedures shall be rehearsed regularly as part of the overall training program.

- .7 Provide adequate first aid facilities for the jobsite and ensure that a minimum number of workers are trained in first aid in accordance with the Occupational Health and Safety First Aid Regulations.

1.6 CONTRACTORS SAFETY OFFICER

- .1 The contractor shall employ a Contractor's Safety Officer (CSO) who shall have as a minimum successfully completed the following training, and must have current credentials for those that have expiration dates:
 - .1 Training in hazardous materials management and response/protocols.
 - .2 Training in the use, maintenance of fall protection systems certified by WHSCC at a minimum.
 - .3 Training in the inspection of scaffolding in accordance with CSA Z797.
 - .4 Training in confined space entry protocols, techniques and rescue plans, certified by WHSCC at a minimum.
 - .5 Supervisory training.
 - .6 Training in records and statistics.
 - .7 Training in hazard identification, inspections, analysis and control.
 - .8 Training in WHMIS.
 - .9 Training in health and safety program content.
 - .10 Training in investigations and reporting.
 - .11 Training in occupational health/hygiene.
 - .12 Training in employee training and communication.
 - .13 Training in Emergency Preparedness and First Aid.
 - .14 A working knowledge of, and experience satisfactory to the Department, using the occupational safety and health legislation and regulations specific to Newfoundland and Labrador.
 - .15 Experience, satisfactory to the Department, with the safe work practices required for execution of the work and operation of equipment specific to the project.
 - .16 Experience, satisfactory to the Department, in developing and monitoring site safety and housekeeping policies.
 - .17 Experience, satisfactory to the Department, in developing and monitoring a preventative maintenance and inspection program for Construction Site Equipment.
- .2 The CSO shall:
 - .1 Be responsible for developing, implementing, daily enforcement, monitoring and updating of the Site Specific Health and Safety Plan.
 - .2 Be responsible for the delivery of the site safety orientation and ensure that the personnel who have not been orientated are not permitted to enter the site. This applies to workers, inspectors and visitors.
 - .3 Report directly to and be under direction of the Site Superintendent or Contractor's Project Manager.

- .4 Prior to mobilization on-site, hold an orientation meeting with the contractors, subcontractors and Owner's Representative to review project occupational health and safety. Include but not limit meeting to a review of:
 - .1 Site Specific Health and Safety Plan.
 - .2 Construction Safety Measures.
 - .3 Supervision and Emergency Rescue Procedures.
 - .4 Hazard Assessments
- .5 Maintain a daily log of inspections, meetings, infractions and mitigating measures. Log is to be filed daily and copies to be provided to the Site Superintendent and Owner's Representative.

1.7 HEALTH AND SAFETY COMMITTEE

- .1 Establish an Occupational Health and Safety Committee where ten or more workers are employed on the job site as per the OH&S Act and Regulations. **RESPONSIBILITY**
- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with Site Specific Health and Safety Plan.
- .3 Where safety risks exist, the contractor must stop the work until such time as the risk can be mitigated to a safe level.
- .4 Take appropriate steps to ensure that the hazards are mitigated to a safe level, workers are notified of the hazards and how to protect themselves. As well, workers must be provided with any new safe work practices or information regarding mitigation of the risk.

1.9 UNFORSEEN HAZARDS

- .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction. Advise Owner's Representative verbally and in writing.

1.10 INSTRUCTION AND TRAINING

- .1 Workers shall not participate in or supervise any activity on the work site until they have been trained to a level required by this job function and responsibility. Training shall as a minimum thoroughly cover the following:
 - .1 Federal and Provincial Health and Safety Legislation requirements including roles and responsibilities of workers and person(s) responsible for implementing, monitoring and enforcing health and safety requirements.

- .2 Safety and health hazards associated with working on a contaminated site including recognition of symptoms and signs which might indicate over exposure to hazards.
 - .3 Limitations, use, maintenance and disinfection-decontamination of personal protective equipment associated with completing work.
 - .4 Limitations, use, maintenance and care of engineering controls and equipment.
 - .5 Limitations and use of emergency notifications and response equipment including emergency response protocol.
 - .6 Work practices and procedures to minimize the risk of an accident and hazardous occurrence from exposure to a hazard.
- .2 Provide and maintain training of workers, as required, by Federal and Provincial legislation.
 - .3 Provide copies of all training certificates to Owner's Representative for review, before a worker is to enter the work site.
 - .4 Authorized visitors shall not access the work site until they have been:
 - .1 Notified of the names of persons responsible for implementing, monitoring and enforcing the Site Specific Health and Safety Plan.
 - .2 Briefed on safety and health hazards present on the site.
 - .3 Instructed in the proper use and limitations of personal protective equipment.
 - .4 Briefed as the emergency response protocol including notification and evacuation process.
 - .5 Informed of practices and procedures to minimize risks from hazards and applicable to activities performed by visitors.
 - .6 Accompanied while on site, and provided with the appropriate PPE.
 - .5 All workers will be instructed and trained on the hazards associated with work they will perform and how to protect themselves. This will include a review of all safe work practices, the reporting and documentation of hazards, reporting accidents and injuries as well as, formal training in areas of high risk (i.e. fall protection, power line hazards, traffic control persons training).
 - .6 The work site shall have the appropriate number of persons trained in emergency and Standard First Aid according to the First Aid Regulations.

1.11 CONSTRUCTION SAFETY MEASURES

- .1 Observe construction safety measures of National Building Code, latest edition, Provincial Government, OH&S Act and Regulations, Workplace Health and Safety Compensation Commission and Municipal Authority provided that in any case of conflict or discrepancy more stringent requirements shall apply.
- .2 Administer the project in a manner that will ensure, at all times, full compliance with Federal and Provincial Acts, regulations and applicable safety codes and the Site Specific Health and Safety Plan.

- .3 Provide Owner's Representative with copies of all orders, directions and any other documentation, issued by the Occupational Health and Safety Branch, Services NL, immediately after receipt.

1.12 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province and authority having jurisdiction, and in consultation with Owner's Representative.

1.13 HEALTH AND SAFETY MONITORING

- .1 Periodic inspections of the contractor's work may be carried out by the Owner's Representative to maintain compliance with the Health and Safety Program. Inspections will include visual inspections as well as testing and sampling as required.
- .2 The contractor shall be responsible for any and all costs associated with delays as a result of contractor's failure to comply with the requirements outlined in this section.

1.14 NOTIFICATION

- .1 For projects exceeding thirty (30) days or more, the contractor shall, prior to the commencement of work, notify in writing the Occupational Health and Safety Branch, Services NL with the following information:
 - .1 Name and location of construction site.
 - .2 Company name and mailing address of contractor doing the work.
 - .3 The number of workers to be employed.
 - .4 A copy of the Site Specific Health and Safety Plan if requested.

1.15 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Owner's Representative.
- .2 Provide Owner's Representative with written report of action taken to correct non-compliance of health and safety issues identified within ten (10) working days.
- .3 Owner's Representative may stop work if non-compliance of health and safety regulations is not corrected.

1.16 WHMIS

- .1 Ensure that all controlled products are in accordance with the Workplace Hazardous Materials Information System (WHMIS) Regulations and Chemical Substances of the OH&S Act and Regulations regarding use, handling, labelling, storage, and disposal of hazardous materials.
- .2 Deliver copies of relevant Material Safety Data Sheets (MSDS) to job site and the Owner's Representative. The MSDS must be acceptable to Labour Canada and Health

and Welfare Canada for all controlled products that will be used in the performance of this work. All MSDS should be located in accessible locations for all workers and visitors throughout the site, bound and organized in binders.

- .3 Train workers required to use or work in close proximity to controlled products as per OH&S Act and Regulations.
- .4 Label controlled products at jobsite as per OH&S and Regulations and WHMIS.
- .5 Provide appropriate emergency facilities as specified in the MSDS where workers might be exposed to contact with chemicals, e.g. eye-wash facilities, emergency shower.
 - .1 Workers to be trained in use of such emergency equipment.
- .6 Contractor shall provide appropriate personal protective equipment as specified in the MSDS where workers are required to use controlled products.
 - .1 Properly fit workers for personal protective equipment
 - .2 Train workers in care, use and maintenance of personal protective equipment.
- .7 No controlled products are to be brought on-site without prior approved MSDS.
- .8 The MSDS are to remain on site at all times.

1.17 OVERLOADING

- .1 The Contractor's Site Superintendent shall ensure no part of work or associated equipment is subjected to loading that will endanger its safety or will cause permanent deformation.

1.18 FALSEWORK

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

1.19 SCAFFOLDING

- .1 Design, erect, inspect, operate, modify, and dismantle scaffolding in accordance with CSA Z797, the OH&S Act and Regulations, and the scaffold manufacturer's written instructions.
- .2 Provide trained and certified Competent Scaffold Erectors for all scaffold erection, modification and dismantling. Training certification must be valid at time of erection, modification and dismantling of scaffold.
- .3 Conduct and document daily inspections of scaffolding by trained and certified Competent Scaffold Inspectors or Erectors. Training certification must be valid at the time of inspection.
- .4 Provide a scaffold tagging system as described in CSA Z797.

- .5 Ensure that all industry best practices for safe scaffold usage, including fall protection, proper loading, safe access, electrical hazards, exit door management and other concerns are strictly adhered to.

1.20 WORKING AT HEIGHTS

- .1 Ensure that fall restraint or fall arrest devices are used by all workers working at elevations greater than 3.05 meters above grade or floor level in accordance with CSA Z259, where alternate fall protection systems are not provided in accordance with Occupational Health and Safety Act and Regulations.
- .2 All workers performing work at height and who will be required to utilize a fall arrest system must be trained in a fall protection program certified by the WHSCC. Training must be current and valid at the time of use.
- .3 Prior to working at height workers shall be instructed in a Contractor Safe Work Practice for working at height and associated Rescue Plan for working at heights, developed specific to the work to be performed, locations and risks.

1.21 PERSONAL PROTECTIVE EQUIPMENT

- .1 Ensure workers on the jobsite use personal protective equipment appropriate to the hazards identified in the Site Specific Health and Safety Plan and those workers are trained in the proper care, use, and maintenance of such equipment.
- .2 PPE selections shall be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, task-specific conditions, duration and hazards and potential hazards identified on site. PPE must also be fitted for the worker.
- .3 Provide workers and visitors to the site with proper respiratory protection equipment.
 - .1 No work shall be performed in an area where an airborne contaminant exceeds recommendations of the ACGIH, do not meet the appropriate standards for the specific contaminants or are not in accordance with the OHS regulations..
 - .2 Respiratory protection shall be provided in accordance with the requirements of the Occupational Health and Safety Branch, Services NL and these specifications.
 - .3 Establish, implement and maintain a respirator inspection and maintenance program in accordance with the CSA standard identified in the OHS Regulations.
 - .4 Copies of all respirator owners' maintenance manuals shall be kept at all times at the contractor's site office.
- .4 Provide and maintain a supply of dermal protection equipment to allow visitors and all workers proper dermal protection.
 - .1 Dermal protection shall be sufficient to act as a protective barrier between the skin and an airborne contaminant or hazardous material. Dermal protection shall also be provided for all physical hazards.

- .2 Dermal protection equipment shall not be used after exceeding 75% of the break through time. The break through time shall be based on the contaminant which requires the least amount of time to break through the protective equipment
- .3 Copies of all dermal protection user specifications, owners and maintenance manuals shall be kept at all times at the contractor's site office.
- .4 Establish, implement and maintain air inspection program to ensure proper dermal protection in accordance with CSA, NIOSH, U.S. EPA and manufacturer's requirements.
- .5 Provide all workers and up to five (5) visitors to the site with proper hearing protection. Workers and visitors shall not be exposed to noise levels greater than 85 dB (A) over an eight hour shift without proper hearing protection, in accordance with the Hearing Conservation Program.
- .6 Provide all workers and up to five (5) visitors to the site with CSA approved eye protection sufficient to act as a protective barrier between the eye and airborne contaminants, hazardous materials and physical hazard.
- .7 Provide workers and up to five (5) visitors to the site with CSA approved hard hats meeting the CSA Z94.1.
- .8 Provide high visibility apparel as defined in Occupational Health and Safety Regulations.
- .9 Provide CSA approved safety boots meeting CSA Z195.
- .10 Provide other personal protective equipment, as may be required by the owner, depending on duties being performed.

1.22 TRAFFIC CONTROL

- .1 Provide traffic control measures when working on, or adjacent to, roadways in accordance with the "Traffic Control Manual for Roadwork Operations", Department of Transportation and Works.

1.23 EXCAVATION SAFETY

- .1 Protect excavations more than 1.25 metres deep against cave-ins or wall collapse by side wall sloping to the appropriate angle of repose, an engineered shoring/sheathing system or an approved trench box.
 - .1 Provide a ladder which can extend from the bottom of the excavation to at least 0.91 metres above the top of the excavation.
- .2 Ensure that all excavations less than 1.25 metres deep are effectively protected when hazardous ground movement may be expected.
- .3 Design trench boxes, certified by a registered Professional Engineer, and fabricated by a reputable manufacturer. Provide the manufacturer's Depth Certificate Statement permanently affixed. Use trench boxes in strict accordance with manufacturer's instructions and depth certification data.

- .4 For excavations deeper than six (6) metres, provide a certificate from a registered Professional Engineer stating that the protection methods proposed have been properly designed in accordance with accepted engineering practice. The engineer's certificate shall verify that the trench boxes, if used, are properly designed and constructed to suit the depth and soil conditions.
- .5 Ensure that the superintendent and every crew chief, foreperson and lead hand engaged in trenching operations or working in trenches have in his/her possession a copy of Occupational Health and Safety Regulations: Part XVII: Construction, Excavation and Demolition and Part XVIII: Excavation, Underground Work and Rock Crushing.

1.24 CONFINED SPACE WORK

- .1 Comply with the Newfoundland and Labrador Occupational Health and Safety Regulations.
- .2 Ensure a hazard assessment has been conducted related to the confined space and the work to be performed within the space.
- .3 Provide approved air monitoring equipment where workers are working in confined spaces and ensure any test equipment to be used is calibrated, in good working order and used by trained persons.
- .4 Ensure all required PPE is provided to the workers and workers are trained in its use, care and selection.
- .5 Develop a confined space entry (CSE) program specific to the nature of work performed and in accordance with OH&S Act and Regulations and ensure supervisors and workers are trained in the confined space entry program. This shall include training on the CSE permit system, rescue plan, testing, communication equipment and all equipment and safe work procedures conducted in and around the confined space.
 - .1 Ensure that personal protective equipment and emergency rescue equipment appropriate to the nature of the work being performed is provided and used.
- .6 Provide and maintain training of workers through a provider certified by the WHSCC.
- .7 Provide Owner's Representative with a copy of an "Entry Permit" for each entry into the confined space to ensure compliance Provincial Legislation.

1.25 HAZARDOUS MATERIALS

- .1 Should material resembling hazardous materials (e.g. asbestos/mould) not previously identified/documentated be encountered during the execution of work, stop work and notify Owner's Representative. Do not proceed until written instructions have been received from Owner's Representative.
- .2 Unless otherwise noted the services of a recognized Environmental Consultant to provide all air monitoring and testing services required by regulatory requirements for hazardous materials abatement and repair.

1.26 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations of Work.

PART 2 PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 PART 3 EXECUTION (NOT APPLICABLE)

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 **POLLUTION CONTROL**

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.4 **NOTIFICATION**

- .1 Owner's Representative will notify Contractor in writing of observed non-compliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of environmental protection. Contractor: after receipt of such notice, inform Owner's Representative of proposed corrective action and take such action as approved by Owner's Representative.
- .2 Owner's Representative may issue stop order of work until satisfactory corrective action has been taken.
- .3 No time extensions will be granted or equitable adjustments allowed to Contractor for such suspensions.

PART 2 **PRODUCTS (NOT APPLICABLE)**

PART 3 **EXECUTION (NOT APPLICABLE)**

END OF SECTION

PART 1 **GENERAL**

1.1 **SUMMARY**

- .1 Where building related projects involve work that could potentially disturb asbestos or lead based paints, disturbances must be carefully controlled by registered abatement contractors in accordance with the Occupational Health and Safety Regulations (OHS) and other applicable Sections in this Contract. The purpose of this procedure is to ensure that nuisance dust, not containing asbestos or lead, is controlled in an effective manner.

- .2 Section includes:
 - .1 Ensuring any maintenance, repair, construction or renovation activity that impacts building materials or creates dust is performed in such a way as to eliminate, minimize, contain and clean up any and all dust generated by the activity. This applies to work preparation, work activities and post-work activities.
 - .2 This applies to, but is not limited to, the following types of dust generating activities:
 - .1 Disturbing gypsum board, plaster or other surfacing materials.
 - .2 Disturbing concrete or wood containing materials.
 - .3 Handling or disturbing fibrous building insulation.
 - .4 Generating welding fumes: in addition to the requirements of this procedure, a hot work permit is also required to be completed by the contractor and submitted to the Owner's Representative for review if hot work is required in an occupied building.

1.2 **RELATED WORK**

- .1 Division 1 – General Requirements.

- .2 Section 06 10 53 – Miscellaneous Rough Carpentry.

1.3 **REFERENCES**

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.205, Sealer for Application to Asbestos-Fibre-Releasing Materials.

- .2 Canadian Standards Association (CSA)
 - .1 CAN/CSA Z317.13-F07, Infection Control During Construction, Renovation and Maintenance of Health Care Facilities.

PART 2 **PRODUCTS**

2.1 **MATERIALS**

- .1 Polyethylene sheet in accordance with Section 07 26 00 - Vapour Retarders.
- .2 Wood studs for stand-alone barriers in accordance with Section 06 10 53 - Miscellaneous Rough Carpentry.

PART 3 **EXECUTION**

3.1 **PRE-WORK ACTIVITIES**

- .1 The contractor shall ensure the following prior to commencing work:
 - .1 Specific dust generating activities and associated controls shall be addressed in the Site Specific Health and Safety Plan.
 - .2 Workforce, including sub-contractors, must be made aware of the site dust control requirements.
 - .3 Check the various work zones within the building and adjacent areas to confirm the area are clean.
 - .4 Access to all active work areas shall be restricted to authorized contractors.
 - .5 For occupied buildings, dust generating activities shall be performed after normal hours of operations, unless prior permission is received from the Owner's Representative.

3.2 **WORK ACTIVITIES**

- .1 Dust producing projects shall be classified as small scale, medium scale or large scale projects, as detailed in paragraph 3.3.
- .2 For all dust generating activities, Contractor is required to have Site Safety Officer present to ensure dust control procedures are properly followed.
- .3 Any dust related complaints brought to the Contractors attention, must be immediately reported to Owner's Representative, and an incident investigation must be initiated to prevent reoccurrence.
- .4 Where practical, dust generation should be eliminated or minimized through the use of proper engineering controls (i.e. containment at source such as drilling wall surface through a wet sponge, wet suppression, use of HEPA vacuum equipped tools, etc).
- .5 Dust generating power tools shall be equipped with HEPA filtered dust collectors where practical. Power tools capable of generating dust without dust collection shall only be used in conjunction with suitable work area containment and with Owner's Representative approval.
- .6 Walk-off mats shall be employed for medium and large scale dust generating projects at all worker entrances/exits. Purpose of these mats is to trap dust from equipment and

shoes of personnel leaving the dust contaminated work zone. Mats shall be vacuumed daily, or more frequently as necessary, using HEPA filtered vacuums. Mats shall be of sufficient size to place both feet on mat at once.

3.3 PROJECT CLASSIFICATION

- .1 Class A - Small Scale Project: (Dust producing activities disturbing less than one (1) linear meter or one (1) square meter of material. These are small scale, short duration jobs generating minimal dust.
 - .1 Some examples include:
 - .1 Installing wires or cables, sanding/repairing small section of wall, cutting out gypsum board to install receptacles.
 - .2 Carry out Work as follows:
 - .1 Remove all furniture, fixtures and belongings from the work area to a minimum of 1.5 m in all directions.
 - .2 Restrict access to immediate work area. Keep all doors closed where practical. Post “Dust Hazard Area – Do Not Enter” signs at all entrances to work area. In common areas use barrier tape to establish the regulated area.
 - .3 Place a drop cloth of polyethylene sheeting immediately underneath the work area extending a minimum of 1.5 m in each direction (unless flooring is easily cleanable).
 - .4 Cover all air return or exhaust vents if within 1.5 m of the work area with polyethylene sheeting and duct tape.
 - .5 Complete the task, minimizing dust production, as prescribed in paragraph 3.2 - Work Activities.
 - .6 When the work is completed, wet-wipe polyethylene sheeting and flooring and if necessary, other areas close by with a damp rag.
 - .7 Visually inspect the area for any remaining dust and wet wipe as necessary.
 - .8 If installed, remove polyethylene sheeting from air return and exhaust vents.
 - .9 Where practical, transport debris after hours using least congested and most direct routes. If any debris is spilled outside the work area, immediately wet-wipe debris.
 - .10 Clean all tools and equipment before removal from the work area.
- .2 Class B - Medium Scale Project (Dust producing activities disturbing greater than one (1) square meter and less than 30 square meters of material) with anticipated moderate dust levels that are typically one shift or more in duration.
 - .1 Examples include:
 - .1 Sanding several sheets of gypsum board.
 - .2 Electrical work above ceiling tiles where general debris is known above the ceiling.
 - .3 Removing numerous ceiling tiles in an area.

- .4 New wall construction.
- .2 Carry out the Work as follows:
 - .1 Determine the most effective way of isolating the work area from occupants (i.e. using plastic barriers or by sealing off doors).
 - .2 Complete all items specified under small scale projects.
 - .3 While performing the work, limit the dust generated by removing the materials in sections, lightly misting the material as necessary. Debris shall be bagged immediately for disposal. In addition to wet wiping, HEPA filtered vacuum systems shall be employed where practical to limit airborne dust.
 - .4 When the task is completed, HEPA vacuum and/or wet wipe the polyethylene sheeting.
 - .5 Prior to removing any temporary wall partitions from floor to ceiling or polyethylene barriers, a final inspection shall be performed by the Site Safety Officer or designate to ensure proper clean up has been completed. This inspection shall be documented by the Contractor and made available at the request of the Owner's Representative.
 - .6 Establishment of containment may result in the accumulation of dust within the enclosure. As such, the need for respiratory protection and decontamination would be greater than for small scale projects (i.e. N95 half face respirator with tyvek body covering).
- .3 Class C - Large Scale Projects (Dust Producing Activities disturbing greater than 30 meters of material with anticipated high dust levels and typically involves multiple work shifts.
 - .1 Examples include:
 - .1 Major demolition or construction.
 - .2 Extensive renovations to wall or ceiling surfaces.
 - .3 Generating significant amounts of concrete dust.
 - .2 Carry out the Work as follows:
 - .1 Complete all items as prescribed under the Medium Scale Projects section.
 - .2 If the work produces dust that cannot be limited by removal in sections or misting and the work area configuration allows, use HEPA filtered negative air units with the intake directly across from the dust generating activity. Exhaust the HEPA unit outside the building.
 - .3 If using a disposal cart or container to transport debris within the building, ensure the lid is tightly secured and the wheels are clean prior to exiting the work area.
 - .4 If local source capture is employed (i.e. HEPA filtered power tool) and no significant debris anticipated then treat as a medium scale project.
 - .5 Negative air units shall be left operating at the completion of cleanup, for the duration stipulated in Table 4, CAN/CSA Z317.13-F07.

- .6 Windows, doors, exhaust vents and supply intakes shall be sealed off in dust generating areas. Upper seals must be employed where necessary to prevent the spread of dust into adjacent areas.
- .7 The contractor must be able to show that the work zone is negatively pressurized in relation to adjacent occupied areas.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES AND CODES

- .1 Perform Work in accordance with National Building Code of Canada (NBC) including all amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.

- .2 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

1.2 HAZARDOUS MATERIAL DISCOVERY

- .1 Asbestos: stop work immediately should materials believed to contain asbestos be encountered in during the execution of the work and notify Owner's Representative. Do not proceed until written instructions have been received from Owner's Representative. Perform asbestos abatement and repair in accordance with Newfoundland and Labrador Asbestos Abatement Regulations, Latest Edition.

- .2 Mould: stop work immediately should material resembling mould be encountered during the execution of work and notify Owner's Representative. Do not proceed until written instructions have been received from Owner's Representative.

1.3 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTIONS INCLUDE**

- .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 01 33 00 – Submittal Procedures
- .2 Section 01 78 00 – Closeout Submittals

1.3 **INSPECTION**

- .1 Allow Owner’s Representative 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.
- .2 Give 48 hours notice requesting inspection if Work is designated for special tests, inspections or approvals by Owner’s Representative instructions.
- .3 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.
- .4 Owner’s Representative 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. If such Work is found in accordance with Contract Documents, Owner’s Representative shall pay cost of examination and replacement.

1.4 **PROCEDURES**

- .1 Notify appropriate agency and Owner’s Representative 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.

1.5 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 Owner's Representative 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.
- .3 If in opinion of Owner's Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner may deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which shall be determined by Owner's Representative.

1.6 REPORTS

- .1 Submit 3 copies of inspection and test reports to Owner's Representative, plus electronic copies in PDF format.
- .2 Provide copy to Subcontractor of work being inspected or tested, manufacturer or fabricator of material being inspected or tested.
- .3 Include copy of all inspection and test reports in Commissioning Manuals.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 52 00 - Construction Facilities.
- .2 Section 01 56 00 - Temporary Barriers and Enclosures.

1.2 **INSTALLATION AND REMOVAL**

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.3 **WATER SUPPLY**

- .1 Arrange for connection with appropriate utility company and pay all costs for installation, maintenance and removal.

1.4 **TEMPORARY HEATING AND VENTILATION**

- .1 Pay for costs 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 approval is given by Owner's Representative.
- .2 Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders are not permitted.
- .3 Provide 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 levels for storage, installation and curing of materials.
 - .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .4 Maintain temperatures of minimum 10°C and relative humidity less than 60% in areas where construction is in progress.
 - .1 Maintain minimum temperature of 10°C or higher where specified as soon as finished work is commenced. Maintain until acceptance of structure by Owner's Representative.
 - .2 Maintain ambient temperature and humidity levels as required for comfort of office personnel.
- .5 Ventilating:

- .1 Prevent 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 in harmful 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 contaminants.
- .6 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.
- .7 Be responsible for damage to Work due to failure in providing adequate heat, humidity and protection during construction.
- .8 Use of new or existing systems for temporary heating, ventilating or air conditioning will not be permitted.

1.5 TEMPORARY POWER AND LIGHT

- .1 Temporary power for construction is available on site.

1.6 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.

1.7 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 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 Owner's Representative.

1.8 TEMPORARY COMMUNICATION FACILITIES

- .1 Provide and pay for temporary telephone, fax, data hook up, lines and equipment necessary for own use and use of Owner's Representative.

1.9 REMOVAL OF TEMPORARY FACILITIES

- .1 Remove temporary facilities from site when directed by Owner's Representative.
- .2 When project is closed down at end of construction season keep temporary facilities operational until close down or removal is approved by Owner's Representative.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Construction aids.
- .2 Office and sheds.
- .3 Parking.
- .4 Project identification.

1.2 **RELATED SECTIONS**

- .1 Section 01 35 29.06 – Health and Safety Requirements
- .2 Section 01 51 00 - Temporary Utilities.
- .3 Section 01 56 00 - Temporary Barriers and Enclosures.

1.3 **INSTALLATION AND REMOVAL**

- .1 Provide construction facilities in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.4 **SCAFFOLDING**

- .1 Provide and maintain scaffolding in rigid, secure and safe manner.
- .2 Erect scaffolding independent of walls. Remove promptly when no longer required. Refer to Section 01 35 29.06 – Health and Safety Requirements.

1.5 **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 certified operator.

1.6 **SITE STORAGE/LOADING**

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

1.7 CONSTRUCTION PARKING

- .1 Parking will be permitted on site provided it does not disrupt performance of work.
- .2 Provide and maintain adequate access to project site.
- .3 Build and maintain temporary roads where indicated or directed by Owner's Representative and provide snow removal during period of Work.
- .4 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads.

1.8 CONTRACTOR'S SITE OFFICES

- .1 Provide office heated to 22 °C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table, fax machine, telephone, file cabinet and chair. Provide an accessible washroom within the contractor's site office.
- .2 Accessible washroom, meeting space and entrance to contractor's site office to meet the accessibility requirements of the NL Accessibility Act and Regulations, and CSA B651, Accessible Design for the Built Environment.
- .3 Provide a clearly marked and fully stocked first-aid case in a readily available location.
- .4 Subcontractors may provide their own offices as necessary. Direct location of these offices.

1.9 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.

1.10 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.11 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.

- .3 Store materials resulting from demolition activities that are salvageable.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Barriers.
- .2 Environmental Controls.
- .3 Traffic Controls.
- .4 Fire Routes.

1.2 **RELATED SECTIONS**

- .1 Section 01 51 00 – Temporary Utilities.
- .2 Section 01 52 00 – Construction Facilities.

1.3 **INSTALLATION AND REMOVAL**

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.
- .3 Provide as required by governing authorities.

1.4 **WEATHER ENCLOSURES**

- .1 Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.
- .2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
- .3 Erect enclosures to allow access for installation of materials and working inside enclosure.
- .4 Design enclosures to withstand wind pressure and snow loading.

1.5 **DUST TIGHT SCREENS**

- .1 Provide dust tight screens or insulated partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
- .2 Maintain and relocate protection until such work is complete.

1.6 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.
- .2 Build and maintain temporary roads where indicated or directed and provide snow removal during period on work.
- .3 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads.

1.7 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.

1.8 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.9 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.

1.10 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 Owner's Representative locations and installation schedule 3 days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Product quality, availability, storage, handling, protection, and transportation.
- .2 Manufacturer's instructions.
- .3 Quality of Work, coordination and fastenings.

1.2 **RELATED SECTIONS**

- .1 Section 01 45 00 – Quality Control.
- .2 Section 01 73 00 – Execution.

1.3 **REFERENCES**

- .1 Within text of each specifications section, reference may be made to reference standards. Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .2 Conform to latest date of issue of referenced standards in effect on date of submission of Tenders, except where specific date or issue is specifically noted.

1.4 **QUALITY**

- .1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Owner's Representative based upon requirements of Contract Documents.
- .4 Within seven (7) working days of written request by Owner's Representative, submit following information for material and equipment proposed for supply:
 - .1 Name and address of manufacturer.
 - .2 trade name, model and catalogue number,
 - .3 performance, descriptive and test data,
 - .4 manufacturer's installation or application instructions,
 - .5 evidence of arrangements to procure.

- .5 Use products of one manufacturer for material and equipment of same type or classification unless otherwise specified.
- .6 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.5 AVAILABILITY

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify Owner's Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of work.
- .2 In event of failure to notify Owner's Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Owner's Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.6 STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials, lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of Owner's Representative.
- .9 Touch-up damaged factory finished surfaces to Owner's Representative satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.7 TRANSPORTATION

- .1 Pay costs of transportation of products required in performance of Work.

1.8 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Owner's Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Owner's Representative may establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Owner's Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

1.9 QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Owner's Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Owner's Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Owner's Representative, whose decision is final.

1.10 CO-ORDINATION

- .1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.11 CONCEALMENT

- .1 In finished areas, conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
- .2 Before installation, inform Owner's Representative if there is interference. Install as directed by Owner's Representative.

1.12 REMEDIAL WORK

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.

- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.13 LOCATION OF FIXTURES

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Owner's Representative of conflicting installation. Install as directed.
- .4 Submit field drawings to indicate relative position of various services and equipment when required by Owner's Representative.

1.14 FASTENINGS GENERAL

- .1 Provide metal fastenings and accessories in same texture, colour and finish as base metal in which they occur. Prevent electrolytic action between dissimilar metals. Use non-corrosive fasteners, anchors and spacers for securing exterior work, unless stainless steel or other material is specifically requested in affected specification section.
- .2 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood plugs are not acceptable.
- .3 Conceal fasteners where indicated. Space evenly and lay out neatly.
- .4 Fastenings which cause Spalding or cracking are not acceptable.
- .5 Obtain Owner's Representative's approval before using explosive actuated fastening devices. If approval is obtained comply with CSA Z166.

1.15 FASTENINGS - EQUIPMENT

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.16 PROTECTION OF WORK IN PROGRESS

- .1 Prevent overloading of any part of building. Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated without written approval of Owner's Representative.

1.17 EXISTING UTILITIES

- .1 When breaking into or connecting to existing services or utilities, execute work at times directed by local governing authorities, with minimum of disturbance to work.
- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.
- .3 Submit schedule to and obtain approval from Owner's Representative for any shut-down or closure of active services or facility. Adhere to approved schedule and provide notice to affected parties.
- .4 Where unknown services are encountered, immediately advise Owner's Representative and confirm findings in writing.
- .5 Remove abandoned services lines within 2m of structures. Cap or otherwise seal lines at cut-off points as directed by Owner's Representative.

1.18 SELECTION OF MATERIAL AND EQUIPMENT

- .1 Material and equipment will be specified in the tender documents, and selected by Contractor, by one or more of the following methods:
 - .1 Specification by reference to a relevant Standard, such as CSA, ASTM, ULC, etc., select any material or equipment that meets or exceeds the specified.
 - .2 Specification by reference to an accepted product evaluation publication, such as the CGSB "Qualified Products List", or CCMC Registry of Product Evaluations", - select any manufacturer's product so listed.
 - .3 Specification by Prescriptive or Performance specification – select any material or equipment meeting or exceeding specification.
 - .4 Specification by identification of one or more Manufacturer's specific product(s) as an "Acceptable Product", along with a listing of other manufacturers who may offer equivalent products – select any product so named, or select from equivalent product(s) of other listed manufacturers.
- .2 "Acceptable Product" is deemed to be a complete and working commodity as described by a manufacturer's name, catalogue number, trade name, or any combination thereof, and will constitute the minimum standard of acceptance.
- .3 Owner's Representative will determine acceptability of Contractor's selection of material and equipment at time of Shop Drawing review.

- .4 When material or equipment is specified by a Standard, Prescriptive or Performance specification, upon request of the Owner's Representative, obtain from manufacturer an independent laboratory reporting, showing that material or equipment meets or exceeds the specified requirements.

1.19 SUBSTITUTION OF MATERIAL AND EQUIPMENT

- .1 Substitution prior to Tender closing will be considered by Owner's Representative only if the conditions of Section 01 25 00 – Substitution Procedures are met..
- .2 **After Contract award** substitutions of material or equipment, other than as selected by Contractor from those specified, will be considered by Owner's Representative only if the conditions of Section 01 25 00 – Substitution Procedures are met.
- .3 Requests for substitutions after Contract award must be accompanied by sufficient information in the form of shop drawings, manufacturer's literature, samples or other data to permit proper investigation of the substitutes used. Requests must also include statements of respective costs of material or equipment originally specified and the proposed substitution.
- .4 Should a proposed substitution be accepted after Contract award either in part or in whole, assume full responsibility and costs when substitution affects other work on Project. Contractor to pay for design or drawing changes required as a result of the substitution.
- .5 Amounts of all credits arising from approval of substitutions after Contract award will be determined by Owner's Representative and the Contract amount will be reduced accordingly.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Requirements and limitations for cutting and patching the Work.

1.2 **RELATED SECTIONS**

- .1 Section 01 11 00 - Summary of Work.
- .2 Section 01 33 00 - Submittal Procedures.

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 **PREPARATION**

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which may be exposed by uncovering work; maintain excavations free of water.

Western Health
Remediations to Bay St. George Long-Term Care Centre

September 2018

Section 01 73 00 – Execution

Page 2 of 3

- .6 Obtain Owner's Representative's approval before cutting, boring or sleeving load-bearing members.

1.5 EXECUTION

- .1 Execute cutting, fitting, and patching including excavation and fill, to complete Work.
- .2 Fit several parts together, to integrate with other Work.
- .3 Uncover Work to install ill-timed Work.
- .4 Remove and replace defective and non-conforming Work.
- .5 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- .6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .7 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .8 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .9 Restore work with new products in accordance with requirements of Contract Documents.
- .10 Fit Work to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .11 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material in accordance with Section 07 84 00 - Firestopping, full thickness of the construction element.
- .12 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.
- .13 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.
- .14 Make cuts with clean, true, smooth edges.
- .15 Where new work connects with existing, and where existing work is altered, cut, patch and make good to match existing work.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

PART 2 **PRODUCTS (NOT APPLICABLE)**

PART 3 **EXECUTION (NOT APPLICABLE)**

END OF SECTION

PART 1 **GENERAL**

1.1 **GENERAL**

- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .2 Store volatile waste in covered metal containers and remove from premises at end of each working day.
- .3 Provide adequate ventilation during use of volatile or noxious substances. Use for building ventilations systems is not permitted for this purpose.

1.2 **RELATED SECTION**

- .1 Section 01 77 00 - Closeout Procedures.

1.3 **PROJECT CLEANLINESS**

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.
- .2 Remove waste materials and debris from site at the end of each working day. Do not burn waste materials on site.
- .3 Clear snow and ice from access to building.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.
- .7 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .8 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .9 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .10 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.4 **FINAL CLEANING**

- .1 Refer to General Conditions.

- .2 When Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .3 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .4 When the Work is Totally Performed, remove surplus products, tools, construction machinery and equipment. Remove waste products and debris other than that caused by the Owner or other Contractors.
- .5 Remove waste materials from the site at regularly scheduled times or dispose of as directed by the Owner's Representative. Do not burn waste materials on site.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Leave the work broom clean before the inspection process commences.
- .8 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
- .9 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, floors and ceilings.
- .10 Clean lighting reflectors, lenses, and other lighting surfaces.
- .11 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
- .12 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.
- .13 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .14 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .15 Remove dirt and other disfiguration from exterior surfaces.
- .16 Clean roofs, gutters, downspouts and drainage systems. Clean areaways and sunken wells.
- .17 Sweep and wash clean paved areas.
- .18 Clean equipment and fixtures to a sanitary condition; clean or replace filters of mechanical equipment.
- .19 Remove snow and ice from access to building.
- .20 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.

Western Health
Remediations to Bay St. George Long-Term Care Centre

September 2018

Section 01 74 11 – Cleaning

Page 3 of 3

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Text, schedules and procedures for systematic Waste Management Program for construction, deconstruction, demolition, and renovation projects, including:
 - .1 Diversion of Materials.
 - .2 Waste Audit (WA) - Schedule A.
 - .3 Waste Reduction Workplan (WRW) - Schedule B.
 - .4 Demolition Waste Audit (DWA) - Schedule C.
 - .5 Cost/Revenue Analysis Workplan (CRAW) - Schedule D.
 - .6 Materials Source Separation Program (MSSP).
 - .7 Canadian Governmental Responsibility for the Environment Resources - Schedule E.

1.2 **DEFINITIONS**

- .1 Demolition Waste Audit (DWA): Relates to actual waste generated from project.
- .2 Materials Source Separation Program (MSSP): Consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .3 Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others.
- .4 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .5 Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .6 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .7 Salvage: Removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .8 Separate Condition: Refers to waste sorted into individual types.
- .9 Source Separation: Acts of keeping different types of waste materials separate beginning from first time they became waste.

1.3 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)

- .1 Prepare MSSP and have ready for use prior to project start-up.
- .2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by authorities having jurisdiction.
- .3 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
- .4 Provide containers to deposit reusable and recyclable materials.
- .5 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
- .6 Locate separated materials in areas which minimize material damage.
- .7 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
 - .1 Transport to recycling facility.

1.4 STORAGE, HANDLING AND PROTECTION

- .1 Unless specified otherwise, materials for removal become Contractor's property.
- .2 Protect, stockpile, store and catalogue salvaged items.
- .3 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to approved local facility.
- .4 Protect structural components not removed for demolition from movement or damage.
- .5 Support affected structures. If safety of building is endangered, cease operations and immediately notify Department having jurisdiction.
- .6 Protect surface drainage, mechanical and electrical from damage and blockage.
- .7 Separate and store materials produced during dismantling of structures in designated areas.
- .8 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On-site source separation is recommended.

1.5 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of any waste into waterways, storm, or sanitary sewers.

- .3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .4 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.

1.6 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Provide security measures approved by Owner's Representative.

1.7 SCHEDULING

- .1 Coordinate Work with other activities at site to ensure timely and orderly progress of Work.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 APPLICATION

- .1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

3.2 CLEANING

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Source separate materials to be reused/recycled into specified sort areas.

3.3 DIVERSION OF MATERIALS

- .1 From following list, separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by Owner's Representative and consistent with applicable fire regulations.
 - .1 Mark containers or stockpile areas.
 - .2 Provide instruction on disposal practices.
- .2 On-site sale or distribution of salvaged materials to third parties is not permitted.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 74 11 - Cleaning.
- .2 Section 01 78 00 - Closeout Submittals.

1.2 **FINAL INSPECTION AND DECLARATION PROCEDURES**

- .1 Contractor's Inspection: The Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects; repair as required. Notify the Owner's Representative in writing of satisfactory completion of the Contractor's Inspection and that corrections have been made. Request an Owner's Representative's Consultant's Inspection.
- .2 Owner's Representative's Inspection: Owner's Representative and the Contractor will perform an inspection of the Work to identify obvious defects or deficiencies. The contractor shall correct Work accordingly.
- .3 Completion: submit written certificate that the 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, Utility companies have been submitted.
 - .5 Operation of systems have been demonstrated to Owner's personnel.
 - .6 Commissioning of building systems: completed in accordance with section 01 91 13 – Commissioning (Cx) Requirements and copies of final Commissioning Report submitted to Owner's Representative.
 - .7 Work is complete and ready for Final Inspection.
- .4 Final Inspection: When items noted above are completed, request final inspection of Work by the Owner's Representative, representative of DTW and the Contractor. If Work is deemed incomplete by the Owner's Representative, complete outstanding items and request a reinspection.
- .5 Declaration of Substantial Performance: When the Owner's Representative considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for Certificate of Substantial Performance. Refer to General Conditions for specifics to application.
- .6 Commencement of Lien and Warranty Periods: The date of Western Health acceptance of the submitted declaration of Substantial Performance shall be the date for commencement for the warranty period and commencement of the lien period.

- .7 Declaration of Total Performance: When the Owner's Representative considers final deficiencies and defects have been corrected and it appears requirements of the Contract have been totally performed, make application for certificate of Total Performance. Refer to General Conditions for specifics to application. If Work is deemed incomplete by the Consultant, complete the outstanding items and request a reinspection.

1.3 REINSPECTION

- .1 Should status of work require reinspection by Owner's Representative due to failure of work to comply with Contractor's claims for inspection, Owner will deduct amount of compensation for reinspection services from payment to Contractor.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 As-built, samples, and specifications.
- .2 Product data, materials and finishes, and related information.
- .3 Operation and maintenance data.
- .4 Spare parts, special tools and maintenance materials.
- .5 Warranties and bonds.

1.2 **RELATED SECTIONS**

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 45 00- Quality Control.
- .3 Section 01 71 00 – Examination and Preparation.
- .4 Section 01 77 00 - Closeout Procedures.

1.3 **SUBMISSION**

- .1 Prepare instructions and data using personnel experienced in maintenance and operation of described products.
- .2 Submit one copy of completed volumes in final form 15 days prior to final inspection.
- .3 Copy will be returned after final inspection, with Owner's Representative's comments.
- .4 Revise content of documents as required prior to final submittal.
- .5 Two weeks prior to Substantial Performance of the Work, submit to the Owner's Representative, two final copies of operating and maintenance manuals.
- .6 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.
- .7 If requested, furnish evidence as to type, source and quality of products provided.
- .8 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .9 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 Text: Manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .9 Provide CAD files in DWG format on CD. Also provide electronic files in PDF format.

1.5

CONTENTS - EACH VOLUME

- .1 Table of Contents: provide title of project; names, addresses, and telephone numbers of Consultant and Contractor with name of responsible parties; 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 specified in Section 01 45 00 - Quality Control.
- .6 Training: Refer to Section 01 91 13 – General Commissioning (Cx) Requirements.

1.6

AS-BUILTS AND SAMPLES

- .1 In addition to requirements in General Conditions, maintain at the site for Owner's Representative 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 Owner's Representative.

1.7 RECORDING ACTUAL SITE CONDITIONS

- .1 Record information on set of blue line opaque drawings, provided by Owner's Representative.
- .2 Provide felt tip marking pens, maintaining red color pens 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: submit manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.
- .7 At completion of project, provide all recorded information on print drawings. Transfer recorded information to AutoCAD files in DWG format. Submit DWG files, also with electronic files in PDF format as part of the Closeout Submittals.

1.8 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.

1.9 SPARE PARTS

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

1.10 MAINTENANCE MATERIALS

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

1.11 SPECIAL TOOLS

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

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 Owner's Representative.

1.13 WARRANTIES AND BONDS

- .1 Develop warranty management plan to contain information relevant to Warranties.
- .2 Submit warranty management plan to Owner's Representative's approval.
- .3 Warranty management plan to include required actions and documents to assure that Owner receives warranties to which it is entitled.
- .4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
- .5 Assemble approved information in binder and submit upon acceptance of work. Organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work.
 - .4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
 - .5 Verify that documents are in proper form, contain full information, and are notarized.

- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.
- .6 Include information contained in warranty management plan as follows:
 - .1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Contractors, subcontractors, manufacturers or suppliers involved.
 - .2 Provide list for each warranted equipment, item, feature of construction or system indicating:
 - .1 Name of item.
 - .2 Model and serial numbers.
 - .3 Location where installed.
 - .4 Name and phone numbers of manufacturers or suppliers.
 - .5 Names, addresses and telephone numbers of sources of spare parts.
 - .6 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.
 - .7 Cross-reference to warranty certificates as applicable.
 - .8 Starting point and duration of warranty period.
 - .9 Summary of maintenance procedures required to continue warranty in force.
 - .10 Cross-Reference to specific pertinent Operation and Maintenance manuals.
 - .11 Organization, names and phone numbers of persons to call for warranty service.
 - .12 Typical response time and repair time expected for various warranted equipment.
 - .3 Procedure and status of tagging of equipment covered by extended warranties.
 - .4 Post copies of instructions near selected pieces of equipment where operation is critical for warranty and/or safety reasons.
- .7 Respond in a timely manner to oral or written notification of required construction warranty repair work.
- .8 Written verification will follow oral instructions. Failure to respond will be cause for the Owner's Representative to proceed with action against Contractor.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Methods and procedures for demolition of structures, parts of structures, basements and foundation walls and includes abandonment and removal of septic tanks and tanks containing petroleum products.

1.2 **RELATED SECTIONS**

- .1 Section 01 11 00 – Summary of Work
- .2 Section 01 35 29.06 - Health and Safety Requirements
- .3 Section 01 35 43 - Environmental Procedures
- .4 Section 01 52 00 – Construction Facilities
- .5 Section 01 56 00 - Temporary Barriers and Enclosures
- .6 Section 01 74 21 – Construction/Demolition Waste Management and Disposal

1.3 **REFERENCES**

- .1 Canadian Standards Association (CSA).
 - .1 CSA S350, Code of Practice for Safety in Demolition of Structures

1.4 **QUALITY ASSURANCE**

- .1 Prior to start of Work arrange for site visit with Owner's Representative to examine existing site conditions adjacent to demolition work
- .2 Hold project meetings every month.
- .3 Ensure key personnel, site supervisor, project manager, subcontractor representatives, attend.

1.5 **WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.6 **EXISTING CONDITIONS**

- .1 Should material resembling spray or trowel applied asbestos or any other designated substance be encountered in course of demolition, stop work, take preventative measures, and notify Owner's Representative immediately. Do not proceed until written instructions have been received.

- .2 Structures to be demolished to be based on their condition on date that tender is accepted.
- .3 Salvage items as identified by Owner's Representative. Remove, protect and store salvaged items as directed by Owner's Representative. Deliver to Owner as directed.

1.7 DEMOLITION DRAWINGS

- .1 Where required by authorities having jurisdiction, submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning.
- .2 Submit drawings stamped and signed by qualified professional engineer licensed in Province of Newfoundland and Labrador, Canada.

1.8 ENVIRONMENTAL PROTECTION

- .1 Ensure work is done in accordance with Section 01 35 43 – Environmental Procedures.
- .2 Prevent movement, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, adjacent grades parts of existing building to remain.
- .3 Support affected structures and, if safety of structure being demolished or adjacent structures or services appears to be endangered cease operations and notify Owner's Representative.
- .4 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.
- .5 Ensure that demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- .6 Fires and burning of waste or materials is not permitted on site.
- .7 Do not bury waste or materials on site.
- .8 Do not dispose of waste or volatile materials such as mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers. Ensure proper disposal procedures are maintained throughout project.
- .9 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers, or onto adjacent properties.
- .10 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authorities' requirements.
- .11 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .12 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.

- .13 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.

1.9 SCHEDULING

- .1 Ensure project time lines are met without compromising specified minimum rates of material diversion. Notify Owner's Representative in writing of delays.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PREPARATION

- .1 Do work in accordance with 01 35 29.06 – Health and Safety Requirements.
- .2 Disconnect electrical and telephone service lines entering buildings to be demolished. Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition.
- .3 Disconnect and cap designated mechanical services.
 - .1 Sewer and water lines: remove to property line.
 - .2 Other underground services: remove and dispose of as directed by Owner's Representative.
- .4 Do not disrupt active or energized utilities designated to remain undisturbed.
- .5 Remove rodent and vermin as required by Owner's Representative.

3.2 SAFETY CODE

- .1 Do demolition work in accordance with Section 01 56 00 – Temporary Barriers and Enclosures.
- .2 Blasting operations not permitted during demolition.

3.3 DEMOLITION

- .1 Demolish foundation walls to minimum of 300mm below finished grade.
- .2 Demolish foundation walls and footings, and concrete floors below or on grade.
- .3 Break 100mm holes per 10m² area in concrete slabs which are not to be removed, to prevent accumulation of water. Keep floor drains open if permanent drainage still connected.
- .4 Pieces of concrete and masonry not larger than 200 mm broken from demolition work may be used as backfill in open basements or excavations provided voids are filled. Keep

demolition fill 300 mm below finished grade level. Do not backfill basement areas until inspected by Owner's Representative.

- .5 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
- .6 At end of each day's work, leave Work in safe and stable condition. Protect interiors of parts not to be demolished from exterior elements at all times.
- .7 Demolish to minimize dusting. Keep materials wetted as directed by Owner's Representative.
- .8 Remove structural framing.
- .9 Contain all fibrous materials (e.g. Insulation) to minimize release of airborne fiber while being transported to waste disposal site or alternative disposal location.
- .10 Only dispose of material specified by selected alternative disposal option as directed by Owner's Representative.
- .11 Ensure that these materials will not be disposed of in landfill or waste stream destined for landfill.
- .12 Remove and dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction.
- .13 Environmental:
 - .1 Remove contaminated or dangerous materials as defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimized danger at site or during disposal.
 - .2 Septic Tanks:
 - .1 Pump out buried septic tanks, left in place. Fill with sand.
 - .2 Remove tanks within area of new construction or under paved areas and slabs.
- .14 Prior to the start of any demolition work remove contaminated or hazardous materials as defined by authorities having jurisdiction, from site and dispose of at designated disposal facilities.
- .15 Prior to the start of any demolition work remove underground storage tanks and piping as directed.
- .16 Use natural lighting to work by wherever possible. Shut off all lighting except those required for security purposes at the end of each day.

3.4 REMOVAL FROM SITE

- .1 Notify Owner's Representative in writing of any materials identified as not suitable for alternate disposal. Provide reasons prior to approval for disposal.

- .2 Dispose of materials as directed by Owner's Representative.
- .3 Remove stockpiled material as directed by Owner's Representative when it interferes with operations of project construction.
- .4 Remove stockpiles of like materials by an alternate disposal option once collection of materials is complete.
- .5 Transport material designated for alternate disposal in accordance with applicable regulations.
- .6 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.

3.5 REPORTING

- .1 Record off-site removal of debris and materials and provide following information regarding removed materials to Owner's Representative within two (2) working days.
 - .1 Time and date of Removal
 - .2 Description of Material
 - .3 Weight and Quantity of Materials.
 - .4 Breakdown of reuse, recycling and landfill quantities.
 - .5 End Demolition of Materials.

3.6 COORDINATION

- .1 Coordinate alternative disposal activities with Owner's Representative's on site waste diversion representative.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.2 **REFERENCES**

- .1 Canadian Standards Association (CSA)
 - .1 CAN/CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA A179, Mortar and Grout for Unit Masonry.
 - .3 CAN/CSA A371, Masonry Construction for Buildings.
 - .4 CAN/CSA-A3000, Cementitious Materials Compendium; CAN/CSA-A3002, Masonry and Mortar Cement.

1.3 **SUBMITTALS**

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet including product characteristics, performance criteria, and limitations.
 - .2 Submit copy of WHMIS MSDS Material Safety Data Sheets. Indicate VOC's mortar, grout, parging, colour additives and admixtures, expressed as grams per litre (g/L).
- .2 Samples:
 - .1 Submit two samples of mortar showing actual product colour when set.
- .3 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.4 **QUALITY ASSURANCE**

- .1 Submit test reports showing compliance with specified performance characteristics and physical properties.

1.5 **DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handles masonry mortar and grout materials in accordance with Section 01 61 00 - Common Product Requirements, supplemented as follows:
 - .1 Deliver prepackaged, dry-blended mortar mix to project site in labelled plastic-lined bags each bearing name and address of manufacturer, production codes or batch numbers, and color or formula numbers.

- .2 Maintain mortar, grout and packaged materials clean, dry, and protected against dampness, freezing, traffic and contamination by foreign materials.

1.6 SITE CONDITIONS

- .1 Ambient Conditions: maintain materials and surrounding air temperature to:
 - .1 Minimum 5 degrees C prior to, during, and 48 hours after completion of masonry work.
 - .2 Maximum 32 degrees C prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Use same brands of materials and source of aggregate for entire project.
- .2 Cement:
 - .1 Portland Cement: to CAN/CSA-A3000. Use VOC products to limits listed in Section 01 35 21 - LEED® Requirements.
 - .2 Masonry Cement: to CAN/CSA-A3002 and CAN/CSA A179.
 - .3 Mortar Cement: to CAN/CSA-A3002 and CAN/CSA A179.
 - .4 Packaged Dry Combined Materials for mortar: to CAN/CSA A179, using gray color cement.
- .3 Aggregate: supplied by one supplier.
 - .1 Fine Aggregate: to CAN/CSA A179, natural sand.
 - .2 Course Aggregate: to CAN/CSA A179.
- .4 Water: clean and potable.

2.2 COLOR ADDITIVES

- .1 Use coloring admixture not exceeding 10% of cement content by mass, or integrally colored masonry cement, to produce colored mortar to match approved sample. Admixtures to be approved prior to use. Use in accordance with the specific manufacturer's recommendations. Mortar color sample as selected from manufacturer's standard color range.
- .2 White mortar: use white masonry cement to produce mortar type specified.

2.3 MORTAR MIXES

- .1 Mortar for exterior masonry above grade:
 - .1 Loadbearing: Type S based on proportion specifications.
 - .2 Non-Loadbearing: Type N based on proportion specifications.

- .2 Mortar for Parapet walls, chimneys, unprotected walls: Type S based on proportion specifications.
- .3 Pointing Mortar: CAN/CSA A179, Type N using property specification with maximum 2 percent ammonium stearate or calcium stearate per cement weight.
- .4 Stain Resistant Pointing Mortar: one part Portland cement, 1/8 part hydrated lime, and two parts graded (80 mesh) aggregate, proportioned by volume. Add aluminum tristearate, calcium stearate, or ammonium stearate to 2 percent of Portland cement by weight.
- .5 Parging mortar: Type N to CAN/CSA A179.
- .6 Following applies regardless of mortar types and uses specified above:
 - .1 Mortar for calcium silicate brick and concrete brick: Type N based on proportion specifications.
 - .2 Mortar for stonework: Type N based on proportion specifications.
 - .3 Mortar for grouted reinforced masonry: Type S based on proportion specifications.

2.4 MORTAR MIXING

- .1 Add mortar color in accordance with manufacturer's instructions. Provide uniformity of mix and coloration.
- .2 Use a batch type mixer in accordance with CAN/CSA A179.
- .3 Pointing mortar: prehydrate pointing mortar by mixing ingredients dry, then mix again adding just enough water to produce damp unworkable mix that will retain its form when pressed into ball. Allow to stand for not less than 1 hour no more than 2 hours then remix with sufficient water to produce mortar of proper consistency for pointing.
- .4 Re-temper mortar only within two hours of mixing, when water is lost by evaporation.
- .5 Use mortar within 2 hours after mixing at temperatures of 32 degrees C, or 2-1/2 hours at temperatures under 5 degrees C.

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Verify that conditions of substrate are acceptable for masonry installation in accordance with manufacturer's written instructions.
- .2 Visually inspect substrate in presence of Owner's Representative.
- .3 Inform Owner's Representative of unacceptable conditions immediately upon discovery.

- .4 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Owner's Representative.

3.2 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.

3.3 CONSTRUCTION

- .1 Do masonry mortar and grout work in accordance with CSA A179, except where specified otherwise.
- .2 Apply parging in uniform coating of thickness indicated.

3.4 MIXING

- .1 All pointing mortar can be mixed using a regular paddle mixer. Only electric motor mixers are permissible. Mixers run on hydrocarbons are not permitted, due to fumes. Mixing by hand must be pre-approved by the Owner's Representative.
- .2 Clean all mixing boards and mechanical mixing machine between batches.
- .3 Mortar must be weaker than the units it is binding.
- .4 Contractor to appoint one individual to mix mortar, for duration of project. In the event that this individual must be changed, mortar mixing must cease until the new individual is trained, and mortar mix is tested.

3.5 MORTAR PLACEMENT

- .1 Install mortar to manufacturer's instructions.
- .2 Install mortar to requirements of CAN/CSA A179.
- .3 Remove excess mortar from grout spaces.

3.6 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.
- .2 Remove droppings and splashings using clean sponge and water.
- .3 Clean masonry with low pressure clean water and soft natural bristle brush.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

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- .2 Samples:
 - .1 Submit two samples of mortar showing actual product colour when set.
- .3 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

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- .2 Cement:
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- .3 Aggregate: supplied by one supplier.
 - .1 Fine Aggregate: to CAN/CSA A179, natural sand.
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- .4 Water: clean and potable.

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- .1 Use coloring admixture not exceeding 10% of cement content by mass, or integrally colored masonry cement, to produce colored mortar to match approved sample. Admixtures to be approved prior to use. Use in accordance with the specific manufacturer's recommendations. Mortar color sample as selected from manufacturer's standard color range.
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PART 3 EXECUTION

3.1 EXAMINATION

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- .1 Install mortar to manufacturer's instructions.
- .2 Install mortar to requirements of CAN/CSA A179.
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- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.
- .2 Remove droppings and splashings using clean sponge and water.
- .3 Clean masonry with low pressure clean water and soft natural bristle brush.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.2 **REFERENCES**

- .1 American Wood-Preservers' Association (AWPA)
 - .1 AWPA M2, Standard Inspection of Treated Wood Products.
 - .2 AWPA M4, Standard for the Care of Preservative-Treated Wood Products.
- .2 Canadian Standards Association (CSA)
 - .1 CSA O80 Series, Wood Preservation.
 - .2 CSA O80.20, Fire-Retardant Treatment of Lumbering Pressure Processes. This Standard applies to the fire-retardant treatment of lumber by pressure processes. Fire-Retardant Treatment of Lumber by Pressure Processes. This is not a stand alone specification.
 - .3 CSA O80.27, Fire-Retardant Treatment of Plywood by Pressure Processes. This Standard covers the fire-retardant treatment of Douglas Fir, hardwood, softwood, and Poplar plywood by pressure processes. Fire-Retardant Treatment of Plywood by Pressure Processes. This not a stand alone specification.
 - .4 CSA O80.201, Standard for Hydrocarbon Solvents for Preservatives. This Standard covers hydrocarbon solvents for preparing solutions of preservatives.- This is not stand alone specification
 - .5 CSA O322, Procedure for Certification of Pressure-Treated Wood Materials for Use in Preserved Wood Foundations.

1.3 **REGULATORY REQUIREMENTS**

- .1 Each board or bundle of fire-retardant treated material panel to bear ULC label indicating Flame Spread Classification (FSC), and smoke developed.

1.4 **CERTIFICATES**

- .1 For products treated with preservative, fire-retardant by pressure impregnation submit following information certified by authorized signing officer of treatment plant:
 - .1 Information listed in AWPA M2 and revisions specified in CSA O80 Series, Supplementary Requirement to AWPA M2 applicable to specified treatment.
 - .2 Moisture content after drying following treatment with water-borne preservative, fire-retardant.
 - .3 Acceptable types of paint, stain, and clear finishes that may be used over treated materials to be finished after treatment.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Do not dispose of preservative treated wood through incineration.
- .2 Do not dispose of preservative treated wood with other materials destined for recycling or reuse.
- .3 Dispose of treated wood, end pieces, wood scraps and sawdust at sanitary landfill approved by Owner's Representative.
- .4 Dispose of unused wood preservative material at official hazardous material collections site approved by Owner's Representative.
- .5 Do not dispose of unused preservative material into sewer system, into streams, lakes, onto ground or in other location where they will pose health or environmental hazard.

PART 2 PRODUCTS**2.1 MATERIALS**

- .1 Preservative: to CAN/CSA-O80 Series, stained finish.
- .2 Fire-Retardant: to CAN/CSA O80.20.
- .3 Solvent: to CAN/CSA-O80.201.

PART 3 EXECUTION**3.1 APPLICATION: PRESERVATIVE**

- .1 Treat lumber to CAN/CSA- O80 Series.
- .2 Following water-borne preservative treatment, dry material to maximum moisture content of 19%.

3.2 APPLICATION: FIRE-RETARDANT

- .1 Treat lumber by pressure impregnation with fire-retardant chemicals in accordance with CAN/CSA - O80.20.
- .2 Following treatment, kiln-dry material to maximum moisture content of 19%.

3.3 APPLICATION: FIELD TREATMENT

- .1 Comply with AWWA M4 and revisions specified in CAN/CSA-O80 Series, Supplementary Requirements to AWWA Standard M2.
- .2 Treat all field cuts with two (2) coats of clear copper naphthenate or 5% pentachlorophenol solution, water repellent preservative.

- .3 Remove chemical deposits on treated wood to receive applied finish.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Section 06 05 73 - Wood Treatment.
- .3 Section 07 91 00 - Joint Sealants.

1.2 **REFERENCES**

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM A123/A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .2 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .3 ASTM C578, Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - .4 ASTM C1396/C1396M, Standard Specification for Gypsum Board.
 - .5 ASTM D5055, Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists.
 - .6 ASTM F1667, Standard Specification for Driven Fasteners: Nails, Spikes and Staples.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-71.26, Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems.
- .3 Canadian Wood Council
 - .1 Wood Design Manual.
 - .2 Engineering Guide for Wood Frame Construction.
- .4 Canadian Standards Association (CSA)
 - .1 CSA A123.2, Asphalt Coated Roofing Sheets.
 - .2 CSA B111, Wire Nails, Spikes and Staples.
 - .3 CSA 0112.9, Evaluation of Adhesives for Structural Wood Products (Exterior Exposure).
 - .4 CSA O121, Douglas Fir Plywood.
 - .5 CSA-O141, Softwood Lumber.
 - .6 CSA O151, Canadian Softwood Plywood.
 - .7 CSA-O325.0, Construction Sheathing.
- .5 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber.

- .6 National Research Council Canada (NRC)
 - .1 National Building Code of Canada (NBC).

1.3 QUALITY ASSURANCE

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ANSI standards.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Submit proof of compatibility between Alkaline Copper Quaternary (ACQ) pressure treated lumber and fasteners to be utilized.
- .3 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for wood products and accessories and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Include manufacturer's pre-engineered floor, ceiling and roof joist span charts, and manufacturer's pre-engineered installation details.
 - .3 Submit certified test reports for prefabricated structural members from approved independent laboratory indicating compliance with specifications for specified performance characteristics and physical properties.
 - .4 Submit CCMC Product Evaluation Report for engineered wood products.
 - .5 Submit manufacturer's installation instructions.
- .4 Shop Drawings:
 - .1 For structural applications or conditions beyond the scope of the manufacturer's pre-engineered design information, submit drawings stamped and signed by professional engineer registered or licensed in the Province of Newfoundland and Labrador.
 - .2 Include on drawings:
 - .1 Design data in accordance with CAN/CSA-O86 and CWC Engineering Guide for Wood Frame Construction.
 - .2 Indicate configuration and spacing of joists, hanger and connector types, fasteners, locations and design values; bearing details.
 - .3 Submit stress diagrams or print out of computer design indicating design loads for members. Indicate allowable load and stress increase.
 - .4 Indicate arrangement of webs or other members to accommodate ducts and other specialties

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00- Common Product Requirements.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in dry location, off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store materials off ground with moisture barrier at both ground level and as a cover forming a well-ventilated enclosure, with drainage to prevent standing water.
 - .3 Store wood I-beams and I-joists on edge.
 - .4 Stack, lift, brace, cut and notch engineered lumber products in strict accordance with manufacturer's instructions and recommendations.
 - .5 Store and protect architecturally exposed lumber from[nicks, scratches, and blemishes.
 - .6 Replace defective or damaged materials with new.
 - .7 Store separated reusable wood waste convenient to cutting station and work areas.

PART 2 PRODUCTS

2.1 STRUCTURAL FRAMING

- .1 Lumber: unless specified otherwise, softwood, No. 1 or No. 2 grade, S4S, moisture content 19% (S-dry) or less in accordance with following standards:
 - .1 CAN/CSA-O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Wood I-joists in accordance with Prefabricated Wood I-Joists ASTM D5055.
- .3 Framing and board lumber: in accordance with NBC.
- .4 Furring, blocking, nailing strips, grounds, rough bucks, fascia backing and sleepers:
 - .1 Board sizes: "Standard" or better grade.
 - .2 Dimension sizes: "Standard" light framing or better grade.
 - .3 Post and timbers sizes: "Standard" or better grade.
- .5 Pressure treated material to be Alkaline Copper Quaternary (ACQ).
- .6 Where indicated, provide pressure treated materials for furring, blocking, nailing strips, grounds, rough bucks, cants , curbs, fascia backing and sleepers in accordance with Section 06 05 73.

2.2 PANEL MATERIALS

- .1 Plywood, OSB and wood based composite panels: to CAN/CSA-O325.0.
- .2 Douglas fir plywood (DFP): to CSA O121, standard construction.
- .3 Canadian softwood plywood (CSP): to CSA O151, standard construction.

2.3 ACCESSORIES

- .1 Exterior wall sheathing paper: to CAN/CGSB-51.32 single ply, spunbonded olefin type coated impregnated as indicated.
- .2 Polyethylene film: to Section 07 26 00 – Vapour Retarders.
- .3 Sill Gasket Air seal: closed cell polyurethane or polyethylene.
- .4 Sealants: Section 07 91 00 – Joint Sealants.
- .5 General purpose adhesive: to CSA O112.9.
- .6 Nails, spikes and staples: to CSA B111.
- .7 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
- .8 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, explosive actuated fastening devices, recommended for purpose by manufacturer.

2.4 FASTENER FINISHES

- .1 Galvanizing: to ASTM A123/A123M, ASTM A653, use galvanized fasteners for exterior work, interior highly humid areas and fire-retardant treated lumber.

2.5 WOOD PRESERVATIVE

- .1 Surface-applied wood preservative: clear or copper naphthenate or 5% pentachlorophenol solution, water repellent preservative.

PART 3 EXECUTION

3.1 PREPARATION

- .1 Treat surfaces of material with wood preservative, before installation.
- .2 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber and one minute soak on plywood.
- .3 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.

- .4 Treat all material as indicated as follows:
 - .1 Wood fascia, backing, curbs, nailers.
 - .2 Wood furring for sheeting/siding on outside surface of exterior masonry concrete walls.
 - .3 Wood sleepers supporting wood subflooring over concrete slabs in contact with ground or fill.

3.2 SYSTEMS INTEGRATION

- .1 Install air barrier and vapour retarder sheeting around framing members to ensure continuity of protection and to lap and seal to main sheets.
- .2 Install insulation in exterior wall framing cavities that will not be accessible after completion of framing.
- .3 Install sill plate gasket in continuous lengths between concrete surfaces and wood framing.

3.3 INSTALLATION

- .1 Comply with requirements of NBC latest edition, Part 9 supplemented by following paragraphs.
- .2 Install members true to line, levels and elevations, square and plumb.
- .3 Construct continuous members from pieces of longest practical length.
- .4 Install spanning members with "crown-edge" up.
- .5 Select exposed framing for appearance. Install lumber and panel materials so that grade-marks and other defacing marks are concealed or are removed by sanding where materials are left exposed.
- .6 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .7 Countersink bolts where necessary to provide clearance for other work.
- .8 Install specified panel product for each application.
- .9 Install wall sheathing in accordance with manufacturer's printed instructions.
- .10 Install furring and blocking as required to space-out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding electrical equipment mounting boards, and other work as required.
- .11 Use dust collectors and high quality respirator masks when cutting or sanding wood panels.

3.4 SCHEDULES

- .1 Exterior wall sheathing:
 - .1 Plywood, DFP or CSP sheathing grade or (SHG) grade, T&G edge, 16 mm thick, unless otherwise indicated.
 - .2 Expanded polystyrene sheathing, Type 1, RSI indicated, shiplapped edges, thickness as indicated.
 - .3 Gypsum sheathing, Section 09 21 16 – Gypsum Board Assemblies.

3.5 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by rough carpentry installation.

END OF SECTION

PART 1 GENERAL**1.1 RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 61 00 - Common Product Requirements.
- .3 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .4 Section 09 91 23 - Interior Painting.

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A208.1, Particleboard.
 - .2 ANSI A208.2, Medium Density Fibreboard (MDF).
 - .3 ANSI/HPVA HP-1, American National Standard for Hardwood and Decorative Plywood.
- .2 Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)
 - .1 Architectural Woodwork Quality Standards, 1st edition.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-11.3, Hardboard.
- .4 Canadian Standards Association (CSA)
 - .1 CSA B111, Wire Nails, Spikes and Staples.
 - .2 CSA O121, Douglas Fir Plywood.
 - .3 CAN/CSA O141, Softwood Lumber.
 - .4 CSA O151, Canadian Softwood Plywood.
 - .5 CSA O153, Poplar Plywood.
- .5 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber.

1.3 QUALITY ASSURANCE

- .1 Lumber by grade stamp of agency certified by Canadian Lumber Standards Accreditation Board (CLSAB).
- .2 Plywood, particleboard, OSB and wood based composite panels to CSA and ANSI standards.

- .3 Wood fire rated frames and panels: listed and labelled by an organization accredited by Standards Council of Canada to CAN4-S104 and CAN/ULC-S105.

1.4 SUBMITTALS

- .1 Indicate details of construction, profiles, jointing, fastening and other related details.
- .2 Indicate materials, thicknesses, finishes and hardware.

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Protect materials against dampness during and after delivery.
- .3 Store materials in ventilated areas, protected from extreme changes of temperature or humidity.

PART 2 PRODUCTS

2.1 LUMBER MATERIAL

- .1 Softwood lumber: unless specified otherwise, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CAN/CSA-O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
 - .3 AWMAC custom premium grade, moisture content as specified.
- .2 Machine stress-rated lumber is acceptable.
- .3 Hardwood lumber: moisture content 10 % or less in accordance with following standards:
 - .1 National Hardwood Lumber Association (NHLA).
 - .2 AWMAC custom grade, moisture content as specified.

2.2 PANEL MATERIAL

- .1 Panel materials to be urea-formaldehyde free.
- .2 Douglas fir plywood (DFP): to CSA O121, standard construction.
- .3 Canadian softwood plywood (CSP): to CSA O151, standard construction.
- .4 Hardwood plywood: to ANSI/HPVA HP-1.
- .5 Poplar plywood (PP): to CSA O153, standard construction.
- .6 Hardboard: to CAN/CGSB-11.3.

- .7 Medium density fibreboard (MDF): to ANSI A208.2, density 640-800 kg/m³.
- .8 Decorative overlaid composite panels.
 - .1 Decorative overlay, heat and pressure laminated with suitable resin to 12.7 mm thick particleboard MDF core.
 - .2 Overlay bonded to both faces where exposed two sides, and when panel material require surface on one side only, reverse side to be overlaid with a plain (buff) balancing sheet.
 - .3 Edge finishing: matching melamine and polyester overlay edge strip with self-adhesive.

2.3 ACCESSORIES

- .1 Nails and staples: to CSA B111; galvanized to CAN/CSA-G164 for exterior work, interior humid areas and for treated lumber; plain finish elsewhere.
- .2 Wood screws: plain, type and size to suit application.
- .3 Splines: wood
- .4 Adhesive: recommended by manufacturer.
- .5 Use least toxic sealants, adhesives, sealers, and finishes necessary to comply with requirements of this section.

PART 3 EXECUTION

3.1 INSTALLATION

- .1 Do finish carpentry to Quality Standards of the Architectural Woodwork Manufacturers Association of Canada (AWMAC), except where specified otherwise.
- .2 Scribe and cut as required, fit to abutting walls, and surfaces, fit properly into recesses and to accommodate piping, columns, fixtures, outlets, or other projecting, intersecting or penetrating objects.
- .3 Form joints to conceal shrinkage.

3.2 CONSTRUCTION

- .1 Fastening.
 - .1 Position items of finished carpentry work accurately, level, plumb, true and fasten or anchor securely.
 - .2 Design and select fasteners to suit size and nature of components being joined. Use proprietary devices as recommended by manufacturer.

- .3 Set finishing nails to receive filler. Where screws are used to secure members, countersink screw in round cleanly cut hole and plug with wood plug to match material being secured.
- .4 Replace items of finish carpentry with damage to wood surfaces including hammer and other bruises.
- .2 Window Box and Casings.
 - .1 Butt and cope internal joints of window box and casings to make snug, tight, joint. Cut right angle joints of casing with mitred joints.
 - .2 Fit backs of casing snugly to wall surfaces to eliminate cracks at junction of base and casing with walls.
 - .3 Make joints in casings, where necessary using a 45° scarf type joint.
 - .4 Install window trim in single lengths without splicing.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Section 01 45 00 - Quality Control.
- .4 Section 01 51 00 - Temporary Utilities.

1.2 **REFERENCES**

- .1 Canadian Urethane Foam Contractors' Association Inc. (CUFCA)
- .2 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S101, Fire Endurance Tests of Building Construction and Materials.
 - .2 CAN/ULC-S102, Surface Burning Characteristics of Building Materials and Assemblies.
 - .3 CAN/ULC-S705.1, Standard for Thermal Insulation Spray Applied Rigid Foam, Medium Density, Material Specification.
 - .4 CAN/ULC-S705.2, Standard for Thermal Insulation Spray Applied Rigid Foam, Medium Density, Installer's Responsibilities-Specification.

1.3 **TEST REPORTS**

- .1 Submit test reports, verifying qualities of foam sealant meet or exceed requirements of this specification.
- .2 Submit test reports in accordance with CAN/ULC-S101 for fire endurance and CAN/ULC-S102 for surface burning characteristics.

1.4 **QUALITY ASSURANCE**

- .1 Applicators to conform to CUFCA Quality Assurance Program.

1.5 **SAFETY REQUIREMENTS**

- .1 Protect workers as recommended by CAN/ULC-S705.2 and manufacturer's recommendations:
 - .1 Workers must wear gloves, respirators, dust masks, eye protection, protective clothing when applying foam sealant.
 - .2 Workers must not eat, drink or smoke while applying foam sealant.

1.6 **PROTECTION**

- .1 Ventilate area in accordance with Section 01 51 00 - Temporary Utilities.

- .2 Ventilate area to receive insulation by introducing fresh air and exhausting air continuously during and 24 hours after application to maintain non-toxic, unpolluted, safe working conditions.
- .3 Provide temporary enclosures to prevent spray and noxious vapours from contaminating air beyond application area.
- .4 Protect adjacent surfaces and equipment from damage by overspray, fall-out, and dusting of insulation materials.
- .5 Dispose of waste foam sealant daily in location designated by Owner's Representative and decontaminate empty drums in accordance with foam sealant manufacturer's instructions.

1.7 ENVIRONMENTAL REQUIREMENTS

- .1 Apply foam sealant only when surfaces and ambient temperatures are within manufacturers' prescribed limits.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Low expanding, one-component, polyurethane foam sealant, curing to a semi-rigid, closed cell urethane foam providing a RSI of 0.9 per 25.4 mm. To meet the following physical properties:
 - .1 Density: 25.7 kg/m³
 - .2 Compressive Strength Parallel @ 10%: 69-96 psi
 - .3 Tensile Strength: 103 psi
 - .4 Water Vapour Transmission: 5.97 perms
 - .5 Flame Spread: 20
 - .6 Smoke Development: 70

PART 3 **EXECUTION**

3.1 **APPLICATION**

- .1 Apply foam sealant to clean surfaces in accordance manufacturer's printed instructions. Surfaces to be free of dust, dirt, oil and other foreign materials.
- .2 Cover surfaces not intended to be foamed.
- .3 Apply foam sealant to perimeter of openings indicated and to thickness as recommended by manufacturer. Trim excess cured foam from finished area.
- .4 Cover exposed urethane foam sealants to protect from adverse affects from ultraviolet light (sunlight).

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 51 00 - Temporary Utilities.

1.2 **REFERENCES**

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM D1621, Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
 - .2 ASTM D1622, Standard Test Method for Apparent Density of Rigid Cellular Plastics.
 - .3 ASTM D1623, Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.
 - .4 ASTM D2842, Standard Test Method for Water Absorption of Rigid Cellular Plastics.
 - .5 ASTM E96, Standard Test Methods for Water Vapour Transmission of Materials.
 - .6 ASTM E2178, Standard Test Method for Air Permeance of Building Materials.
- .2 Canadian Urethane Foam Contractors' Association Inc. (CUFCA)
- .3 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S101, Fire Endurance Tests of Building Construction and Materials.
 - .2 CAN/ULC-S102, Surface Burning Characteristics of Building Materials and Assemblies.
 - .3 CAN/ULC-S705.1, Standard for Thermal Insulation Spray Applied Rigid Foam, Medium Density, Material Specification.
 - .4 CAN/ULC-S705.2, Standard for Thermal Insulation Spray Applied Rigid Foam, Medium Density, Installer's Responsibilities-Specification.

1.3 **SUBMITTALS**

- .1 Product Data:
 - .1 Submit manufacturer's printed product data literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two copies of WHMIS MSDS – Material Safety Data Sheets.
- .2 Test Reports

- .1 Submit certified test reports, from approved independent testing laboratories verifying qualities of insulation meet or exceed requirements of this specification.
- .2 Submit test reports in accordance with CAN/ULC-S101 for fire endurance and CAN/ULC-S102 for surface burning characteristics.
- .3 Submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

1.4 QUALITY ASSURANCE

- .1 Installer to conform to CUFCA Quality Assurance Program or an equivalent recognized quality assurance and training program.
- .2 Qualifications:
 - .1 Installer: person specializing in sprayed insulation installations with minimum 5 years experience approved by manufacturer.
 - .2 Manufacturer: company with minimum 5 years experience in producing of material used for work required for this project, with sufficient production capacity to produce and deliver required units without causing delay in work.

1.5 SAFETY REQUIREMENTS

- .1 Protect workers as recommended by CAN/ULC-S705.2 and manufacturer's recommendations:
 - .1 Workers must wear gloves, respirators, dust masks, eye protection, protective clothing when applying foam insulation.
 - .2 Workers must not eat, drink or smoke while applying foam insulation.

1.6 PROTECTION

- .1 Ventilate area in accordance with Section 01 51 00 - Temporary Utilities.
- .2 Ventilate area to receive insulation by introducing fresh air and exhausting air continuously during and 24 hours after application to maintain non-toxic, unpolluted, safe working conditions.
- .3 Provide temporary enclosures to prevent spray and noxious vapours from contaminating air beyond application area.
- .4 Protect adjacent surfaces and equipment from damage by overspray, fall-out, and dusting of insulation materials.
- .5 Dispose of waste foam daily in location designated by Owner's Representative and decontaminate empty drums in accordance with foam manufacturer's instructions.

1.7 ENVIRONMENTAL REQUIREMENTS

- .1 Apply insulation only when surfaces and ambient temperatures are within manufacturers' prescribed limits.

1.8 WARRANTY

- .1 Provide a written guarantee, signed and issued in the name of the owner, stating the sprayed polyurethane foam insulation shall remain free from defects in materials and workmanship for a period of one (1) year from the date of Substantial Completion.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Insulation: spray polyurethane foam to CAN/ULC-S705.1, thickness and RSI Value as indicated on drawings.
 - .1 Initial thermal resistance: minimum RSI 2.5 per 50 mm.
 - .2 Long term thermal resistance: minimum RSI 2.0 per 50 mm.
 - .3 Density: 28 kg/m³, to ASTM D1622.
 - .4 Air barrier properties: to ASTM E2178.
 - .1 @75 Pa: maximum 0.05 L/s.
 - .5 Water Vapour Permeance, to ASTM E96:
 - .1 50 mm thick: maximum 60 ng/(Pa.s.m²).
 - .6 Tensile Strength: minimum 200 kPa, to ASTM D1621.
 - .7 Flame Spread: to CAN/ULC-S102, in accordance with the latest edition of the National Building Code.
 - .8 Water Absorption by volume: maximum 4%, to ASTM D2842.
- .2 Primers: in accordance with manufacturer's recommendations for surface conditions.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 APPLICATION

- .1 Apply insulation to clean surfaces in accordance with CAN/ULC-S705.2 and manufacturer's printed instructions.
- .2 Use primer where recommended by manufacturer.
- .3 Apply sprayed foam insulation in thickness as indicated to seal all openings in exterior wall envelope to produce a continuous air/vapour barrier.

3.3 FIELD QUALITY CONTROL

- .1 Manufacturer's Field Services:
 - .1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.4 CLEANING

- .1 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

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 01 45 00 - Quality Control.
- .3 Section 01 61 00 - Common Product Requirements.
- .4 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.3 **REFERENCES**

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM C321, Standard Test Method for Bond Strength of Chemical-Resistant Mortars.
 - .2 ASTM C834, Standard Specification for Latex Sealants.
 - .3 ASTM C882, Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear.
 - .4 ASTM C919, Standard Practice for Use of Sealants in Acoustical Applications.
 - .5 ASTM C920, Standard Specification for Elastomeric Joint Sealants.
 - .6 ASTM C1330, Standard Specification for Cylindrical Sealant Backing for use with Cold Liquid Applied Sealants.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-19.21, Sealing and Bedding Compound Acoustical.
- .3 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act (CEPA).
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .5 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act (TDGA).

1.4 **SUBMITTALS**

- .1 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.
- .4 Installation instructions, surface preparation and product limitations.
- .2 Submit duplicate samples of each type of material and colour.
- .3 Cured samples of exposed sealants for each color where required to match adjacent material.
- .4 Manufacturers' instructions to include installation instructions for each product used.

1.5 QUALITY ASSURANCE

- .1 Manufacturer Qualifications: company engaged in the manufacturing of products specified in this section with a minimum of ten (10) years documented experience.
- .2 Applicator Qualifications: Experienced installer equipped and trained for application of joint sealant required for this project with record of successful completion of projects of similar scope.
 - .1 Applicator to be approved by sealant manufacturer.
 - .2 Applicator to submit documentation of a minimum three (3) successfully completed projects of similar size, scope and complexity.

1.6 FIELD ADHESION/COHESION TESTS

- .1 Test Frequency:
 - .1 Perform a field test each type of sealant and substrate combination, for all interior and exterior sealants associated with the building envelope.
 - .2 Perform three (3) additional tests for each failed test.
- .2 Locate test joints as directed by Owner's Representative. Tests to be performed in the presence of the Owner's Representative and/or manufacturer's representative.
- .3 Notify Owner's Representative seven (7) days prior to dates tests are to be performed.
- .4 Test joint sealants by hand-pull methods #1 and # 2. Record test results in Field Adhesion/Cohesion Test Form.
 - .1 Test Method #1:
 - .1 Make a knife cut horizontally from one side of the joint to the other.
 - .2 Make two (2) vertical cuts (from the horizontal cut) approximately 75 mm long on each side of the joint.
 - .3 Pry out flap created from cuts.
 - .4 Firmly grasp flap and slowly pull at 90° from sealant plane.
 - .5 Pull flap until adhesive or cohesive failure occurs.
 - .1 Adhesive failure will be evidenced by the sealant pulling off clean from the substrate.

.2 Cohesion failure will be evidenced by the sealant ripping or failing within itself, leaving well-adhered sealant to the substrate.

(Cohesive failure is considered a positive result).

.2 Test Method # 2:

.1 Follow steps one (1) through four (4) of Test Method # 1.

.2 Mark a benchmark on the sealant 25 mm (1") from the plane of the installed sealant.

.3 Firmly grasp the flap and pull slowly, while holding a ruler parallel to the sealant flap. Note the position of the benchmark on the ruler.

.4 Refer to manufacturer's printed literature for each sealant tested for the required extension factor pass criteria; (i.e.: if the 25 mm (1") benchmark on the sealant can be pulled to 100 mm (4") and held with no failure of sealant, 400% elongation is achieved.)

.5 **If no failure occurs prior to the manufacturer's stated extension factor, the test is successful.** Extension factor should be three (3) times the movement capability of the sealant.

.5 Inspect joints for:

.1 Complete fill,

.2 Absence of voids,

.3 Primer,

.4 Proper width/depth ratio, and

.5 Back up material.

.6 Repair sealants pulled in test area by applying new sealants following same procedures used to original seal joints.

.7 Contractor shall repair test areas at no additional cost to the Owner.

1.7 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.

.3 Condition products to approximately 16 to 20 degrees C for use in accordance with manufacturer's recommendations.

.4 Handle all products with appropriate precautions and care as stated on the Material Safety Data Sheet.

1.8 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°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.

PART 2 PRODUCTS

2.1 SEALANT MATERIALS

- .1 Sealants and Caulking compounds must:
 - .1 Meet or exceed all applicable governmental and industrial safety and performance standards; and
 - .2 Be manufactured and transported in such a manner that all steps fo the process, including the disposal of waste products arising therefrom, will meet the requirements of all applicable governmental acts, by laws and regulations including, for facilities located in Canada, the Fisheries Act and the Canadian Environmental Protection Act (CEPA).
- .2 Sealant and caulking compounds must not be formulated or manufactured with: aromatic solvents, fibrous talc or asbestos, formaldehyde, halogenated solvents, mecury, lead, cadium, hexavalent chromium, barium or their compounds, except barium sulphate.
- .3 Sealant and caulking compounds must no contain a total of volatile organic compound (VOC's) in excess of 100 grams per litre as calculated from records of the amounts of constituents used to make the product.
- .4 Sealant and caulking compounds must be accompanied by detailed instructions for proper application so as to minimize health concerns and maximize performance, and information describing proper disposal methods.
- .5 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.
- .6 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.
- .7 Where sealants are qualified with primers use only these primers.

- .8 Sealants acceptable for use on this project must be listed on CGSB Qualified Products List issued by CGSB Qualification Board for Joint Sealants. Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

- .1 Single component, low odor, moisture cure, medium modulus, low VOC sealant for use in sealing air/vapour barrier penetrations, to ASTM C920, Type S, Grade NS, Class 35.
- .1 ASTM C719: $\pm 35\%$.
 - .2 Ultimate Elongation: 450 - 550%.
 - .3 Modulus, 100%: 275 - 345 kPa.
 - .4 Shore A Hardness: 25 ± 5 .
 - .5 Tensile Strength: 1034 - 1378 kPa.
 - .6 Maximum VOC: 5 g/L.
- .2 Single component, medium modulus, high-performance, neutral-cure silicone sealant for general purpose exterior use, to ASTM C920, Type S, Grade NS, Class 35, Use NT, M, A and O.
- .1 ASTM C719: $\pm 25\%$.
 - .2 Ultimate Elongation: 550%.
 - .3 Modulus, 50% extension: 380 kPa.
 - .4 Shore A Hardness: 25 ± 5 .
 - .5 Tensile Strength: 1240 kPa.
 - .6 Maximum VOC: 35 g/L.
 - .7 Colour to be selected from manufacturer's standard range.
- .3 Single component, low modulus, neutral-cure silicone sealant for general purpose masonry use, to ASTM C920, Type S, Grade NS, Class 50, Use T, NT, M, G, A and O.
- .1 ASTM C719: $\pm 50\%$.
 - .2 Ultimate Elongation: 1600%.
 - .3 Modulus, 50% extension: 193 kPa.
 - .4 Shore A Hardness: 15.
 - .5 Tensile Strength: 690 kPa.
 - .6 Maximum VOC: 22 g/L.
 - .7 Colour to be selected from manufacturer's standard range.
- .4 Two-component, high modulus, neutral-cure flexible silicone rubber sealant for use with aluminum window and curtain wall fabrication, assembly and glazing installation, to ASTM C1184 and ASTM C920, Type M, Grade NS, Class 12 ½, Use NT.
- .1 ASTM C719: $\pm 25\%$.
 - .2 Ultimate Elongation: 120%.
 - .3 Shore A Hardness: 30 - 40.
 - .4 Tensile Strength: 2000 kPa.

- .5 Maximum VOC: < 18 g/L.
- .5 Single component, medium modulus, neutral-cure silicone sealant for general roofing applications, to ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A and O.
 - .1 ASTM C719: \pm 50%.
 - .2 Shore A Hardness: 35.
 - .3 Tensile Strength: 415 kPa.
 - .4 Maximum VOC: 28 g/L.
 - .5 Colour to be selected from manufacturer's standard range.
- .6 Single component, chemical cure, silicone rubber sealant, for use with plumbing fixtures, showers, sinks, tubs, and junction of counter tops and adjacent wall finishes, to ASTM C920, Type S, Grade NS, Class 25, Use NT.
 - .1 Shore A Hardness: 25.
 - .2 Tensile Strength: 2100 kPa.
 - .3 Maximum VOC: 36 g/L.
 - .4 Colour to be selected from manufacturer's standard range.
- .7 Single component, high-performance, elastomeric polyurethane sealant, paintable, for general purpose interior use, to ASTM C920, Type S, Grade NS, Class 35, Use NT, M, A, T, O and I.
 - .1 ASTM C719: 35%.
 - .2 Ultimate Elongation: 800%.
 - .3 Shore A Hardness: 25 - 30.
 - .4 Tensile Strength: 2400 kPa.
 - .5 Maximum VOC: 35 g/L.
 - .6 Colour to be selected from manufacturer's standard range.
- .8 Single component, non-skinning, non-hardening, synthetic rubber sealant for use in acoustical applications, to CAN/CGSB 19.21.
 - .1 Shrinkage: maximum 20%.
 - .2 Maximum VOC: 53 g/L.
 - .3 Sag: Maximum 4.0 mm.
- .9 Two-component, non-sag, tamper resistant, elastomeric polyurethane sealant, for use in interior joints, penetrations, doors, windows, perimeters of fixtures, where a flexible security sealant is required due to idle tampering or vandalism, to ASTM C920, type M, Grade NS, Class 12.5, Use T₁, M and O.
 - .1 Ultimate Elongation: 175 - 200%.
 - .2 Shore A Hardness: 40 - 45.
 - .3 Tensile Strength: 2000 to 2400 kPa.
 - .4 Maximum VOC: Activator - < 25 g/L, Base - < 100 g/L.
 - .5 Colour to be selected from manufacturer's standard range.

2.3 ACCESSORIES

- .1 Primer: Type as recommended by sealant manufacturer. Primer to be compatible with joint forming materials.
- .2 Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer and compatible with joint forming materials.
- .3 Preformed Compressible and Non-Compressible back-up materials.
 - .1 Polyethylene, Urethane, Neoprene or Vinyl Foam.
 - .1 Extruded closed cell foam backer rod.
 - .2 Size: oversize 30 to 50 %.
 - .2 Neoprene or Butyl Rubber.
 - .1 Round solid rod, Shore A hardness 70.
 - .3 High Density Foam.
 - .1 Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m³ density, or neoprene foam backer, size as recommended by manufacturer.
 - .4 Bond Breaker Tape.
 - .1 Polyethylene bond breaker tape which will not bond to sealant.

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 All joint forming materials to be primed prior to sealant installation.
- .6 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 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.
- .2 Curing.
 - .1 Cure sealants in accordance with sealant manufacturer's instructions.
 - .2 Do not cover up sealants until proper curing has taken place.
- .3 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 CLEANING

- .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.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .3 Section 07 21 20 – Low Expanding Foam Sealant.
- .4 Section 07 92 00 - Joint Sealants.
- .5 Section 08 71 00 - Door Hardware.
- .6 Section 08 80 50 – Glazing.
- .7 Section 09 91 13 - Exterior Painting.
- .8 Section 09 91 23 - Interior Painting.

1.2 **REFERENCES**

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM A653/A653M, Specification for Steel Sheet Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by the Hot Dip Process.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.181, Ready-Mixed Organic Zinc-Rich Coating.
 - .2 CGSB 41-GP-19Ma, Rigid Vinyl Extrusions for Windows and Doors.
- .3 Canadian Standards Association (CSA)
 - .1 G40.20/G40.21, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CSA W59, Welded Steel Construction (Metal Arc Welding).
- .4 Canadian Steel Door Manufacturers' Association, (CSDMA).
 - .1 CSDMA, Specifications for Commercial Steel Doors and Frames.
 - .2 CSDMA, Recommended Selection and Usage Guide for Commercial Steel Doors.
- .5 National Fire Protection Association (NFPA)
 - .1 NFPA 80, Standard for Fire Doors and Fire Windows.
 - .2 NFPA 252, Standard Methods of Fire Tests of Door Assemblies.
- .6 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN4-S104M, Fire Tests of Door Assemblies.

- .2 CAN4-S105M, Fire Door Frames Meeting the Performance Required by CAN4-S104.
- .3 CAN/ULC-S701, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
- .4 CAN/ULC-S702, Thermal Insulation, Mineral Fibre, for Buildings.
- .5 CAN/ULC-S704, Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.

1.3 DESIGN REQUIREMENTS

- .1 Design door assembly to withstand minimum 1,000,000 swing cycles in accordance with ANSI A151.1, with no failure of any design features of the door.
- .2 Design exterior frame assembly to accommodate to expansion and contraction when subjected to minimum and maximum surface temperature of -35°C to 35°C.
- .3 Maximum deflection for exterior steel entrance screens under wind load of 1.2 kPa not to exceed 1/175th of span.
- .4 Steel fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with CAN4-S104 and NFPA 252 for ratings specified or indicated.
- .5 Provide fire labelled frames for openings requiring fire protection ratings. Test products in conformance with CAN4-S104 and NFPA 252 and listed by nationally recognized agency having factory inspection services and construct as detailed in Follow-Up Service Procedures/Factory Inspection Manuals issued by listing agency to individual manufacturers.

1.4 SUBMITTALS

- .1 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, glazed, louvred, arrangement of hardware and fire rating and finishes.
- .2 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings and reinforcing firerating and finishes.
- .3 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

1.5 DELIVERY STORAGE AND HANDLING

- .1 Deliver, store, handle and protect doors and frames in accordance with Section 01 61 00-Common Product Requirements.
- .2 Deliver, handle and store doors and frames at the job site in such a manner as to prevent damage.
- .3 Store doors and frames under cover with doors stored in a vertical position on blocking, clear of floor and with blocking between doors to permit air circulation.

1.6 QUALITY ASSURANCE

- .1 Conform to requirements to ANSI A117.1
- .2 Company specializing in manufacturing products specified with a minimum of five (5) years documented experience.

1.7 WARRANTY

- .1 Provide a written warranty for work of this section from manufacturer for failure due to defective materials and from contractor for failure due to defective installation workmanship, for one (1) year respectively from the date of Substantial Completion.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Hot dipped galvanized steel sheet: to ASTM A653/A653M, ZF75, minimum base steel thickness in accordance with CSDMA Table 1 - Thickness for Component Parts.
- .2 Reinforcement channel: to CSA G40.20/G40.21, Type 44W, coating designation to ASTM A653/A653M, ZF75.

2.2 DOOR CORE MATERIALS

- .1 Stiffened: face sheets welded insulated core.
 - .1 Expanded polystyrene: CAN/ULC-S701, density 16 to 32 kg/m³.
 - .2 Polyurethane: to CAN/ULC-S704 rigid, modified polyisocyanurate, closed cell board. Density 32 kg/m³.
- .2 Temperature rise rated (TRR): core composition to limit temperature rise on unexposed side of door to 250°C at 60 minutes. Core to be tested as part of a complete door assembly, in accordance with CAN4-S104, ASTM E152 or NFPA 252, covering Standard Method of Tests of Door Assemblies and listed by nationally recognized testing agency having factory inspection service.
- .3 Thermal Insulation material must:
 - .1 Not require being labelled as poisonous, corrosive, flammable or explosive under the Consumer Chemical and Container Regulations of the Hazardous Products Act.
 - .2 Be manufactured using a process that uses chemical compounds with the minimum zone depletion potential (ODP) available.

2.3 ADHESIVES

- .1 Polystyrene and polyurethane cores: heat resistant, epoxy resin based, low viscosity, contact cement.

2.4 PRIMER

- .1 Touch-up prime CAN/CGSB-1.181.

2.5 ACCESSORIES

- .1 Door silencers: single stud rubber/neoprene type.
- .2 Exterior top and bottom caps steel.
- .3 Fabricate glazing stops as formed channel, minimum 16 mm height, accurately fitted, butted at corners and fastened to frame sections with counter-sunk oval head sheet metal screws.
- .4 Door bottom seal: Section 08 71 00 – Door Hardware.
- .5 Metallic paste filler: to manufacturer's standard.
- .6 Fire labels: metal riveted.
- .7 Sealant: Section 07 92 00 – Joint Sealants.
- .8 Provide low expanding, single component polyurethane foam sealant installed at head and jamb perimeter of door frame for sealing to building air barrier, vapour retarder and door frame. Foam sealant width to be adequate to provide required air tightness and vapour diffusion control to building air barrier and vapour retarder foam interior. Refer to Section 07 21 20 – Low Expanding Foam Sealant.
- .9 Glazing: Section 08 80 50 – Glazing.
- .10 Make provisions for glazing as indicated and provide necessary glazing stops.
 - .1 Provide removable stainless steel glazing beads for dry glazing of snap-on type.
 - .2 Design exterior glazing stops to be tamperproof.
- .11 Finish Painting: to Section 09 91 13 – Exterior Painting and Section 09 91 23 – Interior Painting.

2.6 FRAMES FABRICATION GENERAL

- .1 Fabricate frames in accordance with CSDMA specifications.
- .2 Fabricate frames to profiles and maximum face sizes as indicated.
- .3 Exterior frames: 1.2 mm welded, thermally broken type construction.
- .4 Interior frames: 1.2 mm welded type construction.
- .5 Blank, reinforce, drill and tap frames for mortised, template hardware, and electronic hardware using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.

- .6 Protect mortised cutouts with steel guard boxes.
- .7 Prepare frame for door silencers, 3 for single door, 2 at head for double door.
- .8 Manufacturer's nameplates on frames and screens are not permitted.
- .9 Conceal fastenings except where exposed fastenings are indicated.
- .10 Provide factory-applied touch up primer at areas where zinc coating has been removed during fabrication.
- .11 Insulate exterior frame components with polyurethane insulation.

2.7 FRAME ANCHORAGE

- .1 Shim and anchor new doors in accordance with CAN/CSA A440.4.
- .2 Provide appropriate anchorage to floor and wall construction.
- .3 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.
- .4 Provide 2 anchors for rebate opening heights up to 1520 mm and 1 additional anchor for each additional 760 mm of height or fraction thereof.
- .5 Locate anchors for frames in existing openings not more than 150 mm from top and bottom of each jambs and intermediate at 660 mm o.c. maximum.

2.8 FRAMES: WELDED TYPE

- .1 Welding in accordance with CSA W59.
- .2 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.
- .3 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.
- .4 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.
- .5 Securely attach floor anchors to inside of each jamb profile.
- .6 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.

2.9 DOOR FABRICATION GENERAL

- .1 Doors: swing type, flush, with provision for glass and/or louvre openings as indicated.

- .2 Exterior doors: insulated, hollow steel construction. Interior doors: honeycomb hollow steel construction.
- .3 Fabricate doors with longitudinal edges locked seam. Seams: grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.
- .4 Doors: manufacturers' proprietary construction, tested and/or engineered as part of a fully operable assembly, including door, frame, gasketing and hardware in accordance with ASTM E330.
- .5 Blank, reinforce, drill doors and tap for mortised, templated hardware and electronic hardware.
- .6 Factory prepare holes 12.7 mm diameter and larger except mounting and through-bolt holes, on site, at time of hardware installation.
- .7 Reinforce doors where required, for surface mounted hardware. Provide flush steel top caps to exterior doors. Provide inverted, recessed, spot welded channels to top and bottom of interior doors.
- .8 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.
- .9 Provide fire labelled doors for those openings requiring fire protection ratings, as scheduled. Test such products in strict conformance with CAN4-S104 ASTM E152 NFPA 252 and list by nationally recognized agency having factory inspection service and construct as detailed in Follow-Up Service Procedures/Factory Inspection Manuals issued by listing agency to individual manufacturers.
- .10 Manufacturer's nameplates on doors are not permitted.

2.10 THERMALLY BROKEN DOORS AND FRAMES

- .1 Fabricate thermally broken doors by using insulated core and separating exterior parts from interior parts with continuous interlocking thermal break.
- .2 Thermal break: rigid polyvinyl chloride extrusion conforming to CGSB 41-GP-19Ma.
- .3 Fabricate thermally broken frames separating exterior parts from interior parts with continuous interlocking thermal break.
- .4 Apply insulation.

PART 3 EXECUTION

3.1 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.

3.2 FRAME INSTALLATION

- .1 Set frames plumb, square, level and at correct elevation.
- .2 Secure anchorages and connections to adjacent construction.
- .3 Brace frames rigidly in position while building-in. Install temporary horizontal wood spreader at third points of door opening to maintain frame width. Provide vertical support at centre of head for openings over 1200 mm wide. Remove temporary spreaders after frames are built-in.
- .4 Make allowances for deflection of structure to ensure structural loads are not transmitted to frames.
- .5 Caulk perimeter of frames between frame and adjacent material.
- .6 Maintain continuity of air barrier and vapour retarder.

3.3 DOOR INSTALLATION

- .1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 71 00 - Door Hardware.
- .2 Provide even margins between doors and jambs and doors and finished floor as follows.
 - .1 Hinge side: 1.0 mm.
 - .2 Latch side and head: 1.5 mm.
 - .3 Finished floor: 13 mm.
- .3 Adjust operable parts for correct function.

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 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 61 00 - Common Product Requirements.
- .3 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .4 Section 01 78 00 - Closeout Submittals.
- .5 Section 08 11 00- Metal Doors & Frames.

1.2 **REFERENCES**

- .1 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)
 - .1 ANSI/BHMA A156.1, American National Standard for Butts and Hinges.
 - .2 ANSI/BHMA A156.2, Bored and Preassembled Locks and Latches.
 - .3 ANSI/BHMA A156.3, Exit Devices.
 - .4 ANSI/BHMA A156.4, Door Controls - Closers.
 - .5 ANSI/BHMA A156.5, Cylinders and Input Devices for Locks.
 - .6 ANSI/BHMA A156.6, Architectural Door Trim.
 - .7 ANSI/BHMA A156.8, Door Controls - Overhead Stops and Holders.
 - .8 ANSI/BHMA A156.12, Interconnected Locks and Latches.
 - .9 ANSI/BHMA A156.13, Mortise Locks and Latches Series 1000.
 - .10 ANSI/BHMA A156.14, Sliding and Folding Door Hardware.
 - .11 ANSI/BHMA A156.15, Release Devices - Closer Holder, Electromagnetic and Electromechanical.
 - .12 ANSI/BHMA A156.16, Auxiliary Hardware.
 - .13 ANSI/BHMA A156.17, Self-closing Hinges and Pivots.
 - .14 ANSI/BHMA A156.18, Materials and Finishes.
 - .15 ANSI/BHMA A156.19, Power Assist and Low Energy Power - Operated Doors.
 - .16 ANSI/BHMA A156.21, Thresholds.
 - .17 ANSI/BHMA A156.22, Door Gasketing and Edge Seal Systems.
 - .18 ANSI/BHMA A156.26, Continuous Hinges.
 - .19 ANSI/BHMA A156.28, Keying Systems.
 - .20 ANSI/BHMA A156.31, Electronic Strikes.
- .2 Canadian Steel Door and Frame Manufacturers' Association (CSDFMA)
 - .1 CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction).

- .2 CSDFMA Recommended Dimensional Standards for Commercial Steel Doors and Frames.

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet.
- .2 Samples:
 - .1 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
 - .2 After approval samples will be returned for incorporation in the Work.
- .3 Hardware List:
 - .1 Submit contract hardware list.
 - .2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.
- .4 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.
- .5 Closeout Submittals
 - .1 Provide operation and maintenance data for door closers, locksets, door holders electrified hardware and fire exit hardware for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 MAINTENANCE MATERIALS

- .1 Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Supply two sets of wrenches for door closers, locksets and fire exit hardware.

1.5 WARRANTY

- .1 Provide a written manufacturer's warranty for work of this Section for failure due to defective materials for ten (10) years, dated from substantial completion certificate.
- .2 Provide a written Contractor's warranty for work of this Section for failure due to defective installation workmanship for one (1) year, dated from submittal completion certificate.

1.6 QUALITY ASSURANCE

- .1 Regulatory Requirements:
 - .1 Hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.

Western Health
Remediations to Bay St. George Long-Term Care Centre

September 2018

Section 08 71 00 – Door Hardware

Page 3 of 6

- .2 Only products certified in accordance with ANSI/BHMA standards are acceptable. Items that are equal in design, function and quality will be accepted upon approval of the Owner's Representative.
- .3 Only recognized contract hardware distributors will be considered for the work of this section. The distributor shall have on staff a qualified Architectural Hardware Consultant recognized by the Door and Hardware Institute or a person with equivalent qualifications to assist installers and direct detailing, processing and delivery of material, and certify installation acceptance.
- .4 Upon completion of finish hardware installation, hardware supplier shall inspect work and shall certify in writing that all items and their installation are in accordance with requirements of Contract Documents and are functioning properly.

1.7 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Store finishing hardware in locked, clean and dry area.
- .3 Package each item of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

1.8 MAINTENANCE SERVICE

- .1 Provide maintenance service for one year during warranty period to maintain all barrier free entrance automatic operators as follows:
 - .1 Qualified service personal approved by manufacturer of operators.
 - .2 Site inspection every three months will all necessary adjustment made during this visit. Separate warranty service calls, if required, will only qualify as an inspection if time of call is close to the three month intervals.
 - .3 Make detailed reports of each visit and copy to Owner and Engineer.
 - .4 Cost of this service will be included as part of this Section and is not covered by any allowance amount.

PART 2 PRODUCTS

2.1 HARDWARE ITEMS

- .1 Only door locksets and latches listed on ANSI/BHMA Standards list are acceptable for use on this project.
- .2 Use one manufacturer's products only for similar items.

2.2 DOOR HARDWARE

- .1 Door and finish hardware schedule on drawings.

2.3 FASTENINGS

- .1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.

2.4 KEYING

- .1 Provide keys in triplicate for every lock in this Contract.
- .2 Provide three master keys for each group.
- .3 Stamp keying code numbers on keys and cylinders.
- .4 Provide construction cores.
- .5 Provide all permanent cores and keys to Owner's Representative.

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.
- .2 Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
- .3 Furnish manufacturers' instructions for proper installation of each hardware component.

3.2 INSTALLATION

- .1 Install door hardware in accordance with manufacturer's instructions, using special tools and jigs. Fit accurately and apply securely. Ensure that hardware is installed correctly.
- .2 Install hardware to standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.
- .3 No operating hardware shall be installed at a height of more than 1200 above the finished floor (NBC 3.4.6.16).
- .4 Installation to be done by a qualified tradesman. Technical assistance provide by door hardware supplier where required.
- .5 Closers shall be installed according to manufacturer's templates and installation instructions. Unless required otherwise, installation shall be on pull side of door. Outswinging doors shall be on push side using top jamb or parallel arm installation.

- .6 Where closer or arm is installed on door, sex bolts will be used, finished to match other hardware.
- .7 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners. Plates drilled to accept through bolts will not be acceptable.
- .8 Where door stop contacts door pulls, mount stop to strike bottom of pull.
- .9 Install key control cabinet.
- .10 Use only manufacturer's supplied fasteners. Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.
- .11 Remove construction cores and locks when directed by Owner's Representative; install permanent cores and check operation of locks.

3.3 EXAMINATION

- .1 Visit site prior to start of installation of hardware.
- .2 Visit will include examination of openings, site conditions and materials for conditions that prevent proper application of finish hardware.
- .3 Report to General Contractor, in writing, defects of work prepared by other trades and other unsatisfactory site conditions. Commencement of installation will imply acceptance of prepared work by others.

3.4 FIELD QUALITY CONTROL

- .1 Hardware contractor to have a qualified AHC representative from the manufacturer/supplier on site at Substantial Completion Inspection and at commissioning of the finished hardware. Cost of the visits to be included in contract.
- .2 Provide an inspection report 6 (six) months after Substantial Completion, completed by a qualified Architectural Hardware Consultant, to note any deficiencies. The inspection should include checking each lock against the key schedule to make sure the correct locks and cylinders are on the proper doors.
- .3 Fire Rated Door Assemblies On-Site Inspection:
 - .1 Upon completion of the installation, inspect each fire rated door assembly to confirm proper operation of its closing device, confirming it meets the criteria of NFPA 80.
 - .2 Provide a written report to the Owner's Representative listing each fire rated door assembly for the project including:
 - .1 Each door number,
 - .2 An itemized list of hardware set components for each door opening, and

- .3 Each door location in the facility.

3.5 ADJUSTING

- .1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.
- .2 Lubricate hardware, operating equipment and other moving parts.
- .3 Adjust door hardware to provide tight fit at contact points with frames.
- .4 Where hardware is found defective, repair or replace or correct as desired by inspection reports.

3.6 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacture's instructions.
- .3 Remove protective material from hardware items where present.
- .4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.7 PROTECTION

- .1 All hardware shall be protected against damage from paint, plaster or other defacing materials. Whenever possible manufacturers protective covering when applied, shall not be removed until final project cleaning takes place. Material not protected by manufacture shall be covered or removed from door during painting or any other adjustments that can cause damage to hardware.

3.8 HARDWARE GROUPS

- .1 Provide hardware as specified on the drawings.
- .2 Demonstrate operation, operating components, adjustment features, and lubrication requirements.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .4 Section 01 78 00 - Closeout Submittals.
- .5 Section 07 82 00 – Joint Sealants.
- .6 Section 08 11 14 – Metal Doors & Frames.

1.2 **REFERENCES**

- .1 American National Standards Institute (ANSI).
 - .1 ANSI/ASTM E330, 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 (ASTM)
 - .1 ASTM C542, Specification for Lock-Strip Gaskets.
 - .2 ASTM D2240, Test Method for Rubber Property – Durometer Hardness.
- .3 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-12.1, Tempered or Laminated Safety Glass.
 - .2 CAN/CGSB-12.3, Clear Float Glass
 - .3 CAN/CGSB-12.5, Mirrors, Silvered.
 - .4 CAN/CGSB-12.8, Insulating Glass Units.
 - .5 CAN/CGSB-12.11, Wired Safety Glass.
- .4 Canadian Standards Association (CSA).
 - .1 CSA A440.2, Energy Performance Evaluation of Windows and Sliding Glass Doors.
 - .2 CSA Certification Program for Windows and Doors.
- .5 Glass Association of North American (GANA)
 - .1 GANA Glazing Manual.
 - .2 GANA Laminated Glazing Reference Manual.

1.3 **SYSTEM DESCRIPTION**

- .1 Performance Requirements:

- .1 Provide continuity of building enclosure vapour and air barrier using glass and glazing materials as follow:
 - .1 Utilize inner light of multiple light sealed units for continuity of air and vapour seal.
 - .2 Size glass to withstand wind loads, dead loads and positive and negative live loads as measured in accordance with ANSI/ASTM E330 and NBC latest edition.
 - .3 Limit glass deflection to 1/200 with full recovery of glazing materials.

1.4 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet.
- .2 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.
- .3 Closeout Submittals:
 - .1 Provide maintenance data including cleaning instructions for incorporation into manual specified in Section 01 78 00 - Closeout Submittals

1.5 QUALITY ASSURANCE

- .1 Perform work in accordance with GANA Glazing Manual and Laminated Glazing Reference Manual for glazing installation methods. Provide shop inspection and testing for glass.
- .3 Provide certificate of quality compliance from manufacturer.

1.6 WARRANTY

- .1 Provide ten (10) year warranty for glazing units from the date of Substantial Completion.

1.7 ENVIRONMENTAL REQUIREMENTS

- .1 Install glazing when ambient temperature is 10°C minimum. Maintain ventilated environment for 24 hours after application.
- .2 Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

PART 2 PRODUCTS

2.1 MATERIALS: SEALED INSULATING GLASS

- .1 Insulating glass units for exterior steel doors: to CAN/CGSB-12.8, double unit, minimum 25 mm overall thickness (as per NBCC for window area and climatic conditions.)
 - .1 Glass: to CAN/CGSB-12.1, tempered.

- .2 Glass thickness: minimum 6 mm each light (as per NBCC for window area and climatic conditions.)
- .3 Inner-cavity space thickness: 13 mm.
- .4 Glass coating: surface number 2 (inside face of outer light), low “E”.
- .5 Inert gas: argon.

2.2 MATERIALS

- .1 Sealant: 07 92 00 – Joint Sealants.

2.3 ACCESSORIES

- .1 Setting blocks: Neoprene, 80-90 Shore A durometer hardness to ASTM D2240, minimum 100 mm x width of glazing rabbet space minus 1.5 mm x height.
- .2 Spacer shims: Neoprene, 50-60 Shore A durometer hardness to ASTM D2240, 75 mm long x one half height of glazing stop x thickness to suit application. Self adhesive on one face.
- .3 Glazing tape:
 - .1 Preformed butyl compound with integral resilient tube spacing device, 10-15 Shore A durometer hardness to ASTM D2240; coiled on release paper; black colour.
- .4 Glazing splines: resilient polyvinyl chloride, extruded shape to suit glazing channel retaining slot, colour as selected.
- .5 Glazing clips: manufacturer's standard type.
- .6 Lock-strip gaskets: to ASTM C542.

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: EXTERIOR – WET/DRY METHOD (PREFORMED TAPE AND SEALANT)

- .1 Perform work in accordance with GANA Glazing Manual and GANA Laminated Glazing Reference Manual for glazing installation methods.
- .2 Cut glazing tape to length and set against permanent stops, 6 mm below sight line. Seal corners by butting tape and dabbing with sealant.
- .3 Apply heel bead of sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete continuity of air and vapour seal.
- .4 Place setting blocks at 1/4 points, with edge block maximum 150 mm from corners.
- .5 Rest glazing on setting blocks and push against tape and heel of sealant with sufficient pressure to attain full contact at perimeter of light or glass unit.
- .6 Install removable stops with spacer strips inserted between glazing and applied stops 6 mm below sight line.
- .7 Fill gap between glazing and stop with sealant to depth equal to bite of frame on glazing, maximum 9 mm below sight line.
- .8 Apply cap head of sealant along void between stop and glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

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 Clean glass and mirrors using approved non-abrasive cleaner in accordance with manufacture's instructions.
- .6 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.6 PROTECTION OF FINISHED WORK

- .1 After installation, mark light with an "X" by using removable plastic tape or paste. Do not mark heat absorbing or reflective glass units.
- .2 Repair damage to adjacent materials caused by glazing installation.

END OF SECTION

PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 61 00 - Common Product Requirements.
- .4 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .5 Section 01 78 00 – Closeout Submittals.

1.2 **REFERENCES**

- .1 Environmental Protection Agency (EPA)
 - .1 EPA Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings).
- .2 Master Painters Institute (MPI)
 - .1 MPI Architectural Painting Specifications Manual
- .3 Society for Protective Coatings (SSPC).
 - .1 SSPC Painting Manual, Systems and Specifications Manual.
- .4 National Research Council (NRC).
 - .1 National Fire Code of Canada

1.3 **QUALITY ASSURANCE**

- .1 Contractor shall have a minimum of five years proven satisfactory experience. When requested, provide a list of last three comparable jobs including, job name and location, specifying authority, and project manager.
- .2 Qualified journeyman shall be engaged in painting work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyman in accordance with trade regulations.
- .3 Conform to latest MPI requirements for exterior painting work including preparation and priming.
- .4 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with MPI Painting Specification Manual "Approved Products" listing and shall be from a single manufacturer for each system used.

- .5 Other paint materials such as linseed oil, shellac, turpentine, etc. shall be the highest quality product of an approved manufacturer listed in MPI Painting Specification Manual and shall be compatible with other coating materials as required.
- .6 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Owner's Representative.
- .7 Standard of Acceptance:
 - .1 Walls: No defects visible from a distance of 1000 mm at 90° to surface.
 - .2 Ceilings: No defects visible from floor at 45° to surface when viewed using final lighting source.
 - .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

1.4 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

- .1 Provide paint products meeting MPI "Environmentally Friendly" E2 or E3 ratings based on VOC (EPA Method 24) content levels.

1.5 SCHEDULING OF WORK

- .1 Submit work schedule for various stages of painting to Owner's Representative for approval. Submit schedule minimum of two (2) working days in advance of proposed operations.
- .2 Obtain written authorization from Owner's Representative for changes in work schedule.
- .3 Schedule painting operations to prevent disruption of occupants in and about the building.

1.6 SUBMITTALS

- .1 Submit product data and manufacturer's installation/application instructions for paints and coating products to be used.
- .2 Submit WHMIS - MSDS - Material Safety Data Sheets.
- .3 Upon completion, submit records of products used, records to be included in Operation and Maintenance Manuals. List products in relation to finish system and include the following:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour numbers.
 - .4 Manufacturer's Material Safety Data Sheets (MSDS).
 - .5 MPI Environmentally Friendly classification system rating.
- .4 Submit manufacturer's application instructions for each product specified.

- .5 When approved, samples shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site.
- .6 Submit full range of available colours where colour availability is restricted.

1.7 EXTRA MATERIALS

- .1 Submit maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Submit 1 - 4 litre can of each type and colour of finish coating. Identify colour and paint type in relation to established colour schedule and finish formula.
- .3 Deliver to Owner's Representative and store where directed.

1.8 DELIVERY, HANDLING AND STORAGE

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver and store materials in original containers, sealed, with labels intact.
- .3 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.
- .4 Remove damaged, opened and rejected materials from site.
- .5 Provide and maintain dry, temperature controlled, secure storage.
- .6 Observe manufacturer's recommendations for storage and handling.
- .7 Store materials and supplies away from heat generating devices.
- .8 Store materials and equipment in a well ventilated area with temperature range 7°C to 30°C.
- .9 Store temperature sensitive products above minimum temperature as recommended by manufacturer.
- .10 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.
- .11 Remove paint materials from storage only in quantities required for same day use.

- .12 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
- .13 Fire Safety Requirements:
 - .1 Provide one 9 kg Type ABC dry chemical fire extinguisher adjacent to storage area.
 - .2 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.
 - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.
- .14 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.

1.9 SITE REQUIREMENTS

- .1 Heating, Ventilation and Lighting:
 - .1 Ventilate enclosed spaces.
 - .2 Perform no painting work unless adequate and continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 10°C for 24 hours before, during and after paint application until paint has cured sufficiently.
 - .3 Where required, provide continuous ventilation for seven days after completion of application of paint.
 - .4 Provide temporary ventilating and heating equipment where permanent facilities are not available.
 - .5 Perform no painting work unless a minimum lighting level of 323 Lux is provided on surfaces to be painted. Adequate lighting facilities shall be provided by General Contractor.
- .2 Temperature, Humidity and Substrate Moisture Content Levels:
 - .1 Unless specifically pre-approved by Owner's Representative and, applied product manufacturer, perform no painting work when:
 - .1 ambient air and substrate temperatures are below 10°C.
 - .2 substrate temperature is over 32°C unless paint is specifically formulated for application at high temperatures.
 - .3 substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's prescribed limits.
 - .4 the relative humidity is above 85% or when dew point is less than 3°C variance between air/surface temperature.
 - .5 rain or snow are forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.
 - .2 Perform no painting work when maximum moisture content of substrate exceeds:
 - .1 12% for concrete and masonry (clay and concrete brick/block).

- .2 15% for wood.
- .3 12% for plaster and gypsum board.
- .3 Conduct moisture tests using a properly calibrated electronic Moisture Meter, except test concrete floors for moisture using a simple "cover patch test".
- .4 Test concrete, masonry and plaster surfaces for alkalinity as required.
- .3 Surface and Environmental Conditions:
 - .1 Apply paint finish only in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
 - .2 Apply paint only to adequately prepared surfaces and to surfaces within moisture limits noted herein.
 - .3 Apply paint only when previous coat of paint is dry or adequately cured.
 - .4 Apply paint finishes only when conditions forecast for entire period of application fall within manufacturer's recommendations.
 - .5 Do not apply paint when:
 - .1 Temperature is expected to drop below 10°C before paint has thoroughly cured.
 - .2 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's limits.
 - .3 Surface to be painted is wet, damp or frosted.
 - .6 Provide and maintain cover when paint must be applied in damp or cold weather. Heat substrates and surrounding air to comply with temperature and humidity conditions specified by manufacturer. Protect until paint is dry or until weather conditions are suitable.
 - .7 Schedule painting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.
 - .8 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.
 - .9 Paint occupied facilities in accordance with approved schedule only. Schedule operations to approval of the Owner's Representative such that painted surfaces will have dried and cured sufficiently before occupants are affected.

1.10 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Ensure emptied containers are sealed and stored safely.
- .5 Unused paint, coating materials must be disposed of at official hazardous material collections site as approved by Owner's Representative.

- .6 Paint, stain and wood preservative finishes and related materials (thinners, and solvents) are regarded as hazardous products and are subject to regulations for disposal.
- .7 Material which cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.
- .8 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.
- .9 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into ground follow these procedures:
 - .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 approved legal manner in accordance with hazardous waste regulations.
- .10 Empty paint cans are to be dry prior to disposal or recycling (where available).

PART 2 **PRODUCTS**

2.1 **MATERIALS**

- .1 Paint materials listed in the latest edition of the MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Paint materials for each coating formula to be products of a single manufacturer.
- .3 Low odour products: whenever possible, select products exhibiting low odour characteristics. If two products are otherwise equivalent, select the product with the lowest odour. Only qualified products with E2 or E3 "Environmentally Friendly" rating are acceptable for use on this project.
- .4 Paints, coatings, adhesives, solvents, cleaners, lubricants, and other fluids, shall:
 - .1 be water-based, water soluble, water clean-up.
 - .2 be non-flammable
 - .3 be manufactured without compounds which contribute to ozone depletion in the upper atmosphere.
 - .4 be manufactured without compounds which contribute to smog in the lower atmosphere.
 - .5 do not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.

- .5 Water-borne surface coatings must be manufactured and transported in a manner that steps of processes, including disposal of waste products arising therefrom, will meet requirements of applicable governmental acts, by-laws and regulations including, for facilities located in Canada, Fisheries Act and Canadian Environmental Protection Act (CEPA).
- .6 Water-borne surface coatings must not be formulated or manufactured with aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their compounds.
- .7 Water-borne surface coatings must have a flash point of 61.0°C or greater.
- .8 Both water-borne surface coatings and recycled water-borne surface coatings must be made by a process that does not release:
 - .1 Matter in undiluted production plant effluent generating a 'Biochemical Oxygen Demand' (BOD) in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
 - .2 Total Suspended Solids (TSS) in undiluted production plant effluent in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
- .9 Water-borne paints and stains, and water borne varnishes must meet a minimum "Environmentally Friendly" E2 rating.

2.2 COLOURS

- .1 Owner's Representative will provide Colour Schedule after Contract award.
- .2 Selection of colours will be from manufacturer's full range of colours.
- .3 Where specific products are available in a restricted range of colours, selection will be based on the limited range.
- .4 Second coat in a three coat system to be tinted slightly lighter colour than top coat to show visible difference between coats.
- .5 For deep and ultra-deep colours 4 coats may be required.

2.3 MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed only with Owner's Representative written permission.
- .2 Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.
- .3 Where thinner is used, addition shall not exceed paint manufacturer's recommendations. Do not use kerosene or any such organic solvents to thin water-based paints.

Western Health
Remediations to Bay St. George Long-Term Care Centre

September 2018

Section 09 91 13 – Exterior Painting

Page 8 of 12

- .4 Thin paint for spraying according in strict accordance with paint manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Owner's Representative.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4 GLOSS/SHEEN RATINGS

- .1 Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following values:

Gloss Level /Category	Units @ 60E/	Units @ 85°
G1 - matte finish	0 to 5	max. 10
G2 - velvet finish	0 to 10	10 to 35
G3 - eggshell finish	10 to 25	10 to 35
G4 - satin finish	20 to 35	min. 35
G5 - semi-gloss finish	35 to 70	
G6 – gloss finish	70 to 85	
G7 - high gloss finish	> 85	

- .2 Gloss level ratings of painted surfaces shall be as specified herein.

2.5 EXTERIOR PAINTING SYSTEMS

- .1 The following paint formulas requires a three coat finish as indicated in the MPI Architectural Painting Specifications Manual.
- .2 Structural Steel and Metal Fabrications:
 - .1 Per drawings.
- .3 Dimension Lumber: columns, beams, exposed joists, underside of decking, siding, fencing, etc.
 - .1 Per drawings.
- .4 Dressed Lumber: doors, door and window frames, casings, battens, smooth facias, etc.
 - .1 Per drawings.
- .5 Wood Panelling: plywood siding, fascias, soffits, etc.
 - .1 Per drawings.

PART 3 EXECUTION

3.1 GENERAL

- .1 Perform preparation and operations for exterior painting in accordance with MPI Painting Specifications Manual except where specified otherwise.

- .2 Apply all paint materials in accordance with paint manufacturer's written application instructions.

3.2 EXISTING CONDITIONS

- .1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Owner's Representative damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.
- .2 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test" and report findings to Owner's Representative. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.

3.3 PROTECTION

- .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Owner's Representative.
- .2 Cover or mask windows and other ornamental hardware adjacent to areas being painted to prevent damage and to protect from paint drops and splatters. Use non-staining coverings.
- .3 Protect items that are permanently attached such as Fire Labels on doors and frames.
- .4 Protect factory finished products and equipment.
- .5 Protect passing pedestrians, building occupants and general public in and about the building.
- .6 Remove electrical cover plates, light fixtures, surface hardware on doors, and all other surface mounted fittings, equipment and fastenings prior to undertaking any painting operations. Store for re-installation after painting is completed.
- .7 Cover or move exterior furniture and portable equipment around building as necessary to carry out painting operations. Replace as painting operations progress.
- .8 As painting operations progress, place "WET PAINT" signs in areas of work to approval of Owner's Representative.

3.4 CLEANING AND PREPARATION

- .1 Clean and prepare exterior surfaces in accordance with MPI Painting Specification Manual requirements. Refer to the MPI Manual in regard to specific requirements and as follows:
 - .1 Remove dust, dirt, and other surface debris by wiping with dry, clean cloths or compressed air.

- .2 Wash surfaces with a biodegradable detergent and bleach where applicable and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.
 - .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
 - .4 Allow surfaces to drain completely and allow to dry thoroughly.
 - .5 Prepare surfaces for water-based painting, water-based cleaners should be used in place of organic solvents.
 - .6 Use trigger operated spray nozzles for water hoses.
 - .7 Many water-based paints cannot be removed with water once dried. However, minimize the use of kerosene or any such organic solvents to clean up water-based paints.
- .2 Prevent contamination of cleaned surfaces before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.
 - .3 Where possible, prime surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.
 - .1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.
 - .2 Apply wood filler to nail holes and cracks.
 - .3 Tint filler to match stains for stained woodwork.
 - .4 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.
 - .5 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements. Remove traces of blast products from surfaces, pockets and corners to be painted by brushing with clean brushes or blowing with clean dry compressed air.
 - .6 Touch up of shop primers with primer as specified in applicable section. Major touch-up including cleaning and painting of field connections, welds, rivets, nuts, washers, bolts, and damaged or defective paint and rusted areas, shall be by supplier of fabricated material.
 - .7 Do not apply paint until prepared surfaces have been accepted by Owner's Representative.

3.5

APPLICATION

- .1 Method of application to be as approved by Owner's Representative. Apply paint by brush roller, air sprayer, airless sprayer. Conform to manufacturer's application instructions unless specified otherwise.
- .2 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.
- .5 Remove runs, sags and brush marks from finished work and repaint.
- .3 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 runs and sags.
 - .5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.
 - .6 Wood, stucco, concrete, cement masonry units CMU's and brick; if sprayed, must be back rolled.
- .4 Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access and only when specifically authorized by Owner's Representative.
- .5 Apply coats of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .6 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .7 Sand and dust between coats to remove visible defects.
- .8 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as projecting ledges.
- .9 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.6 FIELD QUALITY CONTROL

- .1 Field inspection of exterior painting operations to be carried out by Owner's Representative.
- .2 Advise Owner's Representative when each applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.
- .3 Co-operate with Owner's Representative and provide access to areas of work.

- .4 Where "special" painting, coating or decorating system applications (i.e. elastomeric coatings) or non-MPI listed products or systems are to be used, paint or coating manufacturer to provide as part of this work, certification of surfaces and conditions for specific paint or coating system application as well as on site supervision, inspection and approval of their paint or coating system application as required at no additional cost.

3.7 RESTORATION

- .1 Clean and re-install all hardware items removed before undertaken painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.
- .4 Protect surfaces from paint droppings and dust to approval of Owner's Representative. Avoid scuffing newly applied paint.
- .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Owner's Representative.

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Moisture testing of substrates.
- .2 Surface preparation of substrates as required for acceptance of paint, including cleaning, small crack repair, patching, caulking, and making good surfaces and areas to limits defined under MPI Repainting Maintenance Manual requirements.
- .3 Specific pre-treatments noted herein or specified in the MPI Repainting Maintenance Manual.
- .4 Sealing/touch-up, spot priming, and/or full priming surfaces for repainting in accordance with MPI Repainting Maintenance Manual requirements.
- .5 Provision of safe and adequate ventilation as required where toxic and/or volatile/flammable materials are being used over and above temporary ventilation supplied by others.

1.2 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 61 00 - Common Product Requirements.
- .4 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .5 Section 01 78 00 - Closeout Submittals.
- .6 Section 09 91 13 - Exterior Painting.
- .7 Section 09 91 23 - Interior Painting.

1.3 **REFERENCES**

- .1 Maintenance Repainting Manual by the Master Painters Institute (MPI), including Identifiers, Evaluation, Systems, Preparation and Approved Product List.
- .2 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).
- .3 National Fire Code of Canada.

1.4 **QUALITY ASSURANCE**

- .1 Contractor shall have a minimum of five years proven satisfactory experience. Provide a list of last three comparable jobs including, job name and location, specifying authority, and project manager.

- .2 Qualified journeymen who have a "Tradesman Qualification Certificate of Proficiency" shall be engaged in repainting work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyman in accordance with applicable trade regulations.
- .3 Conform to latest MPI requirements for interior repainting work including cleaning, preparation and priming.
- .4 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with the latest edition of the MPI Approved Product List and shall be from a single manufacturer for each system used.
- .5 Paint materials such as linseed oil, shellac, turpentine, etc. shall be the highest quality product of an approved manufacturer listed in MPI Maintenance Repainting Manual and shall be compatible with other coating materials as required.
- .6 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Owner's Representative.
- .7 Standard of Acceptance: When viewed using final lighting source surfaces shall indicate the following:
 - .1 Walls: No defects visible from a distance of 1000 mm at 90° to surface.
 - .2 Ceilings: No defects visible from floor at 45° to surface.
 - .3 Final coat to exhibit uniformity of colour and sheen across full surface area.

1.5 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

- .1 Provide paint products meeting MPI "Environmentally Friendly" E2 or E3 ratings based on VOC (EPA Method 24) content levels.

1.6 SCHEDULING OF WORK

- .1 Submit work schedule for various stages of painting to Owner's Representative for approval. Submit schedule a minimum of two (2) working days in advance of proposed operations.
- .2 Paint occupied facilities in accordance with approved schedule. Schedule operations to approval of Owner's Representative such that painted surfaces will have dried and cured sufficiently before occupants are affected.
- .3 Obtain written authorization from Owner's Representative for changes in work schedule.
- .4 Schedule repainting operations to prevent disruption by other trades if applicable and by occupants in and about the building.

1.7 SUBMITTALS

- .1 Submit full range colour sample chips for review and selection. Indicate where colour availability is restricted.
- .2 Submit product data and manufacturer's installation/application instructions for paints and coating products to be used.

- .3 Submit WHMIS MSDS - Material Safety Data Sheets for paint and coating materials to be used.
- .4 Upon completion, submit records of products used. List products in relation to finish system and include the following:
 - .1 Product name, type and use (i.e. materials and location).
 - .2 Manufacturer's product number.
 - .3 Colour code numbers.
 - .4 MPI Environmentally Friendly classification system rating.
 - .5 Manufacturer's Material Safety Data Sheets (MSDS).
- .5 Submit sample of each paint, stain, clear coating, with specified paint or coating in colours, gloss/sheen and textures required.
- .6 When approved, samples shall become acceptable standard of quality for appropriate on-site surfaces.

1.8 EXTRA MATERIALS

- .1 Submit maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Submit one - four litre can of each type and colour of finish coating. Identify type and colour in relation to established colour schedule and finish system.
- .3 Deliver and store where directed by Owner's Representative.

1.9 DELIVERY, HANDLING AND STORAGE

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver and store materials in original containers, sealed, with labels intact.
- .3 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.
- .4 Remove damaged, opened and rejected materials from site.
- .5 Observe manufacturer's recommendations for storage and handling.
- .6 Store materials and equipment in a secure, dry, well-ventilated area with temperature range between 7°C to 30°C. Store materials and supplies away from heat generating devices and sensitive products above minimum temperature as recommended by manufacturer.
- .7 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Owner's Representative. After completion of operations, return areas to clean condition to approval of Owner's Representative.

- .8 Remove paint materials from storage in quantities required for same day use.
- .9 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
- .10 Fire Safety Requirements:
 - .1 Provide one 9 kg Type ABC dry chemical fire extinguisher adjacent to storage area.
 - .2 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.
 - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

1.10 SITE REQUIREMENTS

- .1 Heating, Ventilation and Lighting:
 - .1 Ventilate enclosed spaces.
 - .2 Perform no repainting work unless adequate and continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 10°C for 24 hours before, during and after paint application and until paint has cured sufficiently.
 - .3 Where required, provide continuous ventilation for seven days after completion of application of paint.
 - .4 Provide temporary ventilating and heating equipment where permanent facilities are not available.
 - .5 Perform no painting work unless a minimum lighting level of 323 Lux is provided on surfaces to be painted. Adequate lighting facilities shall be provided by General Contractor.
- .2 Temperature, Humidity and Substrate Moisture Content Levels:
 - .1 Unless specifically pre-approved by Owner's Representative and applied product manufacturer, perform no repainting work when:
 - .1 Ambient air and substrate temperatures are below 10°C.
 - .2 Substrate temperature is over 32°C unless paint is specifically formulated for application at high temperatures.
 - .3 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's prescribed limits.
 - .4 Relative humidity is above 85% or when dew point is less than 3°C variance between air/surface temperature.
 - .5 Rain or snow is forecast to occur before paint has thoroughly cured.
 - .6 It is foggy, misty, raining or snowing at site.
 - .2 Conduct moisture tests using a properly calibrated electronic Moisture Meter, except use a simple "cover patch test" on concrete floors to be repainted.
 - .3 Perform no repainting work when maximum moisture content of substrate exceeds:
 - .1 12% for concrete and masonry (clay and concrete brick/block).
 - .2 15% for wood.

- .3 12% for plaster and gypsum board.
- .4 Test painted concrete, masonry and plaster surfaces for alkalinity as required.
- .3 Application Requirements:
 - .1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when ventilation conditions are such that airborne particles will not affect quality of finished surface.
 - .2 Apply paint to adequately prepared surfaces and to surfaces within moisture limits noted herein.
 - .3 Apply paint when previous coat of paint is dry or adequately cured, unless otherwise pre-approved by the specific coating manufacturer.
 - .4 Apply paint finishes when conditions forecast for entire period of application fall within manufacturer's recommendations.
 - .5 Do not apply paint when:
 - .1 Temperature is expected to drop below 10°C before paint has thoroughly cured.
 - .2 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's limits.
 - .3 Surface to be painted is wet, damp or frosted.
 - .6 Provide and maintain cover when paint must be applied in damp or cold weather. Heat substrates and surrounding air to comply with temperature and humidity conditions specified by manufacturer. Protect until paint is dry or until weather conditions are suitable.
 - .7 Schedule repainting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.
 - .8 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.

1.11 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Ensure emptied containers are sealed and stored safely.
- .5 Unused paint, coating materials must be disposed of at official hazardous material collections site as approved by Owner's Representative.
- .6 Paint, stain and wood preservative finishes and related materials (thinners, solvents, etc.) are 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.
- .7 Materials that cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.

- .8 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.
- .9 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into the ground the following procedures shall be strictly adhered to:
 - .1 Retain cleaning water for water-based materials to allow sediments to be filtered out. In no case shall equipment be cleaned using free draining water.
 - .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.
- .10 Empty paint cans are to be dry prior to disposal or recycling (where available).
- .11 Close and seal tightly partly used cans of materials including sealant and adhesive containers and store protected in well ventilated fire-safe area at moderate temperature.

PART 2 **PRODUCTS**

2.1 **MATERIALS**

- .1 Paint materials listed in the latest edition of the MPI Approved Product List (APL) are acceptable for use on this project.
- .2 Paint materials for repaint systems shall be products of a single manufacturer.
- .3 Low odour products: whenever possible, select products exhibiting low odour characteristics. If two products are otherwise equivalent, select the product with the lowest odour. Only qualified products with E2 or E3 "Environmentally Friendly" rating are acceptable for use on this project.
- .4 Paints, coatings, thinners, solvents, cleaners and other fluids used in repainting, shall:
 - .1 Be water-based, water soluble, water clean-up.
 - .2 Be non-flammable.
 - .3 Not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.
 - .4 Be manufactured without compounds which contribute to ozone depletion in the upper atmosphere.
 - .5 Be manufactured without compounds which contribute to smog in the lower atmosphere.
 - .6 Be manufactured in a manner where matter generating a 'Biochemical Oxygen Demand' (BOD) in undiluted production plant effluent discharged to a natural watercourse or a sewage treatment facility lacking secondary treatment does not exceed 15 mg/L.
 - .7 Be manufactured in a manner where the total suspended solids (TSS) content in undiluted production plant effluent discharged to a natural watercourse or a sewage treatment facility lacking secondary treatment does not exceed 15 mg/L.

- .5 Paints and coatings must be manufactured and transported in a manner that steps of processes, including disposal of waste products arising therefrom, will meet requirements of applicable governmental acts, by-laws and regulations including, for facilities located in Canada, Fisheries Act and Canadian Environmental Protection Act (CEPA).
- .6 Paints and coatings must not be formulated or manufactured with formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their compounds.
- .7 Water-borne paints and stains, and water borne varnishes must meet a minimum "Environmentally Friendly" E2 rating.

2.2 COLOURS

- .1 Owner's Representative will provide Colour Schedule after Contract award.
- .2 Selection of colours will be from manufacturers full range of colours.
- .3 Where specific products are available in a restricted range of colours, selection will be based on the limited range.
- .4 Second coat in a three coat repaint system to be tinted slightly lighter colour than top coat to show visible difference between coats.

2.3 MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed with Owner's Representative written permission.
- .2 Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.
- .3 Where thinner is used, addition shall not exceed paint manufacturer's recommendations. Do not use kerosene or such organic solvents to thin water-based paints.
- .4 Thin paint for spraying according in strict accordance with paint manufacturer' instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Owner's Representative.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4 GLOSS/SHEEN RATINGS

- .1 Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following MPI gloss / sheen standard values:

Gloss Level Category	Units @ 60°	Units @ 85°
G1 - matte finish	0 to 5	maximum 10
G2 - velvet finish	0 to 10	10 to 35
G3 - eggshell finish	10 to 25	10 to 35
G4 - satin finish	20 to 35	minimum 35
G5 - semi-gloss finish	35 to 70	
G6 - gloss finish	70 to 85	

Gloss Level Category	Units @ 60°	Units @ 85°
G7 - high gloss finish	> 85	

- .2 Gloss level ratings of repainted surfaces shall be as specified herein.

2.5 INTERIOR PAINTING SYSTEMS

- .1 The following paint formulas requires a two coat finish.
- .2 RIN 5.1 - Structural Steel and Metal Fabrications.
 - .1 Per drawings.
- .3 RIN 5.3 - Galvanized Metal: (High Contact/High Traffic Areas (Doors, Frames, Railings, Pipes, Handrails, etc.). Low Contact/Low traffic areas (Overhead Decking, Pipes, Ducts, etc.)
 - .1 Per drawings.
- .4 RIN 6.3 - Dressed Lumber: (Including Doors, Door and Window Frames, Mouldings, etc.)
 - .1 Per drawings.
- .5 RIN 6.4 - Wood Panelling and Casework: (Partitions, Panels, Shelving, Millwork, etc.).
 - .1 Per drawings.
- .6 RIN 9.2 - Plaster and Gypsum Board: (gypsum wallboard, drywall, "sheet rock type material", etc.,
 - .1 Per drawings.

PART 3 EXECUTION

3.1 GENERAL

- .1 Perform preparation and operations for interior painting in accordance with MPI Maintenance Repainting Manual requirements except where otherwise specified.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.

3.2 EXISTING CONDITIONS

- .1 Prior to commencing work, thoroughly examine site conditions and existing interior substrates to be repainted. Report in writing to Owner's Representative damages, defects, or unsatisfactory or unfavourable conditions or surfaces that will adversely affect this work.
- .2 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test" and report findings to Owner's Representative. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
- .3 Maximum moisture content as follows:
 - .1 Concrete: 12%.

- .2 Clay and Concrete Block/Brick: 12%.
- .3 Wood: 15%.
- .4 No repainting work shall commence until such adverse conditions and defects have been corrected and surfaces and conditions are acceptable to the Painting Subcontractor and Inspection Agency. Commencement of work shall not be held to imply acceptance of surfaces except as qualified herein.
- .5 Degree of surface deterioration (DSD) shall be assessed using MPI Identifiers and Assessment criteria indicated in the MPI Maintenance Repainting Manual. MPI DSD ratings and descriptions are as follows:

Condition	Description
DSD-0	Sound Surface (includes visual (aesthetic) defects that do not affect film's protective properties).
DSD-1	Slightly Deteriorated Surface (indicating fading; gloss reduction, slight surface contamination, minor pin holes scratches, etc.).
DSD-2	Moderately Deteriorated Surface (small areas of peeling, flaking, slight cracking, staining, etc.).
DSD-3	Severely Deteriorated Surface (heavy peeling, flaking, cracking, checking, scratches, scuffs, abrasion, small holes and gouges).
DSD-4	Substrate Damage (repair or replacement of surface required by others).

3.3 PROTECTION

- .1 Protect existing surfaces and adjacent fixtures and furnishings from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Owner's Representative.
- .2 Cover or mask windows and other ornamental hardware adjacent to areas being painted to prevent damage and to protect from paint drops and splatters. Use non-staining coverings.
- .3 Protect items that are permanently attached such as Fire Labels on doors and frames.
- .4 Protect factory finished products and equipment.
- .5 Protect general public and building occupants in and about the building.
- .6 Remove electrical cover plates, light fixtures, surface hardware on doors, bath accessories and surface mounted equipment, fittings and fastenings prior to undertaking re-painting operations. Items shall be securely stored and re-installed after painting is completed.
- .7 Move and cover furniture and portable equipment as necessary to carry out repainting operations. Replace as painting operations progress.
- .8 As repainting operations progress, place "WET PAINT" signs in occupied areas to approval of Owner's Representative.

3.4 CLEANING AND PREPARATION

- .1 Clean and prepare interior surfaces to be repainted in accordance with MPI Maintenance Repainting Manual requirements. Refer to MPI Manual in regard to specific requirements and as follows:

- .1 Remove dust, dirt, and surface debris by vacuuming, wiping with dry, clean cloths or compressed air.
 - .2 Wash surfaces with a biodegradable detergent and bleach where applicable and clean warm water using a stiff bristle brush to remove dirt, oil and surface contaminants.
 - .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
 - .4 Allow surfaces to drain completely and to dry thoroughly. Allow sufficient drying time and test surfaces using an electronic moisture meter before commencing work.
 - .5 Use water-based cleaners in place of organic solvents where surfaces will be repainted using water based paints.
 - .6 Many water-based paints cannot be removed with water once dried. Minimize the use of kerosene or such organic solvents to clean up water-based paints.
- .2 Where required, pressure wash exterior surfaces prior to repainting in accordance with MPI standards for type of surfaces and recommended pressures to ensure complete removal of loose paint, stains, dirt, and foreign matter. This work to be carried out by qualified tradesman experienced in pressure water cleaning. Use of spray equipment such as water hose cleaning will not be considered satisfactory unless specified herein. Allow sufficient drying time and test surfaces using an electronic moisture meter before commencing work.
 - .3 Clean metal surfaces to be repainted by removing rust, dirt, oil, grease and foreign substances in accordance with MPI requirements. Remove such contaminates from surfaces, pockets and corners to be repainted by brushing with clean brushes, blowing with clean dry compressed air, or brushing/vacuum cleaning as required.
 - .4 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before priming and between applications of remaining coats. Touch-up, spot prime, and apply primer, paint, or pre-treatment as soon as possible after cleaning and before deterioration occurs.
 - .5 Do not apply paint until prepared surfaces have been accepted by Owner's Representative.
 - .6 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.

3.5 APPLICATION

- .1 Method of application to be as approved by Owner's Representative. Apply paint by brush, roller, air sprayer, airless sprayer. Conform to manufacturer's application instructions unless specified otherwise.
- .2 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.
- .5 Remove runs, sags and brush marks from finished work and repaint.
- .3 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 by either continuous mechanical agitation or intermittent agitation frequently as necessary.
 - .3 Apply paint in a uniform layer, with overlapping at edges of spray pattern.
 - .4 Back roll spray applications and brush out runs and sags immediately.
 - .5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.
- .4 Use dipping, sheepskins or daubers when no other method is practical in places of difficult access and when specifically authorized by Owner's Representative.
- .5 Apply paint coats in a continuous manner and allow surfaces to dry and properly cure between coats for minimum time period as recommended by manufacturer. Minimum dry film thickness of coats shall not be less than that recommended by the manufacturer. Repaint thin spots or bare areas before next coat of paint is applied.
- .6 Sand and dust between coats to remove visible defects.
- .7 Repaint 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.
- .8 Repaint top, bottom, and vertical edges of doors to be repainted.
- .9 Repaint inside of cupboards and cabinets as specified for outside surfaces.
- .10 Repaint closets and alcoves to match existing, unless otherwise scheduled or noted.

3.6 FIELD QUALITY CONTROL

- .1 Field inspection of exterior painting operations to be carried out by Owner's Representative.
- .2 Advise Owner's Representative when each surface and applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.
- .3 Co-operate with Owner's Representative and provide access to areas of work.

3.7 CLEAN-UP

- .1 Remove paint where spilled, splashed, splattered or sprayed as work progresses using means and materials that are not detrimental to affected surfaces.
- .2 Keep work area free from an unnecessary accumulation of tools, equipment, surplus materials and debris.

- .3 Remove combustible rubbish materials and empty paint cans each day and safely dispose of same in accordance with requirements of authorities having jurisdiction.
- .4 Clean equipment and dispose of wash water used for water borne materials, solvents used for oil based materials as well as other cleaning and protective materials (e.g. rags, drop cloths, masking papers, etc.), paints, thinners, paint removers/strippers in accordance with the safety requirements of authorities having jurisdiction and as noted herein.
- .5 Painting equipment shall be cleaned in leak-proof containers that will permit particulate matter to settle out and be collected. Sediment remaining from cleaning operations shall be recycled or disposed of in a manner acceptable to authorities having jurisdiction.
- .6 Paint and coatings in excess of repainting requirements shall be recycled as noted herein.

3.8

RESTORATION

- .1 Clean and re-install hardware items removed before undertaken painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Remove paint splashings on affected exposed surfaces. Remove smears and spatter immediately as operations progress, using compatible solvent.
- .4 Protect freshly completed surfaces from paint droppings and dust to approval of Owner's Representative. Avoid scuffing newly applied paint.
- .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Owner's Representative.

END OF SECTION