FACILITIES MANAGEMENT

OPEN CALL FOR BIDS

FOR
BATTERY FACILITY,
WINDOW REPLACEMENT
B-508-22

Request for Open Call Number: **TFM-013-24**

Issued: **April 29, 2024**

Submission Deadline: **Thursday, May 23, 2024**
@ 3:00PM NST

REQUEST FOR OPEN CALL FOR BIDS INFORMATION SHEET

Request for Open Call			
Title:	**B-508-22, Battery Facility, Window Replacement**		
Open Call #:	**TFM-013-24**	Issue Date:	**April 29, 2024**
Site Visit:	**Location: on request**		Click or tap to enter a date.
Questions Deadline:	**Eight (8) days prior to closing time, at 3:00pm (NST).**	Closing Date & Time: Bid Submission Format: Opening Date, Time & Location:	**Thursday May 23, 2024 @ 3:00 pm NST** **opencalls@mun.ca** **Thursday, May 23, 2024 @ 3:30 pm NST** **Via Conference line: 1-416-915-6530 (toll free) Access Code: 2774 275 6846 Attendee ID: Please press Pound(#)**
Bids Irrevocable Period after Submission Deadline:			**45 days (See section 1.6)**
Bid Submission: Responses to this solicitation must be submitted by email to opencalls@mun.ca Email subject line must read: BID SUBMISSION: TFM-013-24 BATTERY FACILITY, WINDOW REPLACEMENT			
Inquiries and Communication			

Inquiries and communication: Strategic Procurement Office, Memorial University of Newfoundland, opencalls@mun.ca. Inquiries accepted only via email. No phone calls will be accepted. **Please reference open call Title and Open Call # from above, ie: TFM-013-24 BATTERY FACILITY, WINDOW REPLACEMENT in subject line. Emails not containing this requirement information in the subject line will NOT receive a response.**

Bids submitted by fax, mail, courier, drop off or by any other means of delivery other than by email stated above shall not be accepted.

ABOUT MEMORIAL UNIVERSITY

As Newfoundland and Labrador's only university, Memorial has a special obligation to the people of this province. Established as a memorial to the Newfoundlanders who lost their lives on active service during the First and Second World Wars, Memorial University draws inspiration from these shattering sacrifices of the past as we help to build a better future for our province, our country and our world.

We are a multi-campus, multi-disciplinary, public university committed to excellence in teaching and learning, research and scholarship, and to public engagement and service. We strive to have national and global impact, while fulfilling our social mandate to provide access to university education for the people of the province and to contribute to the social, cultural, scientific and economic development of Newfoundland and Labrador and beyond.

The Memorial experience goes beyond academics; it invites a discovery of self, community and place. At Memorial, we celebrate our unique identity through the stories of our people – the work of scholars and educators, the ingenuity of students, the achievements of alumni – and the impact we collectively make in the province, the country and the world. Memorial is the natural place where people and ideas become.

Memorial University has more than 18,500 students and 3,600 faculty and staff spread across four campuses and nearly 100,000 alumni active throughout the world. From local endeavors to research projects of national importance, Memorial's impact is felt far and wide.

Mission, Vision and Values

Vision

Memorial University will be one of the most distinguished public universities in Canada and beyond, and will fulfill its special obligation to the people of Newfoundland and Labrador.

Mission

Memorial University is an inclusive community dedicated to innovation and excellence in teaching and learning, research, scholarship, creative activity, service and public engagement.
Memorial welcomes and supports students and scholars from all over the world and contributes knowledge and expertise locally, nationally and internationally.

Values

Excellence: Encouraging and promoting excellence through innovation and creativity, rigor and pragmatism.

Integrity: Being honest and ethical in all interactions, maintaining the highest ethical standards in teaching, research, public engagement and service.

Collegiality: Engaging others with respect, openness and trust in pursuit of a common purpose, having regard for individuals, ideals and the institution as a whole.

Inclusiveness and diversity: Embracing and acting on responsibility to guarantee diversity and equity.

Responsiveness: Being receptive to individuals and communities.

Accountability: Accepting responsibility for achievement of common goals and objectives.

Freedom and Discovery: Supporting the freedom to pursue knowledge that is based on individual and collective intelligence, curiosity, ingenuity and creativity.

Recognition: Acknowledging, tangibly, all aspects of university enterprise including teaching and learning, research, scholarship, creative activity and public engagement.

Responsibility to place: Valuing and fulfilling the special obligation to the people of Newfoundland and Labrador by supporting and building capacity for excellence that:

- addresses needs and opportunities for Newfoundland and Labrador;
- engages the university community on matters of national and international significance;
- produces and delivers academic programs of national and international calibre; and,
- Recognizes the dynamic opportunities presented by a multi-campus institution.

Responsibility to learners: Recognizing students as a first priority and providing the environment and support to ensure their academic and personal success.

Interdisciplinary collaboration: Supporting overarching themes in all pursuits that cut across academic units and address significant opportunities and challenges for which Memorial is particularly well positioned to build nationally and internationally recognized capacity.

Sustainability: Acting in a manner that is environmentally, economically and socially sustainable in administration, academic and research programs.

Memorial's exceptional staff and students contribute to the vitality and positive environment of the university through active community engagement. Memorial University has always been a publicly engaged institution. Since the founding of the University in 1949, the work of many of Memorial's students, faculty and staff has emphasized the importance of strong, sustained partnerships with members of the public of Newfoundland and Labrador and beyond.

Faculty and Staff

Memorial is one of the largest employers in the province, with approximately 3,600 faculty and staff. Memorial has been recognized as an Employer of Distinction by the Newfoundland and Labrador Employers' Council, which is reflective of its investment in comprehensive benefits, services such as childcare and recreation facilities, emphasis on work-life balance, and its vibrant work environment.

Governance and Administration

The management, administration and control of the property, revenue, business and affairs of the University are vested in a Board of Regents. The Board is appointed under the *Memorial University Act* and is responsible for the management, administration, and control of the property, revenue, business and affairs of the university. Matters of an academic character are in general charge of the Senate of the University.

For more information on Memorial University of Newfoundland, please visit:
Memorial's home page: http://www.mun.ca/

Territory Acknowledgements at Memorial:

We acknowledge that the lands on which Memorial University's Campus are situated are in the traditional territories of diverse Indigenous groups and we acknowledge with respect the diverse histories and cultures of the Beothuk, *Mi'kmaq, Innu, and Inuit of this province.*

PROCUREMENT AND CONTRACTING DOCUMENTS GROUP

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

Open Call for Bids Strategic Procurement Sections

General Conditions and Agreement between Owner and Contractor for the Stipulated Price Contract

SPECIFICATIONS GROUP

General Requirements Subgroup

DIVISION 01 - GENERAL REQUIREMENTS

Facility Construction Subgroup

DIVISION 02 - EXISTING CONDITIONS

END OF SECTION

PART 1 - GENERAL

1.1 A SERIES DRAWINGS - ARCHITECTURAL

.1 Cover

.2 A-0.1 - GENERAL NOTES

.3 A-1.0 - RESIDENCE TOWER - PARTIAL SOUTH ELEVATION

.4 A-1.1 - RESIDENCE TOWER - PARTIAL EAST ELEVATION

.5 A-1.2 - RESIDENCE TOWER - PARTIAL NORTH ELEVATION

.6 A-2.0 - RESIDENCE TOWER , PARTIAL FLOOR PLANS

.7 A-2.1 - RESIDENCE TOWER , PARTIAL FLOOR PLANS

.8 A-3.0 - RESIDENCE TOWER - EXISTING WINDOW ELEVATION AND DETAILS – DEMOLITION

.9 A-4.0 - RESIDENCE TOWER - NEW WINDOW ELEVATION, SCHEDULE AND NOTES, PRICE A

.10 A-4.1 - RESIDENCE TOWER - NEW WINDOW ELEVATION, SCHEDULE AND NOTES, PRICE B

.11 A-5.0 - RESIDENCE TOWER - NEW WINDOW ELEVATION AND DETAILS

.12 A-5.1 - RESIDENCE TOWER - NEW WINDOW AND SIDING DETAILS

END OF SECTION

PART 1 – SUBMISSION INSTRUCTIONS

1.1 Bids to be Submitted on Time

Bids must be submitted as set out above on or before the Submission Deadline. Bids submitted after the Submission Deadline will be rejected. Onus and responsibility rest solely with the bidder to submit its bid to the email indicated in the Open Call for Bids on or before the Submission Deadline. The Owner does not accept any responsibility for any bids submitted by means other than the email listed above. Bidders making submissions near the deadline do so at their own risk due server availability. The time for the closing will be determined according to the inbox, time stamp on opencalls@mun.ca.

Bids received after the closing time based on this time stamp, will NOT be considered.

1.2 Bids to be Submitted in Prescribed Format

- Bidders should submit **one (1)** email submission in PDF format.
- Please note: File size cannot exceed 15 MB. Otherwise server may reject bid submission due to size.
- **Bids submitted by fax, mail, courier, drop off or by any other means of delivery other than by email stated above shall not be accepted.**

1.3 Amendment of Bids

Bidders may amend their bids after they have been submitted if, and only if, the amendment is emailed prior to the Submission Deadline marked **BID SUBMISSION AMENDMENT** followed by open call number and name.

Bidders may revise their bid by email: opencalls@mun.ca

The Owner does not accept any responsibility for amendments submitted by means other than the email listed above. Bidders making submission near the deadline do so at their own rick due to service availability. The time for the closing will be determined according to the inbox, time stamp on opencalls@mun.ca. Amendments to bids received after the closing time base on this times stamp, will NOT be considered.

Email inquiries and requests for clarification shall be accepted up to eight (**8) days (3:00pm NST)** prior to the closing time. Inquiries and requests for clarification received after this date shall not be addressed. The Strategic Procurement Office will be the only official source of information regarding this Open Call for Bids and information from any other source shall be considered unofficial and may not be correct.

1.4 Amendment of Open Call for Bid Documents

To ensure consistency and quality in the information provided to bidders the Owner shall provide, by way of amendment to this Open Call for Bids, in the form of an addendum, any relevant information with respect to the Open Call inquiries received in writing without revealing the source of those inquiries. Bidders are cautioned that it is their responsibility to ensure that they receive all information relevant to this Open Call. The Owner shall not be

responsible for bidders who fail to inform themselves regarding the scope and nature of the work. The Owner shall publish all amendments on Memorial University's current service providers: MERX: www.merx.com, BIDS: www.bids.ca and PODS: www.pods.net. In addition, all amendments will be published on https://www.mun.ca/finance/strategic_procurement/. Bidders should check on a regular basis for Open Call updates. Bidders are solely responsible for ensuring they are aware of and have complied with all amendments by tender closing time. In the event there is a discrepancy between MERX, BIDS, and PODS and the official website https://www.mun.ca/finance/strategic_procurement/ website, the https://www.mun.ca/finance/strategic_procurement/ is the official website. Bidders are welcome to register their email address through opencalls@mun.ca to receive addendum notifications from Open Calls as a matter of courtesy. This does not relieve any Bidder of their responsibility to ensure all addenda has been received.

1.5 Withdrawal of Bids

Bidders may withdraw their bids prior to the Submission Deadline. To withdraw a bid, a notice of withdrawal must be sent to the opencalls@mun.ca email address prior to the Submission Deadline. The Owner is under no obligation to return withdrawn bids.

1.6 Bids Irrevocable after Submission Deadline

Bids shall be irrevocable for a period of **45** days running from the moment that the Submission Deadline passes.

1.7 Delivery

Time is of the essence and delivery schedule(s) are legally binding. Memorial University reserves the right to assess penalties or cancel awards to Bidders who fail to meet the stated delivery or completion dates. Delivery of all materials and services must be DAP (delivered at place) or DDP (delivered duty paid (all locations) and local environs.

1.8 Signature

Memorial University, in consideration of section 11 of the Electronic Commerce Act, confirms its acceptance of electronic signatures, or other acceptable form of electronic consent, in satisfaction of the signature requirement for bid submissions. The electronic form of signature or consent must be directly related to the relevant bid submission at issue and must be reliable, in a manner as determined by Memorial University, for the purpose of identifying the person submitting the bid response. By submitting a bid under this process, the bidder confirms that the signatory has the appropriate and proper authority to bind the bidder to its submission, a confirmation upon which Memorial University relies in the processing of the bid submission.

Bidders must complete Appendix B –Submission Form. Any bids received without Appendix B completed will be deemed non-complaint.

1.9 Closure

In the event that the University is closed earlier than normally expected prior to a scheduled open calls closing for that day, or for the full day, the closing date for those open calls will be extended to the next business day for the University at the same time as listed originally.

1.10 Corporations Act

The Corporations Act of Newfoundland and Labrador requires that an extra-provincial company be registered before it begins or carries on business in the Province. If your company is not registered, please apply for the appropriate forms and procedures to:

Commercial Registrations Division
Dept of Government Services, PO Box 8700 St John's, NL Canada A1B 4J6
Phone: 709-729-3317, Fax: 709-729-0232
Website: http://www.gs.gov.nl.ca/registries/companies/corp_art_inc.html

[End of Part 1]

PART 2 – EVALUATION AND AWARD

2.0 Stages of Evaluation

The Owner will conduct the evaluation of bids in the following stages:

2.1.0 Stage I – Mandatory Submission Requirements

Stage I will consist of a review to determine which bids comply with all of the mandatory submission requirements. Bids that do not comply with all of the mandatory submission requirements as of the Submission Deadline will, subject to the express and implied rights of the Owner, be disqualified and not evaluated further.

2.1.1 Stage II – Mandatory Technical Requirements

Stage II will consist of a review to determine which bids comply with all of the mandatory technical requirements. Bids that do not comply with all of the mandatory technical requirements as of the Submission Deadline will, subject to the express and implied rights of the Owner, be disqualified and not evaluated further. The mandatory technical requirements are listed in Appendix A - Specifications.

2.1.2 Stage III – Pricing

Stage III will consist of a scoring of the submitted pricing of each compliant bid in accordance with the evaluation method set out in the Pricing Form (Appendix C). The evaluation of price will be undertaken after the evaluation of mandatory requirements has been completed.

2.2 No Amendment to Forms

Other than inserting the information requested on the mandatory submission forms set out in the Open Call, a bidder may not make any changes to any of the forms. Any bid containing any such changes, whether on the face of the form or elsewhere in the bid, shall be disqualified.

2.3 Selection of Lowest Compliant Bidder as Preferred Supplier

Subject to the Owner's reserved rights, the compliant bidder with the lowest pricing will be the preferred supplier, and will be selected to enter into the Agreement in accordance with the following section. In the event of a tie, the preferred supplier will be determined by way of a coin toss, in accordance with the Public Procurement Policy. Provincial suppliers, suppliers with a place of business in Newfoundland and Labrador, will be given provincial supplier preference provision. This mandates an allowance of ten percent for provincial suppliers for all procurement below trade agreement thresholds.

Please note, the supplier preference does not apply when the estimated value of the commodity is above the trade agreement threshold shown in the following table.

Public Body	Thresholds			
	Goods	Services	Public Works	Lease of Space
Memorial University	$133,800	$133,800	$334,400	$100,000

2.4 Notice to Bidder and Execution of Agreement

Notice of selection by the Owner to the preferred supplier shall be in writing. The preferred supplier shall execute the Agreement, the form and content of which will be mutually agreed upon between the parties and satisfy any other applicable conditions of this open call within fifteen (15) days of notice of selection. This provision is solely for the benefit of the Owner and may be waived by the Owner.

2.5 Failure to Enter into Agreement

If a selected bidder fails to execute the Agreement or satisfy the pre-conditions of award listed in the Open Call Particulars within fifteen (15) days of notice of selection the Owner may, without incurring any liability, proceed with the selection of another bidder and pursue all remedies available to the Owner.

2.6 Payment Terms

The University's standard payment terms are net 30 days after delivery of goods, or net 15 days after successful completion of installation as applicable. In the case of services, payment terms are also net 30 days after successful completion of the service. These terms shall also apply in the case of sub-contracted items. Prepayments will not be considered unless the supplier provides an irrevocable standby letter of credit, or the supplier provides a credit reference from its banker (in conjunction with a 50% materials and labour bond and a 50% performance bond) satisfactory to the Director of Financial and Administrative Services.

[End of Part 2]

PART 3 – TERMS AND CONDITIONS OF THE OCB PROCESS

3.1 Open Call Incorporated into Bid

All of the provisions of this Open call are deemed to be accepted by each bidder and incorporated into each bidder's bid. A bidder who submits conditions, options, variations or contingent statements to the terms as set out in this Open call, either as part of its bid or after receiving notice of selection, unless otherwise indicated, shall be disqualified.

3.2 Bidders to Follow Instructions

Bidders should structure their bids in accordance with the instructions in this Open call. Where information is requested in this Open Call, any response made in a bid should reference the applicable section numbers of this Open Call.

3.3 Bids in English

All bids are to be in English only.

3.4 No Incorporation by Reference

The entire content of the bidder's bid should be submitted in a fixed form, and links to the content of websites or other external documents referred to in the bidder's bid but not attached will not be considered to form part of its bid.

3.5 References and Past Performance

In the evaluation process, the Owner may consider information provided by the bidder's references and may also consider the bidder's past performance or conduct on previous contracts with the Owner or other institutions.

3.6 Information in Open Call Only an Estimate

The Owner and its advisors make no representation, warranty or guarantee as to the accuracy of the information contained in this Open Call or issued by way of addenda. Any quantities shown or data contained in this Open Call or provided by way of addenda are estimates only, and are for the sole purpose of indicating to bidders the general scale and scope of the Deliverables. It is the bidder's responsibility to obtain all the information necessary to prepare a bid in response to this Open Call.

3.7 Bidders to Bear Their Own Costs

The bidder will bear all costs associated with or incurred in the preparation and presentation of its bid, including, if applicable, costs incurred for interviews or demonstrations.

3.8 Bid to be Retained by the Owner

The Owner will not return the bid or any accompanying documentation or samples submitted by a bidder.

3.9 Trade Agreements

Bidders should note that procurements falling within the scope of the Canadian Free Trade Agreement, and/or the Canada-European Union Comprehensive Economic Trade Agreement are subject to those trade agreements but that the rights and obligations of the parties will be governed by the specific terms of this Open Call.

3.10 No Guarantee of Volume of Work or Exclusivity of Contract

The Owner makes no guarantee of the value or volume of work to be assigned to the preferred supplier. The Agreement will not be an exclusive contract for the provision of the described Deliverables. The Owner may contract with others for goods and services the same as or similar to the Deliverables or may obtain such goods and services internally.

3.11 Communication After Issuance of Open Call

Bidders shall promptly examine all of the documents comprising this Open Call, and

(a) shall report any errors, omissions or ambiguities; and
(b) may direct questions or seek additional information in writing by email to opencalls@mun.ca on or before the Deadline for Questions. All questions or comments submitted by bidders by email to the Open Call Contact shall be deemed to be received once the email has entered into the Open Call Contact's email inbox. No such communications are to be directed to anyone other than the Open Call Contact, and the Owner shall not be responsible for any information provided by or obtained from any source other than the Strategic Procurement Office. The Owner is under no obligation to provide additional information. It is the responsibility of the bidder to seek clarification from the Open Call Contact on any matter it considers to be unclear. The Owner shall not be responsible for any misunderstanding on the part of the bidder concerning this Open Call or its process.

3.12 All New Information to Bidders by Way of Addenda

This Open Call may be amended only by addendum in accordance with this section. If the Owner, for any reason, determines that it is necessary to provide additional information relating to this Open Call, such information will be communicated to all bidders by addenda. Each addendum forms an integral part of this Open Call and may contain important information, including significant changes to this Open Call. Bidders are responsible for obtaining all addenda issued by the Owner. In the Submission Form (Appendix B), bidders MUST confirm their receipt of all addenda by setting out the number of each addendum in the space provided.

3.13 Addenda and Extension of Submission Deadline

Any addendum issued within four (4) calendar days of the Open Call for Bids closing (Including on closing day) will extend closing by a reasonable period to be determined by Memorial University.

When evaluating bids, the Owner may request further information from the bidder or third parties in order to verify, clarify or supplement the information provided in the bidder's bid. The response received by the Owner shall, if accepted by the Owner, form an integral part of the bidder's bid.

3.14 Notification to Other Bidders

In accordance with section 30 of the *Public Procurement Regulations*, once the Agreement is awarded by the Owner, the outcome of the Open Call will be publicly posted at https://www.mun.ca/finance/strategic_procurement/. There will be no issuing of regret letters.

3.15 Debriefing

In accordance with the Public Procurement Act and Regulations, unsuccessful bidders may request a debriefing within ten (10) business days after the award has been posted. The request must be sent in writing to the Open call contact. The intent of the debriefing information session is to provide the bidder an overview of their bid and why it was unsuccessful and to help the bidder in presenting a better bid in subsequent procurement opportunities. The debriefing process is not for the purpose of providing an opportunity to challenge the procurement process or its outcome. A debriefing shall not disclose information regarding another bidder's bid.

3.16 Supplier Complaint Process

If a bidder wishes to register a complaint with respect to the Open Call process, the complaint should be provided in writing and within the parameters established by section 25 of the Public Procurement Regulations, as amended. The notice must provide a detailed explanation of the bidder's concerns with the procurement process or its outcome, in addition to such other information as may be required by the *Regulations*. Bidders should note that these complaint procedures are separate and distinct from any dispute resolution processes that may be provided for under applicable trade agreements. If a bidder wishes to dispute a matter under an applicable trade agreement, the bidder must follow the process set out in the trade agreement.

3.17 Conflict of Interest and Prohibited Conduct

The Owner may disqualify a bidder for any conduct, situation or circumstances, determined by the Owner, in its sole and absolute discretion, that constitutes a conflict of interest.

The Owner reserves the right to disqualify any bidder that in the Owner's sole opinion has an actual or potential conflict of interest or an unfair advantage.

For the purposes of this Open Call, the term "Conflict of Interest" includes, but is not limited to, any situation or circumstance where in relation to the Open Call process, the bidder has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to: (i) having, or having access to, confidential information of the Owner in the preparation of its bid that is not available to other bidders, (ii) communicating with any person with a view to influencing preferred treatment in the Open Call process (including but not limited to the lobbying of decision makers involved in the Open Call process), or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the open and competitive Open Call process or render that process non-competitive or unfair.

Bidders are required to disclose, to the Open Call Contact, any potential or perceived conflict of interest issues prior to Open Call closing date and time.

3.18 Disqualification for Prohibited Conduct

The Owner may disqualify a bidder, rescind a notification of selection or terminate a contract subsequently entered into if the Owner determines that the bidder has engaged in any conduct prohibited by this Open Call.

3.19 Bidder Not to Communicate with Media

Bidders must not at any time directly or indirectly communicate with the media in relation to this Open Call or any agreement entered into pursuant to this Open Call without first obtaining the written permission of the Open Call Contact.

3.21 No Lobbying

Bidders must not, in relation to this Open Call or the evaluation and selection process, engage directly or indirectly in any form of political or other lobbying whatsoever to influence the selection of the successful bidder(s).

3.22 Illegal or Unethical Conduct

Bidders must not engage in any illegal business practices, including activities such as bid-rigging, price-fixing, bribery, fraud, coercion or collusion. Bidders must not engage in any unethical conduct, including lobbying, as described above, or other inappropriate communications; offering gifts to any employees, officers, agents, elected or appointed officials or other representatives of the Owner; deceitfulness; submitting bids containing misrepresentations or other misleading or inaccurate information; or any other conduct that compromises or may be seen to compromise the competitive process provided for in this Open Call.

3.23 Past Performance or Past Conduct

The Owner may prohibit a supplier from participating in a procurement process based on past performance or based on inappropriate conduct in a prior procurement process, including but not limited to the following:

(a) illegal or unethical conduct as described above;

(b) the refusal of the supplier to honor submitted pricing or other commitments; or

(c) any conduct, situation or circumstance determined by the Owner, in its sole and absolute discretion, to have constituted a Conflict of Interest.

(d) performance on other contracts, including the efficiency and workmanship as well as the extent to which the Bidders performed the Work in accordance with the contractual clauses and conditions, is sufficiently poor to jeopardize the successful completion of the project being bid on, by way of previous contractor performance evaluations.

In addition, the Owner may suspend the bidding privileges of a supplier with regard to non-compliant or substandard performance in accordance with section 26 of the *Public Procurement Regulations*.

3.24 Confidential Information of the Owner

All information provided by or obtained from the Owner in any form in connection with this Open Call either before or after the issuance of this Open Call:

(a) is the sole property of the Owner and must be treated as confidential;

(b) is not to be used for any purpose other than replying to this Open Call and the performance of the Agreement;

(c) must not be disclosed without prior written authorization from the Owner; and

(d) must be returned by the bidder to the Owner immediately upon the request of the Owner.

3.25 Confidential Information of Bidder

This procurement process is subject to the *Access to Information and Protection of Privacy Act, 2015* (*ATIPPA, 2015*). A bidder must identify any information in its bid or any accompanying documentation supplied in confidence for which confidentiality is requested to be maintained by the Owner. The confidentiality of such information will be maintained by the Owner, except as otherwise required by law or by order of a court or tribunal. Bidders are advised that their bids will, as necessary, be disclosed, on a confidential basis, to advisers retained by the Owner to advise or assist with the Open Call process, including the evaluation of bids.

The Bidder agrees that any specific information in its submission that may qualify for an exemption from disclosure under subsection 39(1) of the *ATIPPA, 2015* has been identified in its submission. If no specific information has been identified it is assumed that, in the opinion of the proponent, there is no specific information that qualifies for an exemption under the subsection 39(1) of the *ATIPPA, 2015*. The Bidder acknowledges that contracting with the Owner is a public process and any information provided through this process and any records the Bidder supplies to the Owner, including the terms and conditions of any Agreement entered into, may be subject to requests under the *ATIPPA, 2015*. In the event of a request to Memorial for third party business information in its custody and control, information can be withheld only if it meets all parts of the 3-part harms test for non-disclosure as stated in section 39 of the *ATIPPA, 2015*.

Information, including the financial value of a contract resulting from this procurement process, will be publicly released as part of the award notification process, in accordance with section 30 of the *Public Procurement Regulations*.

If a bidder has any questions about the collection and use of personal information pursuant to this Open Call, questions are to be submitted to the Open Call Contact. Further information relating to subsection 39(1) of the *ATIPPA, 2015* is provided in guidance documents available through the Office of the Information and Privacy Commissioner at https://oipc.nl.ca/guidance/documents.

3.26 Reserved Rights of the Owner

The Owner reserves the right to:

(a) make public the names of any or all bidders as well as bid price and value of contract;

(b) make changes, including substantial changes, to this Open Call provided that those changes are issued by way of addendum in the manner set out in this Open Call; request written clarification or the submission of supplementary written information in relation to the clarification request from any bidder and incorporate a bidder's response to that request for clarification into the bidder's bid. This shall not be an opportunity for bid repair;

(c) assess a bidder's bid on the basis of: (i) a financial analysis determining the actual cost of the bid when considering factors including quality, service, price and transition costs arising from the replacement of existing goods, services, practices, methodologies and infrastructure (howsoever originally established); and (ii) in addition to any other evaluation criteria or considerations set out in this Open Call consider any other relevant information that arises during this Open call process; and (iii) Unbalanced bids, as determined by the Owner, will be rejected (i.e. prices must fairly represent proper compensation for various items of work to be done).

(d) waive minor irregularities and formalities and accept bids that substantially comply with the requirements of this Open Call ;

(e) verify with any bidder or with a third party any information set out in a bid;

(f) check references other than those provided by any bidder;

(g) disqualify a bidder, rescind a notice of selection or terminate a contract subsequently entered into if the bidder has engaged in any conduct that breaches the process rules or otherwise compromises or may be seen to compromise the competitive process;

(h) cancel this Open Call process at any stage;

(i) cancel this Open Call process at any stage and issue a new Open Call for the same or similar deliverables;

(j) accept any bid in whole or in part; or

(k) reject any or all bids;

(l) not necessarily select the lowest or any bidder;

And these reserved rights are in addition to any other express rights or any other rights that may be implied in the circumstances.

3.27 Limitation of Liability

By submitting a bid, each bidder agrees that:

(a) neither the Owner nor any of it employees, officers, agents, elected or appointed officials,

advisors or representatives will be liable, under any circumstances, for any claim arising out of this Open Call process including but not limited to costs of preparation of the bid, loss of profits, loss of opportunity or for any other claim; and

(b) the bidder waives any right to or claim for any compensation of any kind whatsoever, including claims for costs of preparation of the bid, loss of profit or loss of opportunity by reason of the Owner's decision not to accept the bid submitted by the bidder for any reason, the Owner's decision to enter into an agreement with any other bidder or to cancel this bidding process, and the bidder shall be deemed to have agreed to waive such right or claim.

3.31 Governing Law and Interpretation

These Terms and Conditions of the Open Call Process:

(a) are intended to be interpreted broadly and independently (with no particular provision intended to limit the scope of any other provision);

(b) are non-exhaustive and shall not be construed as intending to limit the pre-existing rights of the Owner; and

(c) are to be governed by and construed in accordance with the laws of the Province of Newfoundland & Labrador and the federal laws of Canada applicable therein.

3.32 Facility Compliance Requirement

(a) Equipment, power tools, instruments and appliances intended for use within Memorial University's facilities must comply with all regulatory requirements related to use and/or installation in University facilities. This includes but is not limited to certification/listing by recognized agencies, Pressure Vessel Act of Newfoundland and Labrador and similar.

(b) Items provided related to this open call that receive power from the University's electrical system must be certified or listed for use within Canada by a recognized agency such as Canadian Standards Association (CSA) or Underwriter Laboratories Canada (ULC). A full list of agencies recognized by Memorial University is available upon request.

(c) Equipment, tools, instruments and appliances that generate pressure may require registration as a pressure system with the Province of Newfoundland and Labrador. Compliance with the Boiler, Pressure Vessel and Compressed Gas Regulations under the Public Safety Act of Newfoundland and Labrador and the Boiler, Pressure Vessel, and Pressure Piping Code CSA B51:19 shall be demonstrated.

(d) The vendor is responsible for all costs associated with ensuring the system is compliant with legislative requirements and for the application and registration processes. Field certifications may be considered but all costs and efforts for such scenarios are the responsibility of the vendor.

[End of Part 3]

PART 4 – ENVIRONMENTAL HEALTH AND SAFETY REQUIREMENTS

4.1 Maintaining a healthy and safe environment for all members of the campus community, as well as visitors, is a priority with the University. This involves a commitment from all sectors of the campus community and extends to outside agencies having occasion to come on campus to conduct business.

The following requirements will apply to all work undertaken by contractors and service personnel on any University property or for any work undertaken on behalf of the Owner.

4.1.0 Regulations, Codes and Standards

Contractors shall be familiar with and abide by provisions of various safety codes and standards applicable to the work performed and should refer to:

The Contractor shall be completely responsible for the safety of the Work as it applies to protection of the public and property and construction of the Work.

The codes that must be followed and enforced for safety are:

(a) The National Building Code, Part 8, Safety Measures at Construction and Demolition Sites (Latest Edition);

(b) Canadian Code for Construction Safety (Latest Edition) as issued by the Associate Committee of the National Building Code;

(c) The Occupational Health and Safety Act of Newfoundland and Labrador (most current version) and Regulations.

In particular, strict adherence to the Provincial Occupational Health and Safety Act and Regulations and with the National Building Code of Canada, Part 8 is required.

4.2.0 General Health and Safety Regulations

(a) Contractors/service agencies shall ensure that members of the campus community are not endangered by any work or process in which they may be engaged. Work areas shall be adequately barricaded, and if dust or fumes are generated, suitable enclosures shall be installed to contain such emissions.

(b) No material shall be stored in such a way as to obstruct walkways or represent a danger to pedestrian or vehicular traffic.

(c) Adequate protection shall be provided to prevent the possibility of goods falling from scaffolding or elevated areas. Areas where goods are being loaded or off loaded shall be barricaded or otherwise protected to prevent unauthorized entry. Appropriate warning signs must be posted.

(d) The work areas must be kept reasonably clean and free from debris which could constitute a fire hazard. Care must be taken to ensure that the work process does not activate fire

alarm detection devices. (Generation of dust and fumes can activate smoke detectors causing a false alarm).

(e) Due consideration shall be given to fire safety in buildings. Flammable goods must be kept away from sources of ignition. No work involving the use of open flame devices must be undertaken around flammable solvents of gases.

(f) Some University buildings contain asbestos and other hazardous materials. Do not alter or disturb any goods believed to contain asbestos goods (unless this is a duly authorized part of the project). Consult with University officials before proceeding with any work.

(g) Safety Data Sheets shall be procured for any hazardous product used on campus. Such sheets shall be made readily available for consultation as required under the Workplace Hazardous Materials Information System (WHMIS).

(h) Contractors are required to complete the online training module for Memorials Zero Energy Isolation Program (ZEIP) before mobilizing on site. Training can be accessed via the link: https://ooc.citl.mun.ca/enrol/index.php?id=21 .

- First time users must create an account. Click **'Create new account'**. Enter required information and click **'Create my new account'**.
- A confirmation email will be sent to the email you entered when creating your account. Open that email and click the link it contains.
- Click **'Zero energy isolation Program for Contractors'**.
- To enroll in the training, enter the enrollment key: 7653. Click **'Enroll me'**.
- Complete the training according to the instructions provided in the course.
- Successful completion certificates shall be available during auditing by Environmental Health & Safety.

NOTE: The above requirements are not to be considered all-inclusive and are considered to be complementary to the safety requirements outlined in the agreement between the University and Supplier. Certain conditions and circumstances may require adherence to additional safety requirements.

As a general requirement, contract/service personnel are expected to conduct all work on campus in a professional and safe manner and to give priority to the safety and welfare of members of the campus community.

4.3.0 Contractor Safety Management

4.3.1 All Contractors and Subcontractors to be used by the Contractor in the execution of the Contract shall be required to submit confirmation of a current third party occupational health and safety program certification (Letter of Assurance). These may include, but not be limited to, Certificate of Recognition (COR), OHSAS 18001, and CSA Z.1000.

4.3.2 All Contractors and Subcontractors shall be required to review and follow all requirements of sections 4.4.5.2. below.

4.3.3 Prior to Contract award, the Contractor will be required to provide the Information requested in 4.4.5.2. below.

4.3.4 The University reserves the right to stop any work or portion of work where no documentation can be produced on site which identifies the hazards presented by a piece of work, safe work procedures for work or certification of employees performing work. The Contractor is liable for any costs incurred by affected parties associated with such a stoppage.

4.4.0 Contractor Safety Management Element

4.4.1 Purpose

This element establishes the requirements for the administration and monitoring of contractor health and safety programs and activities at Memorial University. These measures shall ensure that contractors understand their collective responsibility with respect to the Occupational Health & Safety Act and Regulations, Memorial University policy and this element.

4.4.2 Scope

This procedure shall apply to all work done for Memorial University of Newfoundland with respect to the provision of services as outlined below. Memorial University reserves the right to exempt a Contractor from this element, in whole or in part, based upon an evaluation of the risk of the work being conducted. This evaluation must comply with the hazard identification and risk management element.

4.4.3 Definitions

Act: Newfoundland & Labrador Occupational Health & Safety Act, latest edition.
Contract: A documented agreement between Memorial University and a contractor.
Contractor: The principal contractor, person, partnership, or corporation bound to execute the work under the contract and defined as such in the agreement is responsible for the supervision of the work so as to ensure the work is carried out in accordance with the contract.
Project Management Team: The group assigned by the University to act on behalf of the owner with respect to the execution of Contractor work.
Principal Contractor: The person primarily responsible for the carrying out of a contract.
Regulations: Newfoundland & Labrador Occupational Health & Safety Regulations, latest edition.
Subcontractor: A person, firm or corporation having a direct contract with the Contractor or subcontractor(s) 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.

Owner: The Owner, Engineer/Architect are the persons, firms or corporation identified as such in the Contract. The term Owner, Engineer/Architect means, respectively, each of the Owner, Engineer/Architect and their authorized representatives as designated by each such party in writing.
Work: The services and job procedure completion that is described in the contract.

4.4.4 Roles and Responsibilities

4.4.4.1 Project Management Team, including Environmental Health & Safety

Will monitor the Contractor's performance for health and safety compliance. Monitoring activities may include but are not limited to:

- planned and unplanned workplace inspections;
- attendance of meetings;
- communications of safety related issues and topics, as deemed necessary;
- review of contractor records, inspections, work practices and documentation; and
- complete audits to verify that contractors and subcontractors are meeting their legislative, procedural and contractual responsibilities.

4.4.4.2 Contractors

Will comply with applicable Federal and Provincial legislation and applicable MUN safety procedures. Contractor responsibilities include but not limited to:

- report all incidents immediately to the required University project team followed by a written incident report within 24 hours;
- be responsible for the safety of subcontractors including those not under their employ;
- stop work if the conditions are such that work cannot be performed safely;
- perform evaluation, monitoring of the workplace to identify potential hazards and associated risks and ensure corrective actions are implemented;
- ensure daily task specific hazard assessments are completed; and
- maintain the accountability of persons responsible for the reporting and correction of hazards.

4.4.5 Procedure

4.4.5.1 Considerations prior to signing of contract

Prior to signing of contract, the preferred General Contractor shall provide proof of compliance with 4.4.4.2. within seven (7) calendar days. After a pre-signing start up meeting, the General Contractor shall provide proof of compliance of themselves and their subcontractors with 4.4.4.2. as well as the information requested in Section 4.4.4.2.(a)(b).

4.4.5.2 Requirements

All Contractors, and their Subcontractors, shall be required to submit confirmation of a current third party occupational health and safety program certification (Letter of Assurance). These may include, but not be limited to, Certificate of Recognition (COR), OHSAS 18001, and CSA Z.1000.

Contractors shall also provide the following:

(a) health and safety policy statement;

(b) safety program table of contents; and

(c) site hazard assessment;

The hazard assessment shall be updated by the General Contractor and re-submitted whenever the conditions, work practices or work forces change to the extent that new hazards can be identified.

In lieu of a Subcontractors 3rd party program, Contractors shall be required to integrate the Subcontractor(s) into the Contractors program and provide proof of same.

Memorial reserves the right to request and audit the full safety program of Contractors and Subcontractors and their associated documentation. This documentation may include, but not be limited to the following:

(a) safety program and/or manual

(b) applicable documented safe work practices;

(c) inspection reports and schedules;

(d) required employee safety training certifications and qualifications; and

(e) updated list of OHS Committee and/or a worker health and safety representative, or workplace health and safety designate.

Request for submission shall be complied with within 7 calendar days of a written request from Memorial’s Environmental Health and Safety unit.

Memorial reserves the right to:

(a) Reject any Contractor that fails to meet the requirements or schedules outlined herein;

(b) The University reserves the right to stop any work or portion of work where the risk presents an immediate danger.

4.4.5.3 Schedule of Submissions

General Contractors and their sub-contractors who have complied with 5.1.1 will be permitted to commence physical work on the site however no work shall be performed by the General Contractor, their sub-contractors until such a time as they comply with 5.1.1.

4.4.6 Post-Contract Evaluation

Environmental Health & Safety will determine the extent of the evaluation of the Contractor's safety performance at the completion of the contract. This evaluation will be conducted by way of a standard contractor safety evaluation form and will be supported by objective evidence documented during the term of the Contract. The records of the evaluation must be retained with the project owner.

4.5 Access To Site

4.5.1 All Contractors and Subcontractors to be used in the execution of the Contract shall give advance notification of when they will be on site. Any work to be performed outside of Regular Time must have advance approval of the Owner.

Any discontinuation of the Work which causes a Contractor or their Subcontractors to suspend operations onsite will require the following:

- Contractor/Subcontractors shall notify the Owner of the stop work date.
- Contractor/Subcontractors shall ensure the site is left in a safe and secure condition.
- Contractor/Subcontractors shall ensure that locks and tags on mechanical and/or electrical systems are removed and, where necessary, replaced by the University.
- Contractor/Subcontractors shall not return to site without expressed prior permission from the Owner.

[End of Part 4]

PART 5– GENERAL CONDITIONS

5.1 I/We hereby authorize the Owner to release names of Subcontractors, Suppliers and Manufacturers used in my/our Bid including those as listed in Appendix "D", where such information is requested from the Owner.

5.2 I/We understand that Bids that do not list major Subcontractors and Suppliers and Manufacturers where required in Appendix “D” may be rejected.

5.3 I/We reserve the right to substitute other Subcontractors and/or Suppliers and/or Manufacturers for any Subcontractor or Suppliers or Manufacturer withdrawing their Bid or becoming bankrupt after the date hereof. Any such substitutes shall be subject to the approval of the Owner and contingent upon evidence of withdrawal or bankruptcy satisfactory to the Owner.

5.4 I/We agree that upon approval by the Engineer/Architect, the Owner shall have the right to take possession of any part of the work upon its completion, except for minor deficiency items, and that such possession shall not necessarily constitute acceptance of that part of the work.

5.5 I/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.

5.6 I/We understand and agree that the Unit Price Table in Appendix "C2" must be completed where indicated and the total amount included in my/our stipulated price for the total performance of the work under Part 4 of the Bid and Acceptance form. I/We understand that the Unit Prices include all costs and charges of every kind, including overhead and profit, to perform the items of work listed in Appendix "A". I/We also understand that these same Unit Prices will be used for additions or deletions to the actual measured quantities.

5.7 When Appendix “E” is included in the Open Call, I/we understand that bids which do not list project references, where required in Appendix “E”, will be rejected.

5.8 Corporations Act

The Corporations Act of Newfoundland and Labrador requires that an extra-provincial company be registered before it begins or carries on business in the Province. If your company is not registered, please apply for the appropriate forms and procedures to:

Commercial Registrations Division
Dept. of Government Services, PO Box 8700
St John’s, NL Canada A1B 4J6
Phone: 709-729-3317, Fax: 709-729-0232
Website: http://www.gs.gov.nl.ca/registries/companies/corp_art_inc.html

[End of Part 5]

Part 6 – Supplementary Terms and Conditions

6.1 The open call document consist of the Open Call and Acceptance Form, General Conditions of Contract, Supplementary General Conditions of Contract, Special Conditions, Campus Safety and Health Regulations, Contractors Performance Evaluation, Drawings, Specifications and any Addenda to the Contract Documents issued before the open call closing period.

6.2 Surety

6.2.1 Bid Surety

Bids shall be accompanied by a copy of a bid security by way of a Bid Bond from a surety company acceptable to the Owner and which is licensed to do business in the Province of Newfoundland and Labrador or a copy of a cheque in the amount of 10 percent of the bid price. Originals to be delivered to Memorial University post tender closing. Bid security will not be required for a total contract value of $100,000 or less (HST Excluded), unless specifically called for in the contract documents. The bid security will be returned to the bidder upon receipt of the required Performance Bond and Labour and Materials Payment Bond as per 6.2.2 below.

The terms of the bid security will be invoked and the amount retained by the Owner if: the Tenderer fails to enter into a formal agreement, where one is specified, when notified of the award of the Contract within the tender validity period; or fails to provide the required Performance Bond and Labour and Materials Payment Bond within the time specified

6.2.2 Public Work's Surety

Within seven (7) days of the issuance of the letter of acceptance, the preferred Bidder shall obtain and deliver to the Owner a Performance Bond in the amount of 50 percent of the bid price (HST Excluded) which guarantees the successful and complete performance of the Work. The Performance Bond is required as a condition of bid award. In lieu of a Performance Bond an approved certified cheque in the amount of 10 percent of the bid price may, at their option, be accepted for retention by the Owner until the successful completion of the Contract. The certified cheque will be retained until satisfactory completion of the Work including the warranty period after which it will be returned to the Contractor. Performance Bond or other such security will not be required for a contract value of $100,000 or less. No Work is to be undertaken while the above performance security remains outstanding.

Within seven (7) days of issuance of the letter of acceptance, the preferred Bidder shall obtain and deliver to the Owner a Labour and Materials Payment Bond in the amount of 50 percent of the bid price (HST Excluded). The Labour and Materials Payment Bond is required as a condition of the bid award. In lieu of a Labour and Materials Payment Bond, an approved certified cheque in the amount 10 percent of the bid price may, at their option, be accepted for retention by the Owner until successful completion of the Contract. The certified cheque will be retained until substantial completion of the Work as defined by the Mechanics Lien Act and upon receipt of an acceptable statutory declaration form stating that all labour and material obligations due and payable under the Work have been discharged, after which it will then be returned to the Contractor. Labour and Materials

Payment Bond or other such security will not be required for a contract value of $100,000 or less. No Work is to be undertaken while the above labour and materials security remains outstanding.

No interest will be paid to the preferred Bidder for any certified cheques on deposit during the period of retention.

The cost of all bid, performance and labour and materials security shall be included in the bid price

6.2.3 Site Visit

A site visit may occur at the time and location identified on the Request for Open Calls for Bids Information Sheet.

Questions will not be answered at the site visit.

Before submitting a bid, Bidders may carefully examine the site of the Proposed Work and fully inform themselves of the existing condition and limitations. It is the responsibility of the Bidder to report any unsatisfactory conditions in writing which may adversely affect the proper completion of the work, to opencalls@mun.ca, at least **eight (8)** days before the open call closing date. Submission of a bid shall imply acceptance of previously completed Work and the conditions of the site, and the Contractor shall, therefore, be fully responsible for executing the Work in accordance with the Contract Documents.

6.3 Substitution of Materials

6.3.1 The open call shall be based upon using the materials or products as specified without substitution, unless there is an "or approved alternate" clause. Where two or more brand names are specified, the choice shall be left to the bidder. Where only one brand name is stated, there shall be no substitution.

6.3.2 Where the Specifications include the "or approved alternate" clause, substitutions may be proposed provided that the request for a substitution is received in writing at least eight (8) days (3:00pm NST) prior to the open call closing date and shall clearly define and describe the product for which the substitution is requested. Submissions shall compare in tabular form, to the characteristics and performance criteria of the specified material.

6.3.3 It is the Bidder's responsibility to ensure that the substituted article is equivalent to the specified article with regard to design, function, appearance, durability, operation and quality.

6.3.4 Request for substitutions made after the award of the contract will be subject to the requirements of Clause 2.37.0 MATERIALS AND SUBSTITUTIONS in the General Conditions of the Contract and will only be considered under special circumstances or where it is clear, at the Engineer's/Architect's discretion, that proposed substitution will provide a substantial benefit to the Owner.

6.3.5 Approval of the substitution shall be in the form of an addendum to the Specifications.

The decision on substitutions will be final.

6.4 Completion date

6.4.1 Bidders shall state the time required to complete the Contract from time of open call award. The bidder shall, within seven (7) days after the Contract is award submit a preliminary construction schedule indicating as closely as possible the starting and completion date for the major sections of the Work.

[End of Part 6]

APPENDIX A – SPECIFICATIONS AND DRAWINGS

SPECIFICATIONS AND DRAWINGS
LOCATED AT THE END OF THIS DOCUMENT

APPENDIX B – SUBMISSION FORM

1. Bidder Information

Please fill out the following form, naming one person to be the bidder's contact for the Open Call process and for any clarifications or communication that might be necessary.	
Full Legal Name of Bidder:	
Any Other Relevant Name under which Bidder Carries on Business:	
Street Address:	
City, Province/State:	
Postal Code:	
Phone Number:	
Fax Number:	
Company Website (if any):	
Bidder Contact Name and Title:	
Bidder Contact Phone:	
Bidder Contact Fax:	
Bidder Contact Email:	

2. Offer

The bidder has carefully examined the Open Call documents and has a clear and comprehensive knowledge of the Deliverables required under the Open Call. By submitting a bid, the bidder agrees and consents to the terms, conditions and provisions of the Open Call, including the Form of Agreement, and offers to provide the Deliverables in accordance therewith at the rates set out in the completed Pricing Form (Appendix C1 and/or C2 and/or C3).

3. Rates

The bidder has submitted its rates in accordance with the instructions in the Open Call and in the Pricing Form (Appendix C1 and/or C2 and/or C3). The bidder confirms that it has factored all of the provisions of Appendix A, including insurance and indemnity requirements, into its pricing assumptions and calculations.

4. Addenda

4.1 The bidder is deemed to have read and accepted all addenda issued by the Owner. The onus is on bidders to make any necessary amendments to their bids based on the addenda. The bidder is required to confirm that it has received all addenda by listing the addenda numbers in table below:(**Listing of individually the numbers of each Addendum received in the blank space)**

NOTE: FAILURE TO COMPLETE "TABLE: ADDENDA RECEIVED" LOCATED BELOW SHALL RESULT IN BID DISQUALIFICATION:

TABLE 1.10: ADDENDA RECEIVED

Bidders who fail to complete the above table will be deemed to have not received all posted addenda and shall be deemed **non- compliant.**

5. No Prohibited Conduct

The bidder declares that it has not engaged in any conduct prohibited by this Open Call.

6. Disclosure of Information

The bidder hereby agrees that any information provided in this bid, even if it is identified as being supplied in confidence, may be disclosed where required by law or by order of a court or tribunal. The bidder hereby consents to the disclosure, on a confidential basis, of this bid by the Owner to the advisers retained by the Owner to advise or assist with the Open Call process, including with respect to the evaluation of this bid.

7. Bid Irrevocable

The bidder agrees that its tender shall be irrevocable for a period of **45** days running from the moment that the Submission Deadline passes.

8. Execution of Agreement

The bidder agrees that in the event its bid is selected by the Owner, in whole or in part, it will finalize and execute the Agreement in the form set out in Appendix A (or in a form mutually acceptable to the parties) to this Open Call in accordance with the terms of this Open Call . Failure to submit this signature section will render the proposal NON-COMPLIANT and the proposal will be disqualified.

BIDDER SIGNATURE FORM:

BIDDERS MUST COMPLETE THE BIDDER SIGNATURE FORM. ANY BIDS RECEIVED WITHOUT THE BIDDER CONTACT FORM COMPLETED WILL BE DEEMED NON- COMPLIANT

(See Part 1 section 1.8 for Electronic Signature acceptance)

Signature of Witness	Signature of Bidder Representative
Name of Witness	Name of Bidder Representative
	Title of Bidder Representative
	Date

I have the authority to bind the bidder.

IN SIGNING THIS PAGE AND SUBMITTING YOUR PROPOSAL, THE PROPONENT ACKNOWLEDGES HAVING READ, UNDERSTOOD AND AGREED TO THE TERMS AND CONDITIONS OF THIS DOCUMENT

APPENDIX C1 – PRICING FORM

1. INSTRUCTIONS ON HOW TO COMPLETE THE PRICING FORM

- Rates must be provided in Canadian Dollars
- Rates quoted by the bidder must be all-inclusive and must include all labor and material costs, all travel and carriage costs, all insurance costs, all costs of delivery to the Owner, all costs of installation and set-up, including any pre-delivery inspection charges, and all other overhead, including any fees or other charges required by law
- Owner: Having carefully examined the site and all conditions affecting the proposed work as well as the Bid Documents including the Drawings and Specifications, all Addenda and the Instructions to bidders, I/We, the undersigned, hereby offer to furnish all necessary labour, materials, superintendence, plant, tools, equipment, etc., required to complete all work requisite and necessary for the proper execution of this Contract, expeditiously and in the satisfactory manner and accept in full payment therefore a stipulated sum of:

The scope of work for Price A, Price B, Price C and Price D is outlined in the contract documents. The Owner reserves the right to delete any or all parts of this tender and award individual and/or combined parts.		
	Contract Bid (HST Excluded)	
Price A: All work associated with Area 1 & Area 2 on the Drawings/Specifications		HST EXCLUDED
Price B: All Work associated with Area 1 only on the Drawings/Specifications		HST EXCLUDED
Price C: Sum of allowances for Work Associated with Price A (Section 01 21 00)	$34,782.60	HST EXCLUDED
Price D: Sum of allowances for Work Associated with Area B (Section 01 21 00)	$17,391.30	HST EXCLUDED
Price E: Total: [$(A+C)]		HST EXCLUDED
Price F: Total: [$(B+D)]		HST EXCLUDED

I/We agree to commence work within two (2) weeks after the acceptance of my/our Bid and complete the work in _____weeks from the acceptance of the Bid and to coordinate the scheduling of our work with that of all Subcontractors working on the Project. The time of completion indicated herein is required and will be a significant factor in assessing bids.

2. THE DELIVERABLES:

B-508-22, Battery Facility, Window Replacement
as per specifications listed in Appendix A

3. MANDATORY SUBMISSION REQUIREMENTS

(a) Submission Form (Appendix B)
Each bid must include a Submission Form (Appendix B) completed and signed by an authorized representative of the bidder.

(b) Each bid must include Pricing Form (Appendix C1) as per instructions on form.

(c) Where Appendix C2 and C3 are required, they must be included in bid submission.

APPENDIX C2 – UNIT RATES

Herewith is a Unit Price Table that will be used for work associated with the project where such items have been listed and quantities have been estimated and included by the Engineer/Architect. The Contractor will fill in their Unit Price and calculated amounts to complete these items of work. The total amount from the Unit Price Table **must be included in the Contractor's Stipulated Price under Appendix C1 of the Bid and Acceptance Form** for the total performance of work. Where no items have been listed and no quantities estimated by the Engineer/Architect, the Contractor shall include such sums in their Stipulated Price under Clause 1 as they feel may be necessary to complete the items of work associated with the total performance of the work as required by the Contract Documents.

Item No.	Bid Item	Unit	Estimated Quantity	Unit Price (HST Excluded)	Amount
	For the supply and installation of deteriorated exterior grade gypsum sheathing with new. Quantities and areas to be confirmed with Project Coordinator.	m^2	$60m^2$		
				TOTAL	

APPENDIX D - LIST OF SUBCONTRACTORS

Herewith is the list of Subcontractors, Suppliers and/or Manufacturers referred to in Section no. **5.1 of Part 5 of the Open Call and Acceptance Form**. The Subcontractors and Suppliers whose bids have been used in the preparation of this Bid must be listed in full including work to be done by own forces (B.O.F.). By Own Forces will be considered valid and satisfactory only if, prior to award, the supplier provides three (3) current (< 3 years) references of satisfactory completion of trade work of similar ***scale, scope and complexity*** as that described within the Bid documents. Trade certifications may be requested in addition to the references above. The determination of suitability is entirely at the discretion of the owner and shall be based on submitted documentation. The owner may use their knowledge and understanding of experience and performance of the Contractor on past work in lieu of this submission. The list will be subject to the approval of the Owner.

NOTE: FAILURE TO COMPLETE THIS PORTION OF THE BID SUBMISSION SHALL RESULT IN DISQUALIFICATION.

The trades below, if listed, have been identified by the owner, however it is the Bidder's responsibility to identify all applicable subtrades.

TRADE/DIVISION	SUBCONTRACTOR - SUPPLIER - MANUFACTURER
Hazardous Materials Abatement	
Demolition	
Lift/Hoist	
Scaffolding	
Metal Fabrications	
Millwork	
Rough Carpentry	
Doors & Frames	
Windows	
Plaster & Paint	

DEPARTMENT OF FACILITIES MANAGEMENT

GENERAL CONDITIONS

AND

AGREEMENT BETWEEN OWNER AND CONTRACTOR

FOR

THE STIPULATED PRICE CONTRACT

May 2023

GENERAL CONDITIONS AND AGREEMENT
BETWEEN OWNER AND CONTRACTOR FOR THE STIPULATED PRICE CONTRACT

INDEX

1.0 GENERAL CONDITIONS

1.1.0 DEFINITIONS

1.1.1 Contract Documents

The Contract Documents consist of the Instructions to bidders, Executed Agreement between the Owner and the Contractor, General Conditions of Contract, Supplementary General Conditions of Contract, Special Conditions, Campus Safety and Health Regulation, Contractor Performance Evaluations, Specifications, Drawings and such other documents forming part of the open call, 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 bid and any Addenda to the Specifications issued during the bidding period shall also form part of the Contract Documents.

1.1.2 Owner, Engineer/Architect, Contractor

The Owner, Engineer/Architect and Contractor are the persons, firms or corporation identified as such in the Agreement. The term Owner, Engineer/Architect and Contractor means the Owner, Engineer/Architect and Contractor or their authorized representatives as designated by each party in writing.

1.1.3 Subcontractors

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.

1.1.4 The Project

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

1.1.5 The Work

The Work means the total construction and related services required by the Contract Documents.

1.1.6 Place of Work

The Place of Work is the designated site or location of the project of which the Work may be the whole or a part.

1.1.7 Products/Materials/Equipment

The term Products/Materials/Equipment means all materials, machinery, equipment and fixtures forming the 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.

1.1.8 Other Contractor

The term Other Contractor means any persons, 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.

1.1.9 Time

a) The Contract Time is the time stated in the Open Call for Bid and Acceptance Form for substantial performance of the Work.

b) The date of substantial performance of the Work is the date certified by the Engineer/Architect.

c) The term day, as used in the Contract Documents, shall mean the calendar day.

d) The term working day means any day observed by the construction industry in the area of the place of the Work.

1.1.10 Substantial Performance of the Work

A Contract shall be deemed to be substantially performed:

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) 3% (Three per centum) of the first two hundred and fifty thousand dollars ($250,000) of the Contract Price;

(ii) 2% (Two per centum) of the next two hundred and fifty thousand dollars ($250,000) of the Contract Price; and

(iii) 1% (One per centum) of the balance of the Contract Price.

c) When the Work or a substantial part thereof is ready for use or is being used for the purpose intended and where the Work cannot be completed expeditiously for

reasons beyond the control of the Contractor, the value of the remaining Work to be completed shall be deducted from the Contract Price in determining substantial performance.

1.1.11 Total Performance of the Work

Total Performance of the Work shall mean when the entire Work except those items arising from the provision **2.26.0 WARRANTY** has been performed to the requirements of the Contract Documents and is so certified by the Engineer/Architect.

1.1.12 Changes in the Work

Changes in the Work means additions, deletions or other revisions to the Work within the general scope of Work as contemplated by the Contract Documents.

1.1.13 Extra Work

Extra Work means any additional work or service, the performance of which is beyond the scope of Work as contemplated by the Contract Documents.

2.2.0 DOCUMENTS

2.2.1 The Contract Documents shall be signed in triplicate by the Owner and the Contractor.

2.2.2 Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

2.2.3 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 on the same drawing;

c) Drawings of larger scale shall govern over those of smaller scale of the same date;

d) Specifications shall govern over drawings;

e) Special Conditions shall govern over Specifications;

f) The General Conditions of Contract shall govern over Specifications;

g) Supplementary General Conditions shall govern over the General Conditions of the Contract;

h) The Executed Agreement between the Owner and the Contractor shall govern over all documents.

2.2.4 The Contractor will be provided, without charge, up to twelve (12) sets of Contract Documents or parts thereof as are reasonably necessary for the performance of the Work.

2.2.5 The Contractor shall keep a copy of all current Contract Documents and shop drawings on the site, in good order and available to the Engineer/Architect and or their representatives. This requirement shall not be deemed to include the executed Contract Documents.

2.2.6 Drawings, specifications, models and copies thereof furnished to the Contractor are to be used only with respect to the Work. Such documents and models are not to be otherwise used or revised in any manner without the written authorization of the Owner.

2.2.7 Models furnished by the Contractor at the Owner's expense are the property of the Owner.

2.3.0 ADDITIONAL INSTRUCTIONS AND SCHEDULE OF WORK

2.3.1 During the progress of the Work, the Engineer/Architect 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.

2.3.2 Additional instructions may include minor changes to the Work which affect neither the Contract Price nor the Contract Time.

2.3.3 Additional instructions may be in the form of drawings, samples, models or written instructions.

2.3.4 Additional instructions will be issued by the Engineer/Architect with reasonable promptness and in accordance with any schedule agreed upon for such instructions.

2.3.5 The Contractor shall prepare and update, as required, a construction schedule indicating the timing of major activities of the Work. The schedule shall be designed to conform with the Contract Time. The schedule shall be submitted to the Engineer/Architect within seven (7) days of the date of the Owner's letter of award. The contractor shall monitor the progress of the Work relative to the schedule and advise the Engineer/Architect of any revisions required as a result of delays, as provided for in **2.5.0 DELAYS**, and indicating what action will be taken to complete the Work within the Contract Time.

2.4.0 ENGINEER/ARCHITECT'S DECISIONS

2.4.1 The Engineer/Architect, 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.

2.4.2 The Contractor shall notify the Engineer/Architect in writing within fourteen (14) days of receipt of a decision of the Engineer/Architect referred to in 2.4.1, should they hold that a decision by the Engineer/Architect is in error and/or at variance with the Contract Documents. Unless the Contractor fulfils this requirement, subsequent claims by them for extra compensation arising out of the decision will not be accepted.

2.4.3 If the question of error and/or variance is not resolved immediately, and the Engineer/Architect decides that the disputed work shall be carried out, the Contractor shall act according to the Engineer/Architect's written decision.

Any questions of change in Contract Price and/or extension of Contract Time due to such error and/or variance shall be decided as provided in **2.11.0 DISPUTES**.

2.5.0 DELAYS

2.5.1 If it can be clearly shown that the Contractor is delayed in the performance of the Work by any act or fault of the Owner, Engineer/Architect, then the Contract Time shall be extended for such reasonable time as the Engineer/Architect may decide in consultation with the Owner and the Contractor. The Contractor shall be entitled to be reimbursed for any costs incurred by them 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.

2.5.2 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 by them directly or indirectly then the Contract Time shall be extended for such reasonable time as the Engineer/Architect may decide in consultation with the Contractor.

2.5.3 If the Contractor is delayed in the performance of the Work by civil disorders, labour disputes, strikes, lockouts, (including lockouts 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 Engineer/Architect 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.

2.5.4 No extension shall be made for delays unless written notice of claims is given to the Engineer/Architect within fourteen (14) days of its commencement, providing that in the case of the continuing cause of delay one notice shall be necessary.

2.5.5 If no schedule is provided under **2.3.0 ADDITIONAL INSTRUCTIONS AND SCHEDULE OF WORK**, no claim for delay will be considered because of failure to furnish instructions until fourteen (14) days after a demand for such instructions had been made and not then unless such claim is reasonable.

2.6.0 OWNER'S RIGHT TO PERFORM WORK, STOP WORK AND/OR TERMINATE CONTRACT

2.6.1 If the Contractor should be adjudged bankrupt or makes a general assignment for the benefit of creditors because of their insolvency or if a Receiver is appointed on account of their insolvency, the Owner may, without prejudice to any other right or remedy they may have, by giving the Contractor or Receiver or Trustee in Bankruptcy written notice, terminate the Contract. If a Performance Bond has been provided by the Contractor guaranteeing faithful performance of the Work, the Owner shall give written notice to the Surety invoking the terms of the bond.

2.6.2 The Owner may notify the Contractor in writing that they are in default of their contractual obligations, if the Contractor:

a) Fails to proceed regularly and diligently with the Work; or

b) Without reasonable cause wholly suspends the carrying out of the Work before the completion thereof; or

c) Refuses or fails to supply sufficient, properly skilled workmen for 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 Engineer/Architect except in those cases provided in **2.5.0 DELAYS**; or

d) Fails to make payments due to their Subcontractors, their Suppliers for their workmen; or

e) Persistently disregards laws or ordinances, or the Engineer/Architect's instructions; or

f) Otherwise violates the provisions of their Contract to a substantial degree.

Such written notice by the Owner shall instruct the Contractor to correct the default within five (5) working days from the receipt of the written notice. If a Performance Bond has been provided by the Contractor, a copy of such written notice will be provided to the Surety.

2.6.3 If the correction of the default cannot be completed within the five (5) working days specified, the Contractor shall be considered to be in compliance with the Owner's instruction if they:

a) Commence the correction of the default within the specified time; and

b) Provide the Owner with an acceptable schedule for such correction; and

c) Complete the correction in accordance with such schedule.

2.6.4 If the Contractor fails to correct the default within the time specified or subsequently agreed upon, the Owner may, without prejudice to any other right or remedy they may have:

a) Correct such default and deduct the cost thereof as certified by the Engineer/Architect from any payment due under the Contract; or

b) Terminate the Contract by written notice to the Contractor. If a Performance Bond has been provided by the Contractor, the Owner will provide the Surety with a copy of such notice.

2.6.5 If the Owner terminates the Contract under the conditions set out above, they are entitled to:

a) Take possession of the premises and products and utilize the temporary buildings, plants, tools, construction machinery and equipment, goods and materials, intended for, delivered to and placed on or adjacent to the Work and may complete the Work by whatever method they may deem expedient but without undue delay or expense;

b) Withhold any further payments to the Contractor until the Work is finished;

c) Upon total performance of the Work, charge the Contractor the amount by which the full cost of finishing the Work as certified by the Engineer/Architect including compensation to the Engineer/Architect for their additional services and a reasonable allowance to cover the cost of any corrections required by **2.26.0 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;

d) On expiry of the warranty period, charge the Contractor the amount by which the cost of corrections under **2.26.0 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;

e) Invoke the terms of the Performance Bond if such Bond has been provided under the Contract.

2.6.6 The Contractor's obligation under the Contract as to the performance of the Work up to the time of termination will remain in force after such termination.

2.7.0 CONTRACTOR'S RIGHT TO STOP WORK AND/OR TERMINATE CONTRACT

2.7.1 If the Owner should be adjudged bankrupt or makes a general assignment for the benefit of creditors or if a Receiver is appointed on account of their insolvency, the Contractor may, without prejudice to any other right or remedy they may have, by giving the Owner written notice, terminate the Contract.

2.7.2 If the Work should be stopped or otherwise delayed for a period of thirty (30) 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 anyone directly or indirectly employed by him, the Contractor may, without prejudice to any other right or remedy they may have, by giving the Owner fifteen (15) days' written notice, terminate the Contract.

2.7.3 The Contractor may notify the Owner in writing that the Owner is in default of their contractual obligations if:

a) The Engineer/Architect fails to issue a certificate in accordance with **2.16.0 CERTIFICATES AND PAYMENTS;**

b) The Owner fails to pay the Contractor when due any amount certified by the Engineer/Architect and verified by the audit of the Owner;

c) The Owner violates the provisions of the Contract to a substantial degree.

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

2.7.4 If the Contractor terminates the Contract under the conditions set out above, they shall be entitled to be paid for all work performed including reasonable overhead and profit and for any loss sustained upon products, construction machinery and equipment and other damages as the Contractor may have sustained as a result of the termination of the Contract.

2.8.0 OTHER CONTRACTORS

2.8.1 The Owner reserves the right to let separate contracts in connection with the project of which the Work is part or do certain work by their own forces.

2.8.2 The Owner shall, in such cases, coordinate the Work and insurance coverage of other Contractors as it affects the Work of this Contract.

2.8.3 The Contractor shall coordinate their work with that of other Contractors and connect as specified or shown in the Contract Documents. Any change in the costs incurred by the Contractor in the planning and performance of such work which was not shown or included in the Contract Documents as of the date of signing the Contract, shall be evaluated as provided under **2.14.0 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK** and authorized as provided in **2.13.0 CHANGES IN THE WORK AND EXTRA WORK**.

2.8.4 The Contractor shall report to the Engineer/Architect any apparent deficiencies in other Contractor's work which would affect this Contract immediately as they come to their attention and 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 they were not reasonably aware.

2.9.0 ASSIGNMENT

2.9.1 The Contractor shall not assign the Contract or any part thereof or any benefit or interest therein or thereunder without the written consent of the Owner.

2.10.0 SUBCONTRACTORS

2.10.1 The Contractor agrees to preserve and protect the rights of the Owner under the Contract with respect to any work to be performed under subcontract. The Contractor shall:

a) Require their 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 their Subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by them.

The Contractor, therefore, agrees that they will incorporate all the terms and conditions of the Contract Documents into all Subcontractor Agreements they enter into with their Subcontractors.

2.10.2 The Contractor shall employ those Subcontractors proposed by them 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.

2.10.3 The Owner may, for reasonable cause, object to the use of a proposed Subcontractor and require the Contractor to employ one of the other Subcontractors.

2.10.4 In the event that the Owner requires a change from any proposed Subcontractor, the Contract price shall be adjusted by the difference in cost occasioned by such required change.

2.10.5 The Contractor shall not be required to employ as a Subcontractor any person or firm to whom they may reasonably object.

2.10.6 The Engineer/Architect may, upon reasonable request and at their discretion, provide to a Subcontractor information as to the percentage of the Subcontractor's work which has been certified for payment.

2.10.7 Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the Owner.

2.11.0 DISPUTES

2.11.1 Differences between the parties to the Contract as to the interpretation, application or administration of this Contract or any failure to agree where agreement between the parties is called for, herein collectively called disputes, which are not resolved in the first instances by decision of the Engineer/Architect pursuant to the provisions of **2.4.0 ENGINEER/ARCHITECT'S DECISIONS** shall be settled in accordance with the requirement of the General Conditions.

2.11.2 The Claimant shall give written notice of such dispute to the other party no later than fourteen (14) days after the receipt of the Engineer/Architect's decisions given under **2.4.0 ENGINEER/ARCHITECT'S DECISIONS**. Such notice shall set forth particulars of the matters in dispute, the probable scope, extent and value of the dispute and relevant provisions of the Contract Documents. The other party shall reply to such notice no later than fourteen (14) days after they receive or are considered to have received it, setting out in such reply their grounds and other relevant provisions of the Contract Documents.

2.11.3 Pending settlement of the dispute, the Engineer/Architect will give such instructions as, in their opinion, are necessary for the proper performance of the Work or to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by so doing neither party will jeopardize any claim they may have. If it is subsequently determined that such instructions were in error or at variance with the Contract Documents, the Owner shall pay the Contractor cost incurred by the Contractor in carrying out such instructions which they were

required to do beyond what the Contract Documents correctly understood and interpreted would have required them to do, including costs resulting from interruption of the Work.

2.11.4 It is agreed that no act by either party shall be construed as a renunciation or waiver of any of their rights or recourse, provided they have given the notices in accordance with Paragraph 2.11.2 and have carried out the instructions as provided in Paragraph 2.11.3.

2.11.5 If the dispute or claim cannot be resolved to the satisfaction of both parties, either party may refer the matter to such judicial tribunal as the circumstances require.

2.11.6 In recognition of the obligation of the Contractor to perform the disputed work as provided in Paragraph 2.11.3, it is agreed that settlement of dispute proceedings may be commenced immediately following the dispute in accordance with the aforegoing settlement of dispute procedures.

2.12.0 INDEMNIFICATION

2.12.1 Except as provided in Paragraph 2.10.2, the Contractor shall be liable for and shall indemnify and hold harmless the Owner and the Engineer/Architect, their agents and employees from and 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.

2.12.2 The Contractor shall not be liable under Paragraph 2.12.1 if the injury, death, loss or damage is due to any act or neglect of the Owner or Engineer/Architect, their agents or employees.

2.13.0 CHANGES IN THE WORK AND EXTRA WORK

2.13.1 The Owner may, without invalidating the Contract, make changes by altering, adding to or deducting from the Work, with the Contract Price and the Contract Time being adjusted accordingly; and

2.13.2 No change in the Work shall be made without prior written order from the Owner, and no claim for an addition or deduction to the Contract Price or change in the Contract Time shall be valid unless so ordered and at the same time valued or agreed to be valued as provided in **2.14.0 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK.** Signed faxed copies are acceptable at the discretion of the Owner.

2.14.0 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK

2.14.1 The value of any change shall be determined in one or more of the following methods:

a) By estimate and acceptance in a lump sum;

b) By unit prices subsequently agreed upon;

c) By cost and a fixed or percentage fee.

In the case of changes in the Work valued as outlined in Paragraph 2.14.1(a) (as will be the usual case), the Contractor will submit an itemized estimate of all materials and labour (including Subcontractor's work) to complete the change.

In the case of changes in the Work as valued in Paragraph 2.14.1 (c), the Contractor shall submit detailed invoices, vouchers and time sheets for all materials and labour to complete the change.

The submissions in both cases shall be in the manner acceptable to the Engineer/Architect and will show separately the following percentages for overhead and profit:

(i) Subcontractors shall include, in the breakdown, their 15 percent mark-up (10 percent of the estimated cost for the overhead and 5 percent for profit).

(ii) The Contractor shall include, in the breakdown, the percentages as outlined in (i) for the overhead and profit on their portion of the Work.

(iii) The Contractor shall add 10 percent to the Subcontractor's pricing for their own profit and overhead combined.

2.14.2 Notwithstanding the provisions of Paragraph 2.14.1, in case of changes in the Work, the amount charged for equipment rentals shall be that provided in the rental Contract, and no additional amount shall be paid as markup for overhead or profit for the Contractor or Subcontractor.

2.14.3 When a change in the Work is proposed or required, the Contractor shall present to the Engineer/Architect for approval their claim for the change in the Contract Price and/or change in the Contract Time in a form acceptable to the Engineer/Architect and including the appropriate documentation. The Engineer/Architect shall satisfy themselves as to the correctness of such claim, and when approved by the Owner, a change order will be issued to the Contractor to proceed with the change. The value of Work performed in the change shall be included for payment with the regular certificates for payment.

2.14.4 In the case of changes in the Work to be paid for under methods (b) and (c) of Paragraph 2.14.1, the form of presentation of costs and methods of measurement shall be agreed to by the Engineer/Architect 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.

2.14.5 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 valuation, measurement and the change in Contract Price and/or Contract Time will be subject to final determination in the manner set out in **2.11.0 DISPUTES**. In this case, the Engineer/Architect shall, with the consent of the Owner, issue a written authorization for the change setting out the method of valuation and, if by lump sum, their valuation of the change in Contract Price and/or Contract Time.

2.14.6 In the case of a dispute in the valuation of a change authorized in the Work and pending final determination of such value, the Engineer/Architect shall certify the value of the Work performed in accordance with their own evaluation of the change and include the amount with the regular certificates for payment. The Contractor shall keep accurate records of quantities and cost of such work.

2.14.7 It is intended in all matters referred to above that both the Engineer/Architect and Contractor shall act promptly.

2.14.8 Should the Owner direct the Contractor not to correct work that has been damaged or that was not performed in accordance with the Contract Document, an equitable deduction from the Contract amount by the Architect/Engineer shall be made to compensate the Owner for the uncorrected or uncompleted work.

2.14.9 Credits will be based on the net cost of material and labour or the net difference in the unit price quantities.

2.15.0 APPLICATION FOR PAYMENT

2.15.1 Applications for payment on account may be made monthly as the Work progresses.

2.15.2 Applications for payment shall be made monthly on a date to be agreed upon between the Owner and the Contractor, and the amount claimed shall be for the value proportionate to the amount of the Contract, of the Work performed and products delivered to the site at that date.

2.15.3 The Contractor shall submit to the Engineer/Architect, before the first application for payment, a schedule of values of the various parts of the Work aggregating the total amount of the Contract Price and divided so as to facilitate evaluation of applications for payment.

2.15.4 This schedule shall be made out in such form and supported by such evidence as to its correctness as the Engineer/Architect may reasonably direct and, when approved by the Engineer/Architect, shall be used as the basis for application for payment.

2.15.5 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 Engineer/Architect may reasonably require to establish the value and delivery of the products.

2.15.6 With each monthly claim for payment, except the first, the Contractor shall submit a Statutory Declaration attesting that they have made all payments to Subcontractors, Suppliers, and workmen on behalf of whom amounts were included in the previous claim for payment.

2.15.7 Applications for release of holdback monies following the substantial performance of the Work and the application for final payment shall be made at the time in the manner set forth in **2.16.0 CERTIFICATES AND PAYMENTS**.

2.15.8 For **all** projects, it should be clearly understood that the University's policy is as follows:

a) Each Progress Claim must be accompanied by a breakdown indicating amounts included for each Subcontractor;

b) When the University makes a Progress Payment, it is made in prorated amounts on behalf of those Subcontractors for whom amounts have been included in the corresponding Progress Claim;

c) The Contractor submitting the Progress Claim **must** make payment of the amounts included for the various Subcontractors to the various Subcontractors within ten (10) working days of issuance of the Progress Payment by the University.

d) Monthly payment amounts are not final or conclusive as to their value or quality of work performed and are subject to reopening and readjustment

2.15.9 Contractors not following the above procedures will be considered to be in default of their Contract, and the University may proceed in accordance with **Article 2.6.0 OWNER'S RIGHT TO PERFORM WORK, STOP WORK AND/OR TERMINATE CONTRACT** Subsection **2.6.2 (d)** of the General Conditions.

2.16.0 CERTIFICATES AND PAYMENTS

2.16.1 The Engineer/Architect shall, within ten (10) days of receipt of an application for payment from the Contractor submitted in accordance with **2.15.0 APPLICATION FOR PAYMENT**, issue a certificate for payment in the amount applied for or such amount as they shall determine to be properly due. If the Engineer/Architect amends the application, they shall promptly notify the Contractor in writing, giving their reason(s) for the amendment.

2.16.2 The Owner shall, within thirty (30) days of receipt and approval by the Owner of a certificate for payment from the Engineer/Architect, make payment to the Contractor on account.

2.16.3 Notwithstanding any other provisions of the Contract:

a) Where legislation permits and where, upon application by the Contractor, the Engineer/Architect has certified that a Subcontract has been totally performed to their satisfaction prior to the Substantial Performance of this Contract, the Owner may, at their discretion, pay the Contractor the holdback retained for such Subcontractor on the day following the expiration of the Statutory Limitations Period stipulated in the Mechanic's Lien Act applicable to the place of the Work and subject to the following conditions:

(i) A copy of the Contract between the Subcontractor and the General Contractor must be submitted.

(ii) The Subcontract is completed without deficiencies.

(iii) The warranty for the Subcontract will not start until Substantial Performance of the General Contract.

(iv) The General Contractor provides an approved Statutory Declaration that all monies have been paid to the said Subcontractor.

(v) The General Contractor provides an approved Waiver of Lien from this Subcontractor.

(vi) The Contractor and the Subcontractor provide an approved Waiver of Claim for all work associated with this Subcontractor.

(vii) A certificate is issued by the Engineer/Architect indicating that the Subcontract has been totally completed to their satisfaction.

(viii) The Owner will, at that time, release the total amount specified on the Subcontractor's Contract.

2.16.4 Notwithstanding the provisions of Paragraph 16.3 (a) and notwithstanding the wording of such certificate, the Contractor shall ensure that such work is protected pending the Total Performance 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.

2.16.5 The Engineer/Architect shall within ten (10) days of receipt of an application from the Contractor for a Certificate of Substantial Performance make an inspection and assessment of the Work to verify the validity of the application. The Engineer/Architect shall within seven (7) days of their inspection notify the Contractor of their approval or the reasons for their disapproval of the application. When the Engineer/Architect finds the Work to be substantially performed, they shall issue such a certificate. The date of this certificate shall be the date of Substantial Performance of the Contract. Immediately following the issuance of the Certificate of Substantial Performance, the Engineer/Architect, in consultation with the Contractor, shall establish a reasonable date for the Total Performance of the Contract.

2.16.6 Following the issuance of the Certificate of Substantial Performance and upon receipt from the Contractor of all documentation called for in the Contract Documents, the Engineer/Architect shall issue a Certificate for Payment of holdback monies, providing that no lien or privilege claims against the Work exists, that the Contractor has submitted to the Owner a sworn statement 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 Performance of the Work and for which the Owner might in any way be held responsible, have been paid in full and that the Contractor has submitted to the Owner a waiver of all claims associated with this project except holdback monies properly retained. The holdback monies will become due and payable on the day following the expiration of the Statutory Limitation Period stipulated in the Mechanic's Lien Act applicable to the place of buildings. The Owner may retain out of such holdback monies any sum required by law to satisfy any liens against the Work or other monetary claims against the Contractor which may be enforceable against the Owner.

2.16.7 The Engineer/Architect shall, within ten (10) days of receipt of an application from the Contractor for payment upon Total Performance of the Contract, make an inspection and assessment of the Work to verify the validity of the application. The Engineer/Architect shall, within seven (7) days of their inspection, notify the Contractor of their approval or the reasons for their disapproval of the application. When the Engineer/Architect finds the Work to be totally performed to their satisfaction, they shall issue a Certificate of Total Performance and certify for payment the remaining monies due to the Contractor under the Contract, less any holdback monies which are required to be retained. The date of this certificate shall be the date of Total Performance of the Contract. The Owner shall, within thirty (30) days of issuance of such certificate, make payment to the Contractor in accordance with the provisions of the Contract.

2.16.8 The release of any remaining holdback monies shall become due and payable on the day following the expiration of the Statutory Limitation period stipulated in the

Mechanics' Lien Act of the place of building provided that no claims against the Work exists and that the Contractor has submitted to the Owner a sworn statement that all accounts for labour, Subcontractors, products, construction machinery and equipment and any other indebtedness which may have been incurred by the Contractor in the Total Performance of the Work and for which the Owner might in any way be held responsible have been paid in full, except holdback monies properly retained.

2.16.9 No certificate for payment, 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.

2.16.10 As of the date of Total Performance of the Work as set out in the Certificate of Total Performance of the Work, the Owner expressly waives and releases the Contractor from all claims against the Contractor including, without limitation, those that might arise from the negligence or breach of Contract by the Contractor except one or more of the following:

a) Those made in writing prior to the date of the Total Performance of the Work and still unsettled;

b) Those arising from the provisions of **2.12.0 INDEMNIFICATION** or **2.26.0 WARRANTY**;

c) Those made in writing within a period of six (6) years from the date of Substantial Performance of the Work, as set out in the Certificate of Substantial Performance of the Work or within such shorter period as may be prescribed by any Limitation Statute of the Province of Newfoundland and Labrador and arising from any liability of the Contractor for damages resulting from their performance of the Contract with respect to substantial defects or deficiencies in the Work for which the Contractor is proven responsible.

As used herein, "substantial defects or deficiencies" means those defects or deficiencies in the Work which affect the Work to such an extent or in such manner that a significant part or the whole of the Work is unfit for the purpose intended by the Contract Documents.

2.16.11 As of the date of Total Performance of the Work, as set out in the Certificate of Total Performance of Work, the Contractor expressly waives and releases the Owner from all claims against the Owner including, without limitation, those that might arise from the negligence or breach of Contract by the Owner except those made in writing prior to the Contractor's application for payment upon Total Performance of the Work and still unsettled.

2.16.12 In the event of conflict between the provisions of the General Conditions and **2.24.0 DAMAGES AND MUTUAL RESPONSIBILITY**, the provisions of this General Condition shall govern.

2.16.13 The holdback to be used by the Engineer/Architect when issuing certificates of payment will be ten (10) percent of the value of the Work completed at the date of Contractor's claim.

2.16.14 Notwithstanding 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) Following the issuance of the Certificate of Substantial Performance, withhold payment of an amount equal to twice the cost as estimated by the Engineer/Architect of remedying deficiencies until the issuance of a Certificate of Total Performance, and no amount of interest will be paid on amounts held under this Clause.

2.17.0 TAXES AND DUTIES

2.17.1 Unless otherwise stated in the Supplementary General Conditions, the Contractor shall pay all applicable government sales taxes, goods and services taxes, customs duties and excise taxes with respect to the Contract.

2.17.2 Any increase or decrease in costs to the Contractor due to changes in such taxes and duties after the date of the Agreement and up to the agreed date of completion shall increase or decrease the Contract Price accordingly. If the Owner so desires, the Contractor is to cooperate with the Engineer/Architect and Owner and permit access to books and records in order to establish the amount of such taxes involved.

2.17.3 The Contractor shall maintain full records of their estimates and of actual costs to them of the Work, together with all proper open calls, quotations, contracts, correspondence, invoices, receipts, payments to Subcontractors and Suppliers and vouchers relating thereto and 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 and shall furnish them with any information which they may require from time to time in connection with such records.

2.18.0 LAWS, NOTICES, PERMITS AND FEES

2.18.1 The laws of the Province of Newfoundland and Labrador shall govern the Work.

2.18.2 The Contractor shall obtain all permits, licenses and certificates and pay all fees required for the performance of the Work which are in force at the date of open call closing with the following exceptions:

a) The Contractor shall obtain building permits for the Work but are not required to pay for said permits.
b) The Contractor shall not include the obtaining of permanent easements or rights of servitude.

2.18.3 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, to the preservation of the public health and construction safety which are or become in force during the performance of the Work.

2.18.4 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 a variance therewith or changes which necessitate modifications to the Contract Documents are required by the authorities having jurisdiction subsequent to the Open call closing date, the Contractor shall notify the Engineer/Architect in writing requesting direction immediately when any such variance or change is observed by them. The Engineer/Architect will make the changes required to the Contract Documents, and the Contract Price and/or Contract Time shall be adjusted in accordance with **2.13.0 CHANGES IN THE WORK AND EXTRA WORK** and evaluated in accordance with **2.14.0 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK**.

2.18.5 If the Contractor fails to notify the Engineer/Architect in writing and obtain their direction as required in 2.18.4 and performs any work knowing it to be contrary to any laws, ordinances, rules, regulation, codes and orders of any authority having jurisdiction, they 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.

2.19.0 PATENT FEES

2.19.1 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. They 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 they may be liable.

2.19.2 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.

2.20.0 WORKERS' COMPENSATION

2.20.1 The Contractor shall be registered with and shall remain in good standing with the Workplace Health and Safety Compensation Commission during the term of their Contract.

2.20.2 At any time during the term of the Contract when requested by the Owner, the Contractor shall provide evidence of compliance by themselves and any or all of their Subcontractors.

2.21.0 LIABILITY INSURANCE

2.21.1 Comprehensive General Liability Insurance

a) Without restricting the generality of **2.12.0 INDEMNIFICATION**, the Contractor shall provide and maintain, either by way of a separate policy or by an endorsement to their existing policy, Comprehensive General Liability Insurance acceptable to the Owner and subject to limits set out in detail below, inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof.

b) The insurance shall be in the joint names of the Contractor and the Owner. It shall also cover as named Insureds all Subcontractors and anyone employed directly or indirectly by the Contractor or their Subcontractors to perform a part or parts of the Work but excluding Suppliers whose only function is to supply and/or transport products to the project site.

c) The insurance shall also include as Named Insureds the architectural and engineering consultants of the Owner and Engineer/Architect.

d) The insurance shall preclude subrogation claims by the Insurer against anyone insured thereunder.

e) The Comprehensive General Liability Insurance will not be limited to, but shall include coverage for:

(i) Premises and Operations Liability

(ii) Products or Completed Operations Liability

(iii) Blanket Contractual Liability

(iv) Cross Liability

(v) Elevator and Hoist Liability

(vi) Contingent Employer's Liability

(vii) Personal Injury Liability arising out of false arrest, detention or imprisonment or malicious prosecution, libel, slander or defamation of character, invasion of privacy or wrongful entry

(viii) Shoring, blasting, excavating, underpinning, demolition, pile driving and caisson work, work below ground surface, tunnelling and grading, as applicable

(ix) Liability with respect to non-owned, licensed vehicles.

2.21.2 The Contractor shall provide and maintain liability insurance in respect of owned licensed vehicles subject to limits set out in detail in Article **2.21.0 LIABILITY INSURANCE** subsection **2.21.6.**

2.21.3 All liability insurance shall be maintained continuously until twelve (12) months after the date the Engineer/Architect issues a Certificate of Substantial Performance.

2.21.4 The Contractor shall provide the Owner with evidence of all liability insurance prior to the commencement of the Work and shall promptly provide the Owner with a certified true copy of each insurance policy.

2.21.5 All liability insurance policies shall contain an endorsement to provide all Named Insureds with prior notice of changes and cancellations. Such endorsements shall be in the following form:

"It is understood and agreed that the coverage provided by this policy will not be changed or amended in any way nor cancelled until thirty (30) days after written notice of such change or cancellation shall have been given to all Named Insureds."

2.21.6 The Contractor shall protect themselves and indemnify and save the Owner harmless from any and all claims which may arise from the Contractor's performance or failure of performance of the Contract and for this purpose shall, without restricting the generality of the foregoing, maintain insurance acceptable to the Owner to the following limits:

a) Where the contract value exceed $100,000 (inclusive of HST)
   - Comprehensive General Liability = $3,000,000.00;
   - Standard Automobile Policy Liability = $3,000,000.00.

b) Where the contract value is less than $100,000 (inclusive of HST)
   - Comprehensive General Liability = $2,000,000.00;
   - Standard Automobile Policy Liability = $2,000,000.00.

Prior to the commencement of any work hereunder, the Contractor shall file with the Owner a copy of each insurance policy and certificate required.

2.22.0 PROPERTY INSURANCE

2.22.1 The Contractor shall provide and maintain property insurance acceptable to the Owner insuring the full value of the Work in the amount of the replacement cost or the Contract value, whichever is greater, and the full value as stated of products for incorporation into the Work. The insurance shall be in the joint names of the Contractor, the Owner, the Subcontractors as Unnamed Insured or, if they specifically request, as Named Insured. The policies shall preclude subrogation claims by the Insurer against anyone insured thereunder.

2.22.2 Such coverage shall be provided by EITHER an ALL RISKS Builders' Risk Policy OR by a combination of a Coverage and Malicious Damage Endorsements and a Builder's Risk Difference in Conditions Policy providing equivalent coverage of Piers, Wharves and Docks, Government Structures Policy.

2.22.3 The policies shall insure against all risks of direct loss or damage. 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, demolition 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.

2.22.4 The Contractor shall provide the Owner with evidence of all insurance prior to the commencement of the Work and shall promptly provide the Owner with a certified true copy of each insurance policy.

Policies provided shall contain an endorsement to provide all Named Insureds with prior notice of changes and cancellations. Such endorsements shall be in the following form:

> **"It is understood and agreed that the coverage provided by this policy will not be changed or amended in any way or cancelled until thirty (30) days after written notice of such change or cancellation shall have been given to all Named Insureds."**

2.22.5 All such insurance shall be maintained continuously until ten (10) days after the date the Engineer/Architect issues a certificate of Total Performance. All such insurance shall provide for the Owner to take occupancy of the Work or any part thereof during the terms of this insurance. Any increase in the cost of this insurance arising out of such occupancy shall be at the Owner's expense.

2.22.6 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. 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 Total Performance of the Work as the Engineer/Architect may decide.

2.22.7 The Contractor and/or their Subcontractors, as may be applicable, shall be responsible for any deductible amounts under the policies and for providing such additional insurance as may be required to protect the Insureds against loss on items excluded from the policies.

2.22.8 When this Contract pertains to a new building or structure with a total bid amount greater than $25,000.00, the Contractor shall maintain All Risk Builder's Risk Insurance acceptable to the Owner in the joint names of the Owner and Contractor in the amount of 100 percent of the total value of the Work done and material delivered to the site and payable to the Owner and Contractor as their respective interest may appear.

2.23.0 PROTECTION OF WORK AND PROPERTY

2.23.1 The Contractor shall protect the property adjacent to the project site from damage as the result of their operations under the Contract.

2.23.2 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 their operations under the Contract except damage which occurs as the result of:

a) Errors in the Contract documents; and/or

b) Acts or omissions by the Owner, their agents, employees or other Contractors.

2.23.3 Should the Contractor, in the performance of this Contract, damage the Work and/or Owner's property and/or property adjacent to the place of the Work, the Contractor shall be responsible for making good such damage at their own expense or pay all costs incurred by others in making good such damage.

2.23.4 Should any damage occur to the Work and/or Owner's property for which the Contractor is not responsible as provided in of **2.12.0 INDEMNIFICATION**, they 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 in **2.13.0 CHANGES IN THE WORK AND EXTRA WORK** and evaluated in accordance with in **2.14.0 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK**.

2.23.5 The Contractor shall be completely responsible for the safety of the Work as it applies to protection of the public and property and construction of the Work.

The codes that must be followed and enforced for safety are:

a) The National Building Code, Part 8, Safety Measures at Construction and Demolition Sites (Latest Edition);

b) Canadian Code for Construction Safety (Latest Edition) as issued by the Associate Committee of the National Building Code;

c) The Occupational Health and Safety Act (1979) and Regulations.

2.23.6 Any person not following stipulated safety regulations shall be dismissed.

2.24.0 DAMAGES AND MUTUAL RESPONSIBILITY

2.24.1 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.

2.24.2 Claims under this Contract shall be made in writing to the party liable within two (2) weeks after the first observance of such damage and may be adjusted by agreement or in the manner set out in **2.11.0 DISPUTES**.

2.24.3 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 or arbitration, if they will so settle. If such other Contractor sues the Owner on account of any damage alleged to have been 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.

2.24.4 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.

2.24.5 Should the Contractor fail to meet the date to substantially perform the Work, as indicated in the Agreement between the Owner and the Contractor, and is unable to provide justification acceptable to the Owner for the delay then the Contractor will be held liable for any liquidated damage amount indicated in **3.0 SUPPLEMENTARY GENERAL CONDITIONS** and may be held liable for payment to the Owner for other damages and losses suffered by the Owner as a result of the Contractor's delay including additional costs for Engineering/Architectural supervision.

2.25.0 BONDS

2.25.1 The Contractor shall promptly provide the Owner the surety bonds called for in the Open call Documents.

2.25.2 All such bonds shall be issued by a duly incorporated surety company approved by the Owner and authorized to transact a business or surety-ship in the Province of Newfoundland and Labrador.

2.25.3 If bonds are called for in the and Acceptance form, Instructions to Bidders or Supplementary General Conditions, the costs attributable to providing such bonds shall be included in the bid price.

2.25.4 Should the Owner require the provision of a bond or bonds by the Contractor other than those provided for under 2.25.3, the Contract Price shall be increased by all costs attributable to providing such bonds.

2.26.0 WARRANTY

2.26.1 The Contractor shall be responsible for the proper performance of the Work to the extend that the design and specifications permit such performance.

2.26.2 Subject to Paragraph 2.26.1, the Contractor agrees to correct promptly, at their own expense, defects or deficiencies in the Work which appear prior to and during the period of one (1) year from the date of Substantial Performance of the Work or such longer periods as may be specified for certain products or work.

2.26.3 The Contractor shall correct and/or pay for any damage to other work resulting from any corrections required under the conditions of Paragraph 2.26.2.

2.26.4 Neither the Engineer/Architect's final certificate nor payment thereunder shall relieve the Contractor from their responsibility hereunder.

2.26.5 The Owner and/or Engineer/Architect shall give the Contractor written notice of observed defects promptly.

2.27.0 CONTRACTOR'S RESPONSIBILITIES AND CONTROL OF THE WORK

2.27.1 The Contractor shall have complete control of the Work and shall effectively direct and supervise the Work so as to ensure conformance with the requirements of the Contract Documents. They shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all parts of the Work under the Contract.

2.27.2 The Contractor shall have the sole responsibility for the design, erection, operation, maintenance and removal of temporary structural 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 disciplines 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.

2.27.3 Notwithstanding the provision of Paragraphs 2.27.1 and 2.27.2 above or any provisions to the contrary elsewhere in the Contract Documents where such Contract Documents include designs for temporary structural and other temporary facilities or specify a method of construction in whole or in part, such 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 they are responsible for the execution of the Work.

2.27.4 The Contractor shall carefully examine the Contract Documents and shall promptly report to the Engineer/Architect any error, inconsistency or omission they may discover. The Contractor shall not be held liable for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents which they may discover, and they shall not proceed with the Work affected until they have received corrected or missing information from the Engineer/Architect.

2.28.0 PROJECT MANAGER ANDSUPERINTENDENCE

2.28.1 The Contractor shall employ a competent Project Manager and necessary assistants who shall be in attendance at the Work site at all times while the Work is being performed.

2.28.2 The Project Manager shall be satisfactory to the Engineer/Architect and shall not be changed except for good reason and only then after consultation with an agreement by the Engineer/Architect.

The Project Manager shall have a minimum of ten (10) years' experience on construction projects of similar scale, complexity, type and value.

The project manager shall submit a resume and cover letter.

2.28.3 The Superintendent shall represent the Contractor at the place of work and instructions given to them by the Engineer/Architect shall be held to have been given to the Contractor. Important instructions shall be confirmed to the Contractor in writing, other instructions will be so confirmed if requested.

The superintendent shall have a minimum of ten (10) years' experience on construction projects of similar scale, complexity, type and value.

2.29.0 LABOUR AND PRODUCTS

2.29.1 Unless otherwise stipulated elsewhere in the Contract Documents, the Contractor shall provide and pay for all labour, products, tools, construction equipment and machinery, water, heat, light, power, transportation and other facilities and services necessary for the requirements of the Contract Documents.

2.29.2 All products provided shall be new unless otherwise specified in the Contract Documents. Any products which are not specified shall be of a quality best suited to the purpose required, and their use shall be subject to the approval of the Engineer/Architect.

2.29.3 In carrying out their 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 the Human Rights legislation. In the employment of labour, preference should be given to persons normally residing in Newfoundland and Labrador.

2.29.4 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.

2.29.5 The Contractor shall maintain good order and discipline among their employees engaged on the Work and shall employ on the Work only employees skilled in their various trades.

2.29.6 There shall be no discrimination in the selection of workers for employment on the project in respect to race, religion, views or political affiliation, and the office of the Canada Manpower will be used in the recruitment of workers wherever possible.

2.29.7 The Contractor shall pay fair wages and shall pay rates of wages and allowances to the various classes of labour not less favourable than those prevailing in the area where the Work is being performed.

2.29.8 The Contractor shall be aware that the majority of hourly-paid and maintenance workers employed within the University are unionized. It is of utmost importance that

any labour force used by the Contractor neither disrupts or be disrupted by any labour conditions existing on the University campus. Failure by the Contractor to familiarize themselves with labour conditions on Campus or disruptions to the Contractor's own labour force because of labour conditions on Campus will not relieve them of their obligations to furnish all labour and materials necessary to carry out the requirements of the Contract.

2.30.0 SUBSURFACE CONDITIONS

2.30.1 The Contractor shall promptly notify the Engineer/Architect in writing if, in their opinion, the subsurface conditions at the project site differ materially from that indicated or reasonably inferred from the Contract Documents.

2.30.2 After prompt investigation, should the Engineer/Architect determine that conditions do differ materially, they shall issue appropriate instructions for changes in the Work as provided for in **2.13.0 CHANGES IN THE WORK AND EXTRA WORK**.

2.31.0 USE OF THE WORK

2.31.1 The Contractor shall confine their apparatus, the storage of products and the operations of their employees to limits indicated by laws, ordinances, permits or by instructions of the Engineer/Architect and shall not unreasonably encumber the premises with their products.

2.31.2 The Contractor shall not load or permit to be loaded any part of the Work with a weight or force that will endanger its safety.

2.31.3 Unless otherwise provided, the Contractor shall, at their own expense and without expense 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 Engineer/Architect.

2.31.4 The Contractor shall provide and maintain at their own expense such fences, barriers, signs, lights and watchmen as may be necessary to prevent avoidable accidents to University Users or to the public generally.

2.31.5 All work shall be executed with the least possible interference with or disturbance to personnel and the Public. The Contractor shall cooperate with the person in charge of the premises. The Contractor shall ascertain from the Owner's representative the hours during which the work shall be performed, conform to the directions of the representative and to the directions of the said representative in determining the order in which the work shall be done.

2.31.6 The Contractor shall carry out all work required to maintain the building services and to provide necessary access for personnel and vehicles whenever new work affects occupied portions of the building.

2.31.7 Before final completion of the work, the Owner shall be entitled to make use of any portion of the work which is completed and fit for use for the installation of equipment, storage and furniture, supplies, etc., and for occupancy, if such can be arranged without interfering with the progress of the work.

2.32.0 CUTTING AND REMEDIAL WORK

2.32.1 The Contractor shall do all cutting and remedial work that may be required to make the several parts of the Work come together properly and shall coordinate the Work to ensure that this requirement is kept to a minimum.

2.32.2 Should the Owner, the Engineer/Architect, other contractors or anyone employed by them, be responsible for ill-timed work necessitating additional cutting and/or remedial work to be performed, it shall be valued as provided in **2.14.0 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK** and added to the Contract Price.

2.32.3 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.

2.33.0 INSPECTION OF WORK

2.33.1 The Owner, the Engineer/Architect and their 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.

2.33.2 If parts of the Work are designated for special tests, inspections or approvals in the Contract Documents or by the Engineer/Architect's instructions or the laws or ordinances of the place of the Work, the Contractor shall give the Engineer/Architect timely notice requesting inspection. Inspection by the Engineer/Architect shall be made promptly. The Contractor shall arrange for inspections by other authorities and shall notify the Engineer/Architect with timely notice of the date and time.

2.33.3 If the Contractor covers or permits to be covered any of the Work that is designated for special tests, inspections or approvals, before such special tests, the Contractor shall, if so instructed by the Engineer/Architect, uncover the Work, have the inspection satisfactorily completed and make good the Work at their own expense.

2.33.4 The Engineer/Architect may order any part of the Work to be specifically examined, should they believe such work not to be in accordance with the requirements of the Contract Documents. If upon examination such work is found not to be in accordance with the requirements of the Contract Documents, the Contractor shall correct such work and pay the cost of examination and correction. If such work is found to be in accordance with the requirements of the Contract Documents, the Owner will pay the cost of examination and replacement.

2.33.5 The Contractors shall furnish promptly to the Engineer/Architect two (2) copies of all certificates and inspection reports relating to the Work.

2.34.0 *REJECTED WORK*

2.34.1 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 Engineer/Architect 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.

2.34.2 Other contractors' work destroyed or damaged by such removals or replacements shall be made good promptly at the Contractor's expense.

2.34.3 If, in the opinion of the Engineer/Architect, 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 in the first instance by the Engineer/Architect.

2.35.0 *SHOP DRAWINGS AND SAMPLES*

2.35.1 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.

2.35.2 The Contractor shall arrange for the preparation of clearly identified shop drawings as called for by the Contract Documents or as the Engineer/Architect may reasonably request.

2.35.3 Prior to submission to the Engineer/Architect, the Contractor shall review all shop drawings. By this review, the Contractor represents that they have determined and verified all field measurements, field construction criteria, materials, catalogue numbers and similar data, or will do so, and that they have 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.

2.35.4 The Contractor shall submit shop drawings to the Engineer/Architect for their 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 Engineer/Architect 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 reproducible transparencies or prints as the Engineer/Architect may direct. At the time of the submission, the Contractor shall notify the Engineer/Architect in writing of any deviations in the shop drawings from the requirements of the Contract Documents.

2.35.5 The Engineer/Architect 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 Engineer/Architect's review will be for conformity to the design concept and for general arrangements 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 Engineers/Architects.

2.35.6 The Contractor shall make any changes in shop drawings which the Engineer/ Architect may require consistent with the Contract Documents and resubmit, unless otherwise directed by the Engineer/Architect. When resubmitting, the Contractor shall notify the Engineer/Architect in writing of any deviations other than those requested by the Engineer/Architect.

2.35.7 The Contractor shall submit for the Engineer/Architect's approval such standard manufacturer's samples as the Engineer/Architect may reasonably require. Samples shall be labeled as to origin and intended use in the Work and shall conform to the requirements of the Contract Documents.

2.35.8 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 **2.13.0 CHANGES IN THE WORK AND EXTRA WORK**.

2.36.0 TESTS AND MIX DESIGNS

2.36.1 The Contractor shall furnish to the Engineer/Architect test results and mix designs as may be requested. The testing company must first be approved by the Engineer/Architect.

2.36.2 The cost of tests and mix designs beyond those called for in the Contract Documents or beyond those required by law, 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 **2.13.0 CHANGES IN THE WORK AND EXTRA WORK.**

2.37.0 MATERIALS AND SUBSTITUTIONS

2.37.1 Materials described and named in the specifications with "or approved equal" clause after the Manufacturer's name are so described as to the establish quality only, and substitutions of a similar materials may be made before the award of the Contract provided the Engineer/Architect's approval is obtained. Substitutions after the award

may be considered under special circumstances as indicated in Subsection 1.7.4 in the **INSTRUCTIONS TO Bidders**

2.37.2 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, together with any increase or decrease in price.

2.37.3 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 they shall agree to bear any additional expense incurred due to their use of the proposed substitute.

2.37.4 The Engineer/Architect may accept or reject any or all of the proposed substitutions as they see fit, and their decision on a question of equality shall be final.

2.38.0 TIME OF ESSENCE AND SCHEDULE

2.38.1 Time is of the essence of the Contract.

2.39.0 CASH ALLOWANCE

2.39.1 The Contract Price includes cash allowances, if any, stated in the Contract Documents.

2.39.2 Cash allowances, unless otherwise specified, cover the entire cost to the Contractor of services, products, construction machinery and equipment, freight, unloading, handling, storage, installation and other authorized expenses incurred in performing the Work stipulated under the cash allowances. This also includes the Contractors overhead and profit in connection with such cash allowance.

2.39.3 The cash allowance shall not include HST.

2.39.4 Where costs under a cash allowance exceed the amount of the allowance, the Contractor shall be compensated for any excess incurred and substantiated plus an allowance for overhead and profit as set out in **2.14.0 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK.**

2.39.5 The Contract Price shall be adjusted by written order to provide for any excess or deficit to each cash allowance.

2.39.6 Progress payments on account of Work authorized under cash allowance shall be included in the Engineer/Architect's monthly certificates for payment.

2.39.7 A schedule shall be prepared jointly by the Engineer/Architect and Contractor to show the items called for under Cash Allowances. They must be authorized by the Owner for ordering purposes so that the progress of the Work will not be delayed.

2.40.0 CLEANUP AND FINAL CLEANING OF THE WORK

2.40.1 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.

2.40.2 When the Work is substantially performed, the Contractor shall remove their surplus products, tools, construction machinery and equipment not required for the performance of the remaining Work. They shall also remove waste products and debris, other than that caused by the Owner, other contractors or their employees, and leave the Work clean and suitable for occupancy by the Owner, unless otherwise specified.

2.40.3 When the Work is totally performed, the Contractor shall remove their surplus products, tools, construction machinery and equipment. They shall also remove waste products and debris other than that caused by the Owner, other contractors or their employees.

3.0 SUPPLEMENTARY GENERAL CONDITIONS

SUPPLEMENTARY GENERAL CONDITIONS

This page is intentionally left blank.

4.0 SPECIAL CONDITIONS

4.1.0 LAYOUT OF WORK

4.1.1 Other than the original lot lines and a bench mark, both shown on the drawings, establish and maintain all grades, lines, levels and well-built batter boards at all corners of the building. As work progresses, lay out on the forms or rough flooring the exact location of all partitions as a guide to all trades.

4.1.2 Verify all grades, lines, levels and dimensions as shown on the drawings and report any errors or inconsistencies in the above to the Engineer/Architect before commencing Work.

4.2.0 JOB SIGN

4.2.1 At the start of the job, erect two painted signs as detailed and where located by the Engineer/Architect. This will be the only sign or advertisement permitted on the site unless instructed otherwise by the Engineer/Architect.

4.2.2 The signs shall be 8'0" x 8'0" plywood, properly supported. It shall be painted and shall show the names of the building, Owner, Prime Consultant, Major Subconsultants, Contractor and Major Subcontractors. A drawing of the signs to be erected will be supplied by the Engineer/Architect.

4.3.0 TEMPORARY OFFICES AND SHEDS

4.3.1 Construct and maintain, until completion of the Contract temporary offices and storage sheds in approved locations on site for the use of staff.

4.3.2 Buildings shall be of weatherproof wood stud and plywood construction completely equipped with adequate lighting, heating and ventilation, and in addition, the Contractor's office shall be fully furnished with desks, plan tables, storage cabinets, file drawers, chairs, stools and plan racks.

4.3.3 Provide storage sheds for small tools, equipment, perishable materials, etc., as necessary. All buildings shall be equipped with windows for natural light and doors properly fitted and equipped with locks.

4.3.4 Maintain offices and storage sheds in good condition to the approval of the Engineer/Architect from start of Work until final completion of Work or, when directed by the Engineer/Architect, remove offices and sheds from the site and leave areas free of debris and waste materials and in a clean and tidy condition.

4.3.5 Offices and storage sheds required by Trade Contractors, such as mechanical and electrical, shall be provided by the trade requiring them.

4.3.6 Provide an office approximately 120 square feet for the absolute use of the Owner or their representative(s). It shall be properly fitted and furnished with light, heat, telephone, lock and key, shelving, table and chairs and plan rack. The building shall be removed from the site at the completion of the Work.

4.4.0 *TEMPORARY SERVICES*

4.4.1 Light and Power

Furnish all temporary light and power required to provide such intensity of light and sufficient power as necessary for the Work to be carried out under the best conditions. Obtain and pay for all permits and inspection tests required by Provincial and/or Municipal authorities. Pay all charges and maintain fixtures and equipment in good working order. This shall include electric heat.

4.4.2 Telephone

Install and pay for the operation of one job telephone and one telephone for the use of the Engineer/Architect for the duration of the Contract. Subcontractors requiring individual telephones shall have them installed at their expense. Long distance calls will be at the expense of the party making the calls.

4.4.3 Toilets

At the start of operations, provide and maintain in sanitary condition sufficient temporary toilets and washing facilities for the use of personnel on the job. Conform to requirements of the Department of Health and other authorities having jurisdiction. Supply adequate quantities of disinfectant and toilet paper. When building toilets and washing facilities are operable, they may be used under the same conditions as the temporary toilets with the latter being removed, leaving all surfaces and areas hygienically clean and in immaculate condition.

4.4.4 Heat

Provide and maintain in good condition a temporary heating system for use when the building is closed in until the project has been handed over to the Owner. Pay for fuel and maintenance of the system. Maintain temperatures at a minimum of 50^{o} F, (higher if required for special trades). Heating equipment not adequately protected or operated in conditions other than those intended by the manufacturer shall be regarded as temporary. Remove all such equipment and replace with new permanent equipment.

When ready for operation, the permanent heating equipment may be used for temporary heating purposes, subject to the conditions of the Mechanical Division of the specifications. Protect all permanent heating equipment used for temporary heating purposes. Provide satisfactory site conditions for the proper operation of this equipment.

4.4.5 Water Supply

Provide in two convenient locations outside the building line a fresh water supply for the use of all trades.

Where connection cannot be made to an existing water supply, provide adequate size tanks and keep them filled for use of all trades.

4.5.0 PLANT AND MACHINERY

4.5.1 Provide all framework, scaffolding, ladders, cranes, derricks, planks, screens, gantries, tarpaulins, tools, equipment and machinery for the proper execution of the Work. Scaffolding shall be erected without damage of the structure or the finishes, be removed to suit the installation of work of other trades and be promptly removed at completion.

4.5.2 Where it is the normal practice for the trade to provide its own scaffolding, it shall be included in the Subcontract.

4.6.0 PROTECTION OF PUBLIC AND WORKMEN

4.6.1 Part 8 of the National Building Code of Canada, latest edition, shall apply to this project in its entirety. This covers fencing, barricades, Fire protection, excavation, use of streets or public property, control of vehicular traffic and mechanical methods of demolition.

4.6.2 The latest edition of Canadian Construction Safety Code shall also apply to all phases of this project.

4.6.3 The Workers' Compensation Board Regulations shall also apply to all phases of this project.

4.7.0 CONSTRUCTION SCHEDULE

4.7.1 The Contractor shall, within seven (7) days after the Contract is awarded, prepare for the use of the Engineer/Architect and Owner, a construction schedule. It shall indicate as closely as possible the starting and completion dates for the major sections of the Work, together with the Subcontractors' names.

4.7.2 With each monthly progress claim, submit one (1) copy of the original construction schedule marked in red to show the actual construction progress on the date of the submission of the claim.

Weekly schedule updates shall be provided.

Provide updated construction schedule demoting the original.

4.8.0 *PROGRESS PHOTOGRAPHS*

4.8.1 Submit with monthly progress claim digital progress photographs taken from points designated by the Engineer/Architect. In the lower right-hand corner of the prints show the date and name of the project.

4.9.0 OPERATIONS AND MAINTENANCE DATA

4.9.1 On completion of the project, submit to the Engineer/Architect two (2) copies of Operations and Maintenance Data and one (1) electronic copy as original editable format.

a) Bind data in vinyl hard covered, 3-ring, loose-leaf binder for 215 x 280 mm size paper.

b) Enclose title sheet, labelled "Operation and Maintenance Data", project number, project name, date and list of contents.

c) Organize contents into applicable sections of work to parallel project specifications breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.

d) Provide electronic document in CD or DVD as original editable file format or, at the direction of the Owner, pdf format.

4.9.2 Include the following information plus data specified in Division 15 and 16:

a) Maintenance instruction for finished surface and materials.

b) Copy of hardware schedules.

c) Description, operation and maintenance instructions for equipment and systems, including complete list of equipment and parts list. Indicate nameplate information such as make, size capacity and serial number.

d) Names, addresses, phone and fax numbers of Subcontractors and Suppliers.

e) Guarantees, warranties and bonds showing:

(i) Name and address of project;

(ii) Guarantee commencement date (date of Final Certification of Completion).

(iii) Duration of guarantee.

(iv) Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.

(v) Signature and Seal of Contractor.

f) Additional materials used in project listed under various sections showing name of manufacturer and source of supply.

4.9.3 Neatly type lists and notes. Use clear drawings, diagrams or manufacturer's literature.

4.9.4 The final certificate will not be issued until the data books have been received and approved by the Engineer/Architect.

4.10.0 COORDINATION OF WORK

4.10.1 The Contractor will coordinate the Work of their Subcontractors and provide necessary instructions and scheduling so as to permit continuous progress in the Work by all trades. They will coordinate work between the Subcontractors on the site to ensure that anchor bolts, plates, attachments, etc., are provided and set in place in a timely manner. They will lay out partitions and assist Subcontractors in establishing the actual location of the fixtures, pipes, outlets, duct conduit, etc., so as to limit the interference of one trade with another. Locations shown on the drawings are approximate. If interference problems are encountered which cannot be resolved on the site, advise the Engineer/Architect before proceeding with the Work. Conceal all mechanical and electrical work unless otherwise indicated.

4.11.0 TRAFFIC MAINTENANCE

4.11.1 Do not close or obstruct streets, sidewalks, driveways, etc., without permission from authorities having jurisdiction. Do not place or store materials in street, sidewalks, parking areas, etc., unless so authorized.

4.12.0 FIRE PROTECTION

4.12.1 Fire protection measures shall include:

a) An adequate fire alarm signal, the use of fire resistant tarpaulins, the daily inspection of temporary heating system by competent staff and regular fire patrol;

b) All temporary wiring shall be done by electricians qualified under the applicable local regulations;

c) Supply and maintenance of fifteen (15) pounds dry chemicals and/or five (5) gallons soda-acid fire extinguishers in such locations that no working crew has to

travel more than fifty (50) feet to an extinguisher station. In any case, there shall be not less than one (1) fully charged extinguisher(s) at the job at any time.

4.13.0 JOB MEETINGS

4.13.1 Where the value of the contract exceeds $100,000 (HST included) job meetings shall occur at definitely prescribed times (minimum once a month), which will be determined after commencement of work, the Contractor shall organize job meetings and send out notices stating time and place to the Owner's representative, the Engineer/Architect, Subconsultants, to all Subcontractors and to other persons whose presences are required at the meetings. They shall take note of all persons attending these meetings and shall, within one (1) week after each job meeting, submit to the Owner, the Engineer/Architect, the Subconsultants and others present, minutes of the meeting which must show any major decisions made and any instructions or information required.

4.13.2 Where the value of the contract is less than $100,000 (HST included) job meetings shall occur at the discretion of the University Project Coordinator but shall not occur fewer than once per month.

4.14.0 AS-BUILT DRAWINGS

4.14.1 The Engineer/Architect will issue to the Contractor three (3) sets of prints of architectural, mechanical and electrical drawings for the sole purpose of providing "as-built" drawings. The Contractor shall pass these to the relevant Subcontractor who shall keep two (2) sets in their office and one (1) set on the job. As changes occur, the Subcontractor shall make them on the field set. Upon completion of the project, the Subcontractor shall accurately transfer all changes to the two (2) office sets in red ink and pass them to the Engineer/Architect, through the Contractor, for approval. If they are not approved, the Subcontractor shall prepare new sets for resubmission (purchasing additional white prints for this purpose).

4.14.2 As-built drawings shall be white prints and shall indicate all changes in Architectural, Mechanical and Electrical work, including any changes in location of piping, ducts, panels, etc.

4.14.3 Provide electronic as-builts in CD or DVD as original editable file format or, at the direction of the Owner, pdf format.

4.14.4 The Certificate of Total Performance will not be issued until such drawings have been received and approved.

4.15.0 COMPLETION TIME

4.15.1 The project shall be ready for the use and occupancy by the Owner within the time stated in the Open Call and Acceptance Form.

4.15.2 Prior to the acceptance by the Owner of the Substantial Performance, the Contractor and the Owner shall sign a list of deficiencies as prepared by the Engineer/Architect for prompt correction and/or completion.

4.16.0 CLOSE DOWN OF WORK

4.16.1 Should the Work be closed down for any cause, the Contractor shall assume all responsibility for its proper protection during such period. They must protect all foundation work and other work liable to be damaged.

4.17.0 BROKEN GLASS

4.17.1 The Contractor shall be held responsible for any damaged, broken or scratched glass and at completion shall replace all such glass at no additional cost to the Owner.

4.18.0 HOARDING

4.18.1 Before starting excavating, construct and thereafter maintain all necessary hoarding required by Municipal or Provincial regulations or by other authorities having jurisdiction.

4.19.0 COMMISSIONING

4.19.1 The Contractor is responsible for commissioning the Work to ensure that the various parts are operating in a manner as intended by the Contract Documents. Even through individual components and/or parts of the Work may have been tested and approved prior to the substantial completion, the Contractor must coordinate a final commissioning of the complete Work, including at the place of the Work all their major Subcontractors and Suppliers. The final commissioning will be carried out by the appropriate trades working together in a complementary manner such that the successful operation of the whole Work is completed properly to the satisfaction of the Engineer/Architect. The Substantial Performance Certificate will not be issued until the final commissioning of the Work has been successfully completed.

4.20.0 FINAL CLEAN-UP

4.20.1 At the end of the job, thoroughly clean the building of all rubbish and surplus materials.

4.20.2 Make good all damaged areas in the building caused as a result of the Work of this Contract.

4.20.3 Do final cleaning, waxing and polishing of resilient flooring.

5.0 CAMPUS SAFETY AND HEALTH REGULATIONS

Maintaining a healthy and safe environment for all members of the campus community, as well as visitors, is a priority with the University. This involves a commitment from all sectors of the campus community and extends to outside agencies having occasion to come on campus to conduct business.

The following regulations will apply to all work undertaken by contractors and service personnel on any University property.

5.1.0 REGULATIONS, CODES AND STANDARDS

Contractors shall be familiar with and abide by provisions of various safety codes and standards applicable to the work performed and should refer to Article **23. PROTECTION OF WORK AND PROPERTY** in the **General Conditions**.

In particular, strict adherence shall be required to the Provincial Occupational Health and Safety Act and Regulations and the National Building Code of Canada, Part 8.

5.2.0 GENERAL SAFETY REGULATIONS

a) Contractors/service agencies shall ensure that members of the campus community are not endangered by any work or process in which they may be engaged. Work areas shall be adequately barricaded, and if dust or fumes are generated, suitable enclosures shall be installed to contain such emissions.

b) No material shall be stored in such a way as to obstruct walkways or represent a danger to pedestrian traffic.

c) Adequate protection shall be provided to prevent the possibility of materials falling from scaffolding or elevated areas. Areas where materials are being loaded or offloaded shall be barricaded or otherwise protected to prevent unauthorized entry. Where necessary, appropriate warning signs shall be posted.

d) The work areas must be kept reasonably clean and free from debris which could constitute a fire hazard. Care must be taken to ensure that the work process does not activate fire alarm detection devices. (Generation of dust and fumes can activate smoke detectors causing a false alarm).

e) Due consideration shall be given to fire safety in buildings. Flammable materials must be kept away from sources of ignition. No work involving the use of open flame devices must be undertaken around flammable solvents or gases.

f) Do not alter or disturb any materials believed to contain asbestos materials (unless this is a duly authorized part of the project). Should suspect materials be encountered, consult with University officials before proceeding.

g) Material Safety Data Sheets shall be procured for any hazardous product used on campus. Such sheets shall be made readily available for consultation as required under the Workplace Hazardous Materials Information System.

NOTE: The above regulations are not to be considered all inclusive and are considered to be complementary to the safety requirements outlined in the agreement between the Owner and the Contractor/Service Agency. Certain conditions and circumstances may require adherence to additional safety regulations.

As a general requirement, contract/service personnel are expected to conduct all work on campus in a professional and safe manner and to give priority to the welfare of members of the campus community.

6.0 CONTRACTOR PERFORMANCE EVALUATION

6.1.0 The purpose of this process is to maintain an acceptable level of performance with external contractors carrying out work for the Department of Facilities Management.

6.2.0 A record of the performance of external contractors will be maintained to identify the following:

a) Those contractors who by virtue of satisfactory performance will continue to be eligible to submit bids for work at the University;

b) Those contractors whose performance is considered unsatisfactory and will be advised of the need to improve performance to remain eligible to submit bids for work at the University;

c) Those contractors whose record of unsatisfactory performance will render them ineligible to submit bids for work at the University.

6.3.0 Contractors' performance will be evaluated on a points rating system relative to quality of work performed, timeliness in completing work and management/administration of contracts/work and safety parameters.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Types of items described in this Section:

B. Types of items described in this Section:
1. Work Covered By the Contract Documents.
2. Type of Contract.
3. Work Phases.
4. Work Under Other Contracts.
5. Use of Premises.
6. Owner's Occupancy Requirements.
7. Work Restrictions.
8. Interpretation Of Documents
9. Specification Formats and Conventions.
10. Project Management and Coordination.
11. Construction Progress Documentation.
12. Photographic Documentation.
13. Substitution Procedures.
14. Submittal Procedures.
15. Environmental Procedures.
16. Wildlife Protection.
17. Quality Requirements.
18. Regulatory Requirements.
19. Temporary Facilities and Control.
20. Temporary Barriers and Enclosures.
21. Product Requirements.
22. Execution.
23. Construction Waste Management And Disposal.
24. Closeout Procedures.
25. List of Incomplete Items (Punch List)
26. Operation and Maintenance Data.
27. Project Record Documents.
28. Demonstration and Training.

C. Types of items you will not find described in this Section:
1. Health and Safety Requirements

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Project # B-508-22, Battery Facility, Window Replacement
1. Project Location: Signal Hill Campus, Memorial University, St. John’s, NL.

B. Owner: Memorial University of Newfoundland
1. Owner's Representative: Department of Facilities Management, Gina Frost, Tel. 709-699-2873

C. The Work consists of the following:
   1. The Work includes all work associated with the removal and replacement of the existing windows.

1.4 TYPE OF CONTRACT

A. Project will be constructed under a single prime contract.

1.5 WORK PHASES

A. The Work shall be conducted in one (1) phase and be substantially complete by Sept 1, 2024.

1.6 WORK UNDER OTHER CONTRACTS

A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

B. Preceding Work: Owner has awarded / will award separate contract(s) for the following construction operations at Project site. Those operations are scheduled to be substantially complete before work under this Contract begins.
   1. No proceeding work planned.

C. Concurrent Work: Owner has awarded / will award separate contract(s) for the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.
   1. No concurrent work planned.

D. Future Work: Owner has awarded / will award separate contract(s) for the following additional work to be performed at site after Substantial Completion. Completion of that work will depend on successful completion of preparatory work under this Contract.
   1. No future work planned.

1.7 USE OF PREMISES

A. General: Contractor shall have full use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. General: Contractor shall have limited use of premises for construction operations as indicated on Drawings by the Contract limits.

C. Use of Site: Limit use of premises to areas under construction. Do not disturb portions of Project site beyond areas in which the Work is indicated.
   1. Owner Occupancy: Allow for Owner occupancy of Project site and use by the public.
   2. Driveways and Entrances: Keep driveways parking garage, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
      a. Schedule deliveries to minimize use of driveways and entrances.
      b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

D. Use of Existing Building: If the work involves construction in an existing building, maintain the existing building in a weather tight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

1.8 OWNER'S OCCUPANCY REQUIREMENTS

A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
   1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
   2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
   1. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.
   2. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
   3. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

1.9 WORK RESTRICTIONS

A. On-Site Work Hours: Work shall be generally performed inside the existing building during normal business working hours, Monday through Friday, except otherwise indicated.
   1. Weekend Hours: **Contractor to notify Owner's representative 48hrs prior to scheduling.**
   2. Early Morning Hours: **Contractor to notify Owner's representative 48hrs prior to scheduling.**
   3. Hours for Utility Shutdowns: **Dependant on Scope of shutdown. Contractor to notify Owner's representative 2 weeks prior to scheduling.**
   4. Hours for Core Drilling and other noise generating activities: **To be scheduled after regular work hours. Contractor to notify Owner's representative 48hrs prior to scheduling.**

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
   1. Notify Owner's Representative not less than two days in advance of proposed utility interruptions.
   2. Do not proceed with utility interruptions without Owner's Representative's written permission.

C. No smoking is permitted on MUN Campus.

1.10 INTERPRETATION OF DOCUMENTS

A. In the event of discrepancies or conflicts in interpreting the Plans (drawings) and Specifications,
   1. Supplementary General Conditions take precedence over all other documents.
   2. General Conditions take precedence over drawings and specifications.
   3. Division 1 Sections take precedence over technical specification sections in other Divisions;

4. Legends and schedules take precedence over drawings and Specifications, whether they are bound with the specifications or integral with the drawings;
5. Specifications take precedence over all other drawings;

B. Plans (drawings) and Specifications are complementary. When work is shown or mentioned on the drawings but is not indicated in the Specifications, or when work is indicated in the Specifications but is not shown or mentioned on the Drawings, it shall nevertheless be included in the Contract.

1.11 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's *MasterFormat* numbering system.
1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

C. The words *shall*, *shall be*, or *shall comply with*, depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.12 PROJECT MANAGEMENT AND COORDINATION

A. Coordination
1. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

B. Administrative and supervisory personnel
1. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
2. Maintain same superintendent on Project for duration of Project. Immediately notify Owner`s Representative if superintendent should become unavailable to work and immediately replace with an alternate person acceptable to the Owner`s Representative.

C. Project meetings
1. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
2. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Owner`s Representative, within three days of the meeting.
3. Progress Meetings: Conduct progress meetings at monthly intervals. Coordinate dates of meetings with preparation of payment requests.

1.13 Requests For Interpretation (RFIs)

1. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
    a. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
2. Allow seven working days for Owner`s Representative's response for each RFI.
3. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Owner`s Representative in writing within 10 days of receipt of the RFI response.

1.14 CONSTRUCTION PROGRESS DOCUMENTATION

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice of Award.
    1. Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
    2. At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

B. Reports
    1. Daily Construction Reports: Prepare a daily construction report and submit to Owner`s Representative each week recording the following information concerning events at Project site:
        a. List of subcontractors at Project site.
        b. List of separate contractors at Project site.
        c. Approximate count of personnel at Project site.
        d. Equipment at Project site.
        e. Material deliveries.
        f. High and low temperatures and general weather conditions.
        g. Accidents.
        h. Meetings and significant decisions.
        i. Unusual events.
        j. Stoppages, delays, shortages, and losses.
        k. Meter readings and similar recordings.
        l. Emergency procedures.
        m. Orders and requests of authorities having jurisdiction.
        n. Change Orders received and implemented.
        o. Construction Change Directives received and implemented.
        p. Services connected and disconnected.
        q. Equipment or system tests and start-ups.
        r. Partial Completions and occupancies.
        s. Substantial Completions authorized.
    2. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

1.15 PHOTOGRAPHIC DOCUMENTATION

A. Preconstruction Photographs: Before starting construction take, digital photographs of Project site and surrounding areas, including existing items to remain during construction, from different vantage points.

B. Periodic Construction Photographs: Take digital photographs weekly, with timing each month adjusted to coincide with the cut-off date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

C. E-mail or otherwise submit photos to Owner`s representative on monthly basis to coincide with the each Application for Payment.

1.16 SUBSTITUTION PROCEDURES

A. Substitution Requests: Submit PDF copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
      a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
      b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
      c. 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.
      d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
      e. Samples, where applicable or requested.
      f. Certificates and qualification data, where applicable or requested.
      g. List of similar installations for completed projects with project names and addresses and names and addresses of Owner's Representatives and owners.
      h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
      i. Research reports evidencing compliance with building code in effect for Project.
      j. Detailed comparison of 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.
      k. Cost information, including a proposal of change, if any, in the Contract Sum.
      l. 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.
      m. 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.
   2. Owner's Representative's Action: If necessary, Owner's Representative will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Owner's Representative will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
      a. Forms of Acceptance: Change Order, Construction Change Directive, or Owner's Representative's Supplemental Instructions for minor changes in the Work.
      b. Use product specified if Owner's Representative does not issue a decision on use of a proposed substitution within time allocated.

B. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
   1. Conditions: Owner's Representative will consider 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:
      a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
      b. Substitution request is fully documented and properly submitted.
      c. Requested substitution will not adversely affect Contractor's construction schedule.
      d. Requested substitution has received necessary approvals of authorities having jurisdiction.
      e. Requested substitution is compatible with other portions of the Work.
      f. Requested substitution has been coordinated with other portions of the Work.
      g. Requested substitution provides specified warranty.
      h. 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.

C. Substitutions for Convenience: Owner's Representative will consider requests for substitution if received within 60 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Owner's Representative.
   1. Conditions: Owner's Representative will consider 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:
      a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume.
      b. Requested substitution does not require extensive revisions to the Contract Documents.
      c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
      d. Substitution request is fully documented and properly submitted.
      e. Requested substitution will not adversely affect Contractor's construction schedule.
      f. Requested substitution has received necessary approvals of authorities having jurisdiction.
      g. Requested substitution is compatible with other portions of the Work.
      h. Requested substitution has been coordinated with other portions of the Work.
      i. Requested substitution provides specified warranty.

1.17 SUBMITTAL PROCEDURES

A. Contractor's Review
   1. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Owner`s Representative.

B. Preferred Size for Paper Submittals
   1. Provide paper submittals on sheets no less than 8 ½ x 11” Whenever practical, provide paper submittals on sheet size not greater than 11 x 17”. In all cases ease of readability of submittal content by Engineer shall take precedent over providing information on preferred sheet size.

C. Submittal Procedures
   1. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
      a. Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and

statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

2. The Owner`s Representative will return no copies on any submittals but instead will e-mail a web link to a web site which will host PDFs of the reviewed documents.
3. Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Owner`s Representative's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
   a. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Owner`s Representative will advise Contractor when a submittal being processed must be delayed for coordination.
   b. Resubmittal Review: Allow 15 days for review of each resubmittal.
   c. Sequential Review: Where sequential review of submittals by Owner`s Representative's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
4. Owner`s Representative will review each submittal, make marks to indicate corrections or modifications required, and return it. Owner`s Representative will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
   a. REVIEWED – NO COMMENTS
   b. REVIEWED WITH COMMENTS. REVISE & RESUBMIT PRIOR TO START OF WROK.
   c. REVIEVED WITH COMMENTS. PROCEED WITH WORK SUBJECT TO IMPLEMENTATION OF NOTED COMMENTS, REVISE AND RESUBMIT.
   d. NOT ACCEPTED.

1.18 ENVIRONMENTAL PROCEDURES

A. Definitions
   1. Hazardous Material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.

B. Fires and burning of rubbish on site not permitted.

C. Store, handle, and dispose of hazardous materials in accordance with applicable federal and provincial laws, regulations, codes and guidelines. Store in location that will prevent spillage into the environment

D. Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
   1. Do not pump water containing suspended materials into waterways, sewer or drainage systems.

E. Protect any trees and plants on site and adjacent properties that are in immediate area of construction.
   1. Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
   2. Restrict tree removal to areas indicated or designated by Owner`s Representative.

F. Minimize stripping of topsoil and vegetation.

1.19 WILDLIFE PROTECTION

A. Should nests of migratory birds (Seagulls) be encountered during work, immediately notify Owner's Representative for directives to be followed.
   1. Do not disturb nest site and neighbouring vegetation until nesting is completed.
   2. Minimize work immediately adjacent to such areas until nesting is completed.
   3. Protect these areas by following recommendations of Canadian Wildlife Service.

1.20 QUALITY REQUIREMENTS

A. Conflicting Requirements
1. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Owner`s Representative for a decision before proceeding.
2. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Owner`s Representative for a decision before proceeding.

B. Quality Control
1. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
a. Payment for these services will be made by the Owner.
b. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
2. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
a. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
b. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
c. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

1.21 REGULATORY REQUIREMENTS

A. 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.

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

1.22 TEMPORARY FACILITIES AND CONTROLS

A. Temporary Utility Installation
1. General: Install temporary service or connect to existing service.
a. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
2. Sanitary Facilities: If the Owner has existing toilet facilities these may be used as long as these facilities are kept cleaned and maintained in a condition acceptable to the Owner. Otherwise provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

3. Water Service: If the Owner has existing water service it may be used as long as it does not impact on the Owner`s need. Otherwise install water service and distribution piping in sizes and pressures adequate for construction.
4. Sewers and Drainage: Provide temporary utilities as required to remove effluent lawfully.
5. Heating: Provide temporary heating as required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
6. Ventilation and Humidity Control: Provide temporary ventilation as required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
7. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
    a. Install electric power service overhead, unless otherwise indicated.
    b. If the Owner has an existing power source, the contractor may access it for temporary power provided it does not impact the Owner`s needs.
8. Lighting: Provide temporary lighting with local switching as required to provide adequate illumination for construction operations, observations, inspections, and traffic conditions.
9. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
10. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather tight enclosure for building exterior.
11. Tree and Plant Protection: Install temporary fencing as required to protect trees and plants intended to remain. Install protection outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
12. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner as required to prevent people and animals from easily entering site except by entrance gates.

B. Operation, Termination, and Removal
1. Maintain facilities in good operating condition until removal.
2. Remove each temporary facility when need for its service has ended.

1.23 TEMPORARY BARRIERS AND ENCLOSURES

A. Hoarding
1. For work involving the excavation for new foundations or the erection of new structures outside of an enclosure, provide hoarding.

B. Weather Enclosures
1. Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.

C. 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.

D. 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. Be responsible for damage incurred due to lack of or improper protection.

1.24 PRODUCT REQUIREMENTS

A. 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.

B. 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. Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.

C. Product Warranties
1. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

D. Product Selection Procedures
1. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1.25 EXECUTION

A. Materials
1. Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
2. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Owner`s Representative for the visual and functional performance of in-place materials.

B. Construction Layout
1. Where work involves construction outside of an existing footprint, engage a land surveyor to lay out the Work using accepted surveying practices.
2. On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified location certificate showing dimensions, locations, angles, and elevations of construction and site work.

C. Installation

1. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
    a. Make vertical work plumb and make horizontal work level.
    b. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
    c. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
    d. Maintain minimum headroom clearance of 2440 mm in occupied spaces and in unoccupied spaces.
2. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
3. Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
    a. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Owner`s Representative.

D. Cutting And Patching
1. Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
    a. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
2. Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

E. Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

F. Progress Cleaning
1. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
2. Site: Maintain Project site free of waste materials and debris.

G. Correction Of The Work
1. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
2. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
3. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

H. Protection Of Installed Construction
1. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
2. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1.26 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

A. Waste Reduction
1. Reduce construction waste during installation work. Undertake practices which will minimize waste and optimize full use of new materials on site, such as:
    a. Use of a central cutting area to allow for easy access to off-cuts;
    b. Use of off-cuts for blocking and bridging elsewhere.

c. Use of effective and strategically placed facilities on site for storage and staging of left-over or partially cut materials (such as gypsum board, plywood, ceiling tiles, insulation etc...) to allow for easy incorporation into

B. Material Source Separation Process
1. Perform demolition and removal of existing building components and equipment following a systematic deconstruction process.
2. Separate materials and equipment at source, carefully dismantling, labelling and stockpiling alike items for the following purposes:
a. Reinstallation into the work where indicated.
b. Salvaging reusable items not needed in project which Contractor may sell to other parties. Sale of such items not permitted on site.
c. Sending as many items as possible to locally available recycling facility.
d. Segregating remaining waste and debris into various individual waste categories for disposal in a *non-mixed state* as recommended by waste processing/landfill sites.

C. Disposal Requirements
1. Dispose of waste only at approved waste processing facility or landfill sites approved by authority having jurisdiction.

1.27 CLOSEOUT PROCEDURES

A. Substantial Completion
1. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
a. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
b. Advise Owner of pending insurance changeover requirements.
c. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
d. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
e. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
f. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
g. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
h. Complete start-up testing of systems.
i. Submit test/adjust/balance records.
j. Terminate and remove temporary facilities from Project site, along with mock-ups, construction tools, and similar elements.
k. Advise Owner of changeover in heat and other utilities.
l. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
m. Complete final cleaning requirements, including touch-up painting.
n. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
2. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Owner`s Representative will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner`s Representative will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Owner`s Representative, that must be completed or corrected before certificate will be issued.

3. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

B. Final Completion
1. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
a. Submit a final Application for Payment according to the General Conditions.
b. Submit certified copy of Owner`s Representative's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Owner`s Representative. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
c. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
d. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
2. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Owner`s Representative will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner`s Representative will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
a. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

C. Final Cleaning
1. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
2. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1.28 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
a. Project name.
b. Date.
c. Name of Owner's Representative.
d. Name of Contractor.
e. Page number.
4. Submit list of incomplete items in the following format:
a. Three paper copies of product schedule or list, unless otherwise indicated.

1.29 WARRANTIES

A. Submittal Time: Submit written warranties on request of Owner's Representative for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 215-by-280-mm paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title *WARRANTIES*, Project name, and name of Contractor.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.30 OPERATION AND MAINTENANCE DATA

A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

C. Manual Contents: Operations and maintenance manual content is specified in individual specification sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
1. Where applicable, clarify and update reviewed manual content to correspond to modifications and field conditions.

D. Format: Submit operations and maintenance manuals in the following format:
1. PDF electronic file. Assemble each manual into a composite electronically-indexed file. Submit on digital media acceptable to Owner's Representative.
a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically-linked operation and maintenance directory.
b. Enable inserted reviewer comments on draft submittals.

1.31 PROJECT RECORD DOCUMENTS

A. Record Drawings
1. Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
2. Mark Record Prints to show the actual installation where installation varies from that shown originally.
3. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
a. Accurately record information in an understandable drawing technique.
b. Record data as soon as possible after obtaining it. Record and check the mark-up before enclosing concealed installations.
4. Content: Types of items requiring marking include, but are not limited to, the following:
a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Depths of foundations below first floor.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Actual equipment locations.
h. Duct size and routing.

i. Locations of concealed internal utilities.
j. Changes made by Change Order or Change Directive.
k. Changes made following Owner`s Representative's written orders.
l. Details not on the original Contract Drawings.
m. Field records for variable and concealed conditions.
n. Record information on the Work that is shown only schematically.

5. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
6. Mark record sets with erasable, red-coloured pencil. Use other colours to distinguish between changes for different categories of the Work at same location.
7. Mark important additional information that was either shown schematically or omitted from original Drawings.
8. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
9. Submit record drawings to Owner`s Representative prior to requesting Substantial Completion inspection.

1.32 DEMOSTRATION AND TRAINING

A. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, and maintenance of each item of maintenance of each item of equipment.

B. Instruct personnel in all phases of operation and maintenance using operation and maintenance manuals as the basis of instruction.

C. Review contents of manual in detail to explain all aspects of operation and maintenance.

D. Prepare and insert additional data in operations and maintenance manuals when the need for additional data becomes apparent during instructions.

E. The GC shall be responsible for training coordination and scheduling and ultimately for ensuring that training is completed.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Types of items described in this Section:

1. Health and safety requirements for projects located in Newfoundland and Labrador.

1.3 REFERENCES

A. Code and standards referenced in this section refer to the latest edition thereof.

B. Canadian Standards Association (CSA)

1. CSA S269.1 Falsework for Construction Purposes.
2. CAN/CSA-Z259.1 Safety Belts and Lanyards.
3. CAN/CSA-Z259.10 Full body Harnesses.
4. CAN/CSA-Z259.11 Shock Absorbers for Personal Fall Arrest Systems.
5. CAN/CSA-Z259.2, Fall Arresting Devices, Personnel Lowering Devices and Lifelines.
6. FCC No. 301 Standard for Construction Operations.
7. CSA Z275.2 Occupational Safety Code for Diving Operations.
8. CSA Z275.4 Competency Standard for Divers Operations.

C. FCC No. 302 Standard for Welding and Cutting.

D. Transportation of Dangerous Goods Act Regulations.

E. Newfoundland Occupational Health and Safety Act, Amended

F. Consolidated Newfoundland and Regulations 1149 WMIS Regulations Under the Occupational Health and Safety Act

G. Consolidated Newfoundland and Regulations 1165 Occupational Health and Safety Regulations under the Occupational Health and Safety Act.

H. Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.

I. National Building Code of Canada.

1.4 SUBMITTALS

A. At least 10 (ten) working days prior to commencing any site work: submit to Owner's Representative copies of:

1. A complete Site Specific Hazard Assessment and Safety Program Table of Contents.
2. **Including requirments as outlined by the Department of Envrionmental Health & Safety, See APPENDIX A.**

B. Acceptance of the Project Health and Safety Hazard Assessment and Management 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.

C. Owner's Representative makes no representation and provides no warranty for the accuracy, completeness and legislative compliance of the Project Health and Safety Hazard Management Plan and other submitted documents by this acceptance.

D. Responsibility for errors and omissions in the Project Health and Safety Hazard Assessment and Management Plan and other submitted documents is not relieved by acceptance by Owner's Representative.

1.5 OCCUPATIONAL HEALTH AND SAFETY (PROJECT HEALTH AND SAFETY HAZARD ASSESSMENT AND MANAGEMENT PLANS)

A. Conduct operations in accordance with latest edition of the Newfoundland Occupational Health and Safety (OH&S) Act and Regulations.

B. Prepare a detailed Project Health and Safety Hazard Assessment and Management Plan for the Owner. Assessment shall identify, evaluate and control job specific hazards and the necessary control measures to be implemented for managing hazards.

C. Provide a copy of the Project Health and Safety Hazard Assessment and Management Plan upon request to Occupational Health and Safety Branch, Department of Labour, Province of Newfoundland and Labrador and the Owner.

D. The written Health and Safety Hazard Assessment and Management Plan shall incorporate the following:

1. A site-specific health and safety plan, refer to clause 1.6 Site-Specific Health and Safety Hazard Assessment and Management Plan of this section for requirements.
2. An organizational structure which shall establish the specific chain of command and specify the overall responsibilities of contractor's employees at the work site.
3. A comprehensive work plan which shall:

    a. define work tasks and objectives of site activities/operations and the logistics and resources required to reach these tasks and objectives
    b. establish personnel requirements for implementing the plan, and
    c. establish site specific training and notification requirements and schedules.

4. A personal protected equipment (PPE) Program which shall detail PPE:

    a. Selection criteria based on site hazards.
    b. Use, maintenance, inspection and storage requirements and procedures.

c. Decontamination and disposal procedures.
d. Inspection procedures prior to during and after use, and other appropriate medical considerations.
e. Limitations during temperature extremes, heat stress and other appropriate medical consideration.

5. An emergency response procedure, refer to Clause 1.7 Supervision and Emergency Response Procedure of this section for requirements.
6. A hazard communication program for informing workers, visitors and individuals outside of the work area as required.
7. A diving program which shall contain standard operating procedures to be followed in the diving operation.
8. A health and safety training program.
9. General safety rules.

E. Periodically review and modify as required each component of the Project Health and Safety Hazard Assessment and Management Plan when a new hazard is identified during completion of work and when an error or omission is identified in any part of the Project Health and Safety Hazard Assessment and Management Plan.

F. Implement all requirements of the Project Health and Safety Hazard Assessment and Management Plan.

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

1.6 SITE SPECIFIC HEALTH AND SAFETY PLAN

A. Prepare a detailed site Specific Project Health and Safety Plan which shall:

1. Contain certain hazard assessment results.
2. Identify 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.

B. Review for completeness the hazard assessment results 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, evaluation and managing any report of actual or potential hazards.
2. Retain copies of all completed hazard assessments at the project site and make available to the Owner's Representative immediately upon request.

1.7 SUPERVISION AND EMERGENCY RESCUE PROCEDURE

A. 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

B. Assign a sufficient number of supervisory personnel to the work site.

C. Provide a suitable means of communications for workers required to work alone.

D. Develop an emergency rescue plan for the job site and ensure that supervisors and workers are trained in the emergency rescue plan.

E. 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.
13. For diving operation, include procedures for:

    a. Managing deteriorating environmental conditions.
    b. Managing unexpected weather or sea-state condition.
    c. Evacuation of diver(s) under pressures greater that atmospheric pressure.
    d. In-water emergency transfers.
    e. Managing failing of equipment below the surface that impairs the ability of a diver to complete a dive.
    f. Managing failure of any major component of diving plant or equipment.
    g. Emergency signalling between divers involved in the diving program and between the diver(s) and the attendants using umbilical, tethers or other suitable methods.
    h. Mobilizing stand-by divers.
    i. Mobilizing crafts, stand-by boats and any other devices to be used for rescue.
    j. Contacting evacuation, rescue, treatment facilities and medical services that will be used in the diving program.
    k. Operation of emergency power and lighting facilities.

F. The emergency response procedures shall be rehearsed regularly as part of the overall training program.

G. 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 First Aid Regulations.

1.8 CONTRACTORS SAFETY OFFICER

A. The contractor's Safety Officer will be solely responsible for the implementation and monitoring of the Project Health and Safety Hazard Assessment and Management Plan, and will have the authority to implement health and safety changes as directed by the Owner's Representative. The Safety Officer shall have as a minimum:

1. Completed training in hazardous occurrence management and response/protocols.
2. Completed training in the use, maintenance of fall protection systems.
3. Completed training in the design and construction of scaffolding.
4. Completed training in confined space entry protocols and techniques.
5. Completed training in First Aid.

6. Have working knowledge of occupational safety and health regulations.
7. Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
8. Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
9. Be on site during execution of Work and report directly to and be under direction of site supervisor.

1.9 HEALTH AND SAFETY COMMITTEE

A. 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.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.

C. 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.

1.10 RESPONSIBILITY

A. 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.

B. 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.

1.11 UNFORESEEN HAZARDS

A. 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.

1.12 INSTRUCTION AND TRAINING

A. 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.

B. Provide and maintain training of workers, as required, by Federal and Provincial legislation.

C. Provide copies of all safety training certificates, upon request, to Owner's Representative for review, and to be maintained on the worker when they enter the work site.

D. 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 Health and Safety Hazard Assessment and Management 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.

1.13 CONSTRUCTION SAFETY MEASURES

A. Observe construction safety measures of National Building Code, latest edition, Provincial Government, OH&S Act and Regulations, Workplace Health and Safety and Compensation Commission and Municipal Authority provided that in any case of conflict or discrepancy more stringent requirements shall apply.

B. 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 Health and Safety Hazard Assessment and Management Plan.

C. Provide Owner's Representative with copies of all orders, directions and any other documentation, issued by the Provincial Department of Government Services, Occupational Health and Safety branch immediately after receipt.

1.14 POSTING OF DOCUMENTS

A. 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.

1.15 HEALTH AND SAFETY MONITORING

A. 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.

B. 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.

1.16 CORRECTION OF NON-COMPLIANCE

A. Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Owner's Representative.

B. Provide Owner's Representative with written report of action taken to correct non-compliance of health and safety issues identified.

C. Owner's Representative may stop work if non-compliance of health and safety regulations is not corrected.

1.17 WHMIS

A. 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.

B. Deliver copies of relevant (Material) Safety Data Sheets (SDS) to job site and the Owner's Representative. The SDS 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.

C. Train workers required to use or work in close proximity to controlled products as per OH&S Act and Regulations.

D. Label controlled products at jobsite as per OH&S and Regulations.

E. Provide appropriate emergency facilities as specified in the SDS 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.

F. Contractor shall provide appropriate personal protective equipment as specified in the SDS 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.

G. No controlled products are to be brought on-site without prior approved SDS.

H. The SDS are to remain on site at all times.

1.18 OVERLOADING

A. Ensure no part of work or associated equipment is subjected to loading that will endanger its safety or will cause permanent deformation.

1.19 FALSEWORK

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

1.20 SCAFFOLDING

A. Design, erect and maintain scaffolding in accordance with CSA S269.2 and Sections 91-97 of the OH&S Act and Regulations.

B. Ensure that fall-restraint or fall-arrest devices are used by all workers working at elevations greater than 3.05 metres above grade or floor level in accordance with CSA Z259.

1.21 PERSONAL PROTECTIVE EQUIPMENT

A. Ensure workers on the jobsite use personal protective equipment appropriate to the hazards identified in the Hazard Assessment and Management Plan and those workers are trained in the proper care, use, and maintenance of such equipment.

B. 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.

C. 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 one half (½) the IDLH concentration.
2. Respiratory protection shall be provided in accordance with the requirements of the Occupational Health and Safety Branch, Department of Labour of the Province of Newfoundland and Labrador and these specifications.
3. Establish, implement and maintain a respirator inspection and maintenance program.
4. Copies of all respirator owners' maintenance manuals shall be kept at all times at the contractor's site office.

D. 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.

E. Provide all workers and up to two (2) 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.

F. Provide all workers and up to two (2) 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.

G. Provide workers and up to two (2) visitors to the site with CSA approved hard hats.

1.22 EXCAVATION SAFETY

A. 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.

B. Ensure that all excavations less than 1.25 metres deep are effectively protected when hazardous ground movement may be expected.

C. 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.

D. 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.

1. 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 the Department of Labour's "Trench Excavation Safety Guide".

1.23 CONFINED SPACE WORK

A. Comply with requirements of Canada Occupational Safety and Health Regulations, Part XI and Consolidated Regulations Newfoundland and Labrador (CRNL) OH&S 1165/96.

B. 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.

C. Develop a confined space entry 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.

1. Ensure that personal protective equipment and emergency rescue equipment appropriate to the nature of the work being performed is provided and used.

D. Provide and maintain training of workers, as required by the Federal and Provincial Legislation.

E. Provide Owner's Representative with a copy of an "Entry Permit" for each entry into the confined space to ensure compliance with Federal and Provincial Legislation.

1.24 HAZARDOUS MATERIALS

A. Should material resembling hazardous materials (asbestos/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.

B. Unless otherwise noted, for hazardous materials abatement and repair, employ the services of a recognized Environmental Consultant to provide all air monitoring and testing services for regulatory requirements.

1.25 HEAVY EQUIPMENT

A. Ensure mobile equipment used on jobsite is of the type specified in OH&S Act and Regulations fitted with a Roll Over Protective (ROP) Structure.

B. Provide certificate of training in Power Line Hazards for operators of heavy equipment.

C. Obtain written clearance from the power utility where equipment is used in close proximity to (within 5.5 metres) overhead or underground power lines.

D. Equip cranes with:

1. A mechanism which will effectively prevent the hook assembly from running into the top boom pulley.
2. A legible load chart.
3. A maintenance log book.

1.26 WORK STOPPAGE

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

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

APPENDIX "A" Contractor Safety Management Element – November 2018

Contractor Safety Management Element

November 2018

Table of Contents

1.0 Purpose

This element establishes the requirements for the administration and monitoring of contractor health and safety programs and activities at Memorial University. These measures shall ensure that contractors understand their collective responsibility with respect to the Occupational Health & Safety Act and Regulations, Memorial University policy and this element.

2.0 Scope

This procedure shall apply to all work done for Memorial University of Newfoundland with respect to the provision of services as outlined below. Memorial University reserves the right to exempt a Contractor from this element, in whole or in part, based upon an evaluation of the risk of the work being conducted. This evaluation must comply with the hazard identification and risk management element.

3.0 Definitions

Act: Newfoundland & Labrador Occupational Health & Safety Act, latest edition.

Contract: A documented agreement between Memorial University and a contractor.

Contractor: The principal contractor, person, partnership, or corporation bound to execute the work under the contract and defined as such in the agreement is responsible for the supervision of the work so as to ensure the work is carried out in accordance with the contract.

Project Management Team: The group assigned by the University to act on behalf of the owner with respect to the execution of Contractor work.

Principal Contractor: The person primarily responsible for the carrying out of a contract.

Regulations: Newfoundland & Labrador Occupational Health & Safety Regulations, latest edition.

Subcontractor: A person, firm or corporation having a direct contract with the Contractor or subcontractor(s) 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.

Owner: The Owner, Engineer/Architect are the persons, firms or corporation identified as such in the Contract. The term Owner, Engineer/Architect means, respectively, each of the Owner, Engineer/Architect and their authorized representatives as designated by each such party in writing.

Work: The services and job procedure completion that is described in the contract.

4.0 Roles and Responsibilities

4.1 Project Management Team

Will monitor the Contractor's performance for health and safety compliance. Monitoring activities may include but are not limited to:

- planned and unplanned workplace inspections;
- attendance of meetings;
- communications of safety related issues and topics, as deemed necessary;
- review of contractor records, inspections, work practices and documentation; and
- complete audits to verify that contractors and subcontractors are meeting their legislative, procedural and contractual responsibilities.

4.2 Contractors

Will comply with applicable Federal and Provincial legislation and applicable MUN safety procedures. Contractor responsibilities include but not limited to:

- report all incidents immediately to the required University project team followed by a written incident report within 24 hours;
- be responsible for the safety of subcontractors including those not under their employ;
- stop work if the conditions are such that work cannot be performed safely;
- perform evaluation, monitoring of the workplace to identify potential hazards and associated risks and ensure corrective actions are implemented;
- ensure daily task specific hazard assessments are completed; and
- maintain the accountability of persons responsible for the reporting and correction of hazards.

5.0 Procedure

5.1 Considerations prior to signing of contract

5.1.1 Prior to signing of contract, the preferred General Contractor shall provide proof of compliance with 5.2.1.

Within seven (7) calendar days after a pre-signing start up meeting the General Contractor shall provide proof of compliance of themselves and their subcontractors with 5.2.1 as well as provide the information requested in Section 5.2.2(a) (b).

5.2 Requirements

5.2.1 All Contractors, and their Subcontractors, shall be required to submit confirmation of a current third party occupational health and safety program certification (Letter of Assurance). These may include, but not be limited to, Certificate of Recognition (COR), OHSAS 18001, and CSA Z.1000.

5.2.2 Contractors shall also provide the following:

(a) health and safety policy statement;

(b) safety program table of contents; and

(c) site hazard assessment;

The hazard assessment shall be updated by the General Contractor and re-submitted whenever the conditions, work practices or work forces change to the extent that new hazards can be identified.

5.2.3 In lieu of a Subcontractors 3rd party program, Contractors shall be required to integrate the Subcontractor(s) into the Contractors program and provide proof of same.

5.2.4 Memorial reserves the right to request and audit the full safety program of Contractors and Subcontractors and their associated documentation. This documentation may include, but not be limited to the following:

(a) safety program and/or manual

(b) applicable documented safe work practices;

(c) inspection reports and schedules;

(d) required employee safety training certifications and qualifications; and

(e) updated list of OHS Committee and/or a worker health and safety representative, or workplace health and safety designate.

Request for submission shall be complied with within 7 calendar days of a written request from Memorial's Environmental Health and Safety unit.

5.2.5 Memorial reserves the right to:

(1) Reject any Contractor that fails to meet the requirements or schedules outlined herein;

(2) The University reserves the right to stop any work or portion of work where the risk presents an immediate danger.

5.3 Schedule of Submissions

5.3.1 General Contractors and their sub-contractors who have complied with 5.1.1 will be permitted to commence physical work on the site however no work shall be performed by the General Contractor, their sub-contractors until such a time as they comply with 5.1.1.

6.0 Post-Contract Evaluation

The Project Management Team will determine the extent of the evaluation of the Contractor's safety performance at the completion of the contract. This evaluation will be conducted by way of a standard contractor safety evaluation form and will be supported by objective evidence documented during the term of the Contract. The records of the evaluation must be retained with the project owner.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Supply all labour, materials, services and equipment necessary to complete the Work of this Section. Work includes but is not limited to the following:
  .1 Remove, store and protect existing siding, trims and flashing/components located within the defined area of Work.
  .2 Remove and dispose of the existing windows, as indicated on the Drawings.
  .3 All other removals/demolition as specified on the Drawings or indicated herein.

1.2 DEFINITIONS

.1 Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

.2 Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.

.3 Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

.4 Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 MATERIALS OWNERSHIP

.1 Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.
  .1 Coordinate with Owner's archaeologist, who will establish special procedures for removal and salvage.

1.4 SUBMITTALS

.1 Schedule of Selective Demolition Activities: Indicate the following:
  .1 Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building managers and other tenants' on-site operations are uninterrupted.
  .2 Interruption of utility services. Indicate how long utility services will be interrupted.
  .3 Coordination for shutoff, capping, and continuation of utility services.
  .4 Use of elevator and stairs.
  .5 Locations of proposed dust- and noise-control temporary partitions and means of egress, including for other tenants affected by selective demolition operations.
  .6 Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
  .7 Means of protection for items to remain and items in path of waste removal from building.

.2 Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.

.3 Predemolition Photographs or Videotapes: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by selective demolition operations. Comply with Division 01 Section *Photographic Documentation*. Submit before Work begins.

.4 Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
.1 Comply with submittal requirements in Division 01 Section "*Construction Waste Management and Disposal*."

1.5 QUALITY ASSURANCE

.1 Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

.2 Standards: Comply with ANSI A10.6, NFPA 241, NBCC, and NFCC.

.3 Predemolition Conference: Conduct conference at Project site to comply with requirements in Division 01 Section *Project Management and Coordination*. Review methods and procedures related to selective demolition including, but not limited to, the following:
.1 Inspect and discuss condition of construction to be selectively demolished.
.2 Review structural load limitations of existing structure.
.3 Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
.4 Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
.5 Review areas where existing construction is to remain and requires protection.

1.6 PROJECT CONDITIONS

.1 Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
.1 Comply with requirements specified in Division 01 Section *Summary*.

.2 Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
.1 Before selective demolition, Owner will remove the following items:
.1 Items as selected by the Owner.

.3 Notify Owner's Representative of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

.4 Hazardous Materials: It may be possible hazardous materials could be present in construction to be selectively demolished. A report on the presence of hazardous materials is attached for review and use (If no report is attached, request clarification from Owner's Representative. Examine report to become aware of locations where hazardous materials are present.
.1 Hazardous material remediation is specified elsewhere in the Contract Documents.
.2 Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

.5 Storage or sale of removed items or materials on-site is not permitted.

.6 Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
.1 Maintain fire-protection facilities in service during selective demolition operations.

1.7 WARRANTY

.1 Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Verify that utilities have been disconnected and capped.

.2 Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

.3 Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

.4 When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Owner's Representative.

.5 Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

.6 Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
.1 Comply with requirements specified in Division 01 Section "*Photographic Documentation*."
.2 Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

.7 Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

.1 Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
.1 Comply with requirements for existing services/systems interruptions specified in Division 01 Section *Summary*.

.2 Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
.1 Arrange to shut off indicated utilities with utility companies.
.2 If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
.3 Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
.1 Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.

3.3 PREPARATION

.1 Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  .1 Comply with requirements for access and protection specified in Division 01 Section *Temporary Facilities and Controls*.

.2 Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
  .1 Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
  .2 Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
  .3 Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
  .4 Cover and protect furniture, furnishings, and equipment that have not been removed.
  .5 Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 01 Section *Temporary Facilities and Controls*.

.3 Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
  .1 Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

.1 General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  .1 Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
  .2 Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
  .3 Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  .4 Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
  .5 Maintain adequate ventilation when using cutting torches.
  .6 Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
  .7 Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
  .8 Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  .9 Dispose of demolished items and materials promptly. Comply with requirements in Division 01 Section *Construction Waste Management and Disposal*.

.2 Reuse of Building Elements: Project has been designed to result in end-of-Project rates for reuse of building elements as follows. Do not demolish building elements beyond what is indicated on Drawings without Owner's Representative's approval.

.3 Removed and Salvaged Items:
- .1 Clean salvaged items.
- .2 Pack or crate items after cleaning. Identify contents of containers.
- .3 Store items in a secure area until delivery to Owner.
- .4 Transport items to Owner's storage area designated by Owner.
- .5 Protect items from damage during transport and storage.

.4 Removed and Reinstalled Items:
- .1 Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
- .2 Pack or crate items after cleaning and repairing. Identify contents of containers.
- .3 Protect items from damage during transport and storage.
- .4 Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

.5 Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner's Representative, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

.1 Concrete: Demolish in small sections. Cut concrete to a depth of at least 19 mm at junctures with construction to remain, using power-driven saw. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete indicated for selective demolition. Neatly trim openings to dimensions indicated.

.2 Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.

.3 Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

.4 Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

.5 Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI-WP and its Addendum.
- .1 Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.

.6 Roofing: Remove no more existing roofing than can be covered in one day by new roofing and so that building interior remains watertight and weather tight. Refer to Division 07 for new roofing requirements.
- .1 Remove existing roof membrane, flashings, copings, and roof accessories.
- .2 Remove existing roofing system down to substrate.

.7 Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

.1 General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an approved landfill.
  .1 Do not allow demolished materials to accumulate on-site.
  .2 Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  .3 Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
  .4 Comply with requirements specified in Division 01 Section *Construction Waste Management and Disposal*.

.2 Burning: Do not burn demolished materials.

.3 Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

.1 Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.8 SELECTIVE DEMOLITION SCHEDULE

.1 Existing Construction to Be Removed: <Insert description of items and construction to be removed.>

.2 Existing Items to Be Removed and Salvaged: <Insert description of items to be removed and salvaged.>

.3 Existing Items to Be Removed and Reinstalled: <Insert description of items to be removed and reinstalled.>

.4 Existing Items to Remain: <Insert description of items to remain.>

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Supply all labour, materials, services and equipment necessary to complete the Work of this Section. Work includes, but is not limited to, the following:
  .1 Remove and replace all damaged and/or deteriorated wood framing, blocking, etc. located within the areas of Work with new lumber to match the size and grade of the existing element, as directed by the Owner's Representative.
  .2 Supply, fabricate and install new pressure treated wood blocking around all rough window openings (as detailed on the drawings) to prepare surfaces for new S/A membrane installation.
  .3 Supply and install new pressure treated wood blocking/strapping at all miscellaneous locations as detailed on the Drawings or specified herein.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

.1 Exposed Framing: Framing not concealed by other construction.

.2 Dimension Lumber: Lumber of 38 mm actual or greater but less than 114 mm actual in least dimension.

.3 Lumber grading agencies, and the abbreviations used to reference them, include the following:
  .1 NLGA: National Lumber Grades Authority.

1.4 SUBMITTALS

.1 Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

.2 Sustainability Submittal:
  .1 Provide chain-of-custody certificates certifying that wood products comply with forest certification requirements. Include evidence that manufacturer is certified for chain of custody by an FSC-accredited certification body.

1.5 QUALITY ASSURANCE

.1 Source Limitations for Engineered Wood Products: Obtain each type of engineered wood product through one source from a single manufacturer.

.2 Forest Certification: Provide lumber obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, *FSC Principles and Criteria for Forest Stewardship*.

1.6 DELIVERY, STORAGE, AND HANDLING

.1 Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

.1 Lumber: Lumber: unless specified otherwise, softwood, moisture content 19% (S-dry) or less.
  .1 In accordance with:
    .1 CAN/CSA-O141.
    .2 NLGA Standard Grading Rules for Canadian Lumber.
  .2 Factory mark each piece of lumber with grade stamp of grading agency.
  .3 Framing and board lumber: in accordance with NBC and CAN/CSA-O86, sizing to match existing, or as defined on the drawings.

.2 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.

.3 Pressure treated material to be Alkaline Copper Quaternary (ACQ). Wood preservative for field treatment of end cuts for ACQ treated lumber, as recommended by pressure treated lumber manufacturer

.4 For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

.5 For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.2 DIMENSION LUMBER FRAMING

.1 Maximum Moisture Content: 19 percent.

.2 Non-Load-Bearing Interior Partitions: No. 2 grade and the following species:
  .1 Spruce-pine-fir; NLGA.

.3 Framing Other Than Non-Load-Bearing Interior Partitions: No. 2 grade and the following species:
  .1 Spruce-pine-fir; NLGA.

2.3 MISCELLANEOUS LUMBER

.1 General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  .1 Blocking.
  .2 Nailers.
  .3 Rooftop equipment bases and support curbs.
  .4 Cants.
  .5 Furring.

.2 For items of dimension lumber size, provide Standard grade lumber with 19 percent maximum moisture content and the following species:
  .1 Spruce-pine-fir; NLGA.

.3 For exposed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
.1 Spruce-pine-fir, No. 1 Common grade, NLGA.

.4 For concealed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
.1 Spruce -pine-fir, Standard grade, NLGA.

.5 For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

.6 For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

.7 For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.4 PANEL MATERIALS

.1 Douglas fir plywood (DFP): to CSA O121, sheathing grade, 13mm (1/2"), 16mm (5/8") and 19mm (3/4") thick, as noted on the drawings.

.2 Canadian softwood plywood (CSP): to CSA O151, Sheathing Grade, 13mm (1/2"), 16mm (5/8") and 19mm (3/4") thick, as noted on the drawings.

2.5 FASTENERS

2.6 FASTENERS
.1 Nails: to CSA B111, spiral nails with hot dipped galvanized corrosion resistant coating in accordance with ASTM A653/A653M, G185 designation (coating thickness of 1.85oz/ft2). Length and diameter of nails to suit material being secured.
.2 Wood screws (for fastening of new pressure treated (PT) wood blocking to existing wood substrates or for fastening of new windows into new PT rough window framing): Wood screws,#10, diameter and length to suit material being secured to provide minimum 38mm (1-1/2") embeddment into substrates. Acceptable Product/coating system:
.1 ACQ compatible wood screws with Phillips flat head and DT1700 long life coating as manufactured by Leland Industries.
.2 Stainless steel wood screws (type as noted below).
.3 Masonry/concrete screws (for connection of wood blocking to masonry and/or concrete substrates): Self tapping concrete screws, coated with a corrosion resistant finish that is ACQ compatible. Acceptable product/coating:
.1 1/4" diameter with Phillips flat head complete with Blue Climaseal coating that is compatible with ACQ treated lumber, as manufactured by Tapcon.
.2 Stainless steel self-tapping screws (type as noted below).

2.7 COMPATIBILITY OF FASTENERSWITH ACQ TREATED LUMBER

.1 Fasteners used for ACQ treated wood shall be manufactured from steel either galvanized in accordance with ASTM A653/A653M, G185 designation (coating thickness of 1.85oz/ft2, both sides), or be galvanized after manufacture in accordance with ASTM A123. Alternatively, stainless steel connectors (type 304 or 316) are acceptable.

2.8 WOOD PRESERVATIVE

2.9 Surface-applied wood preservative: clear or copper napthenate or 5% pentachlorophenol solution, water repellent preservative

2.10 MISCELLANEOUS MATERIALS

.1 Sill-Sealer Gaskets: Closed-cell neoprene foam, 6.4 mm thick, selected from manufacturer's standard widths to suit width of sill members indicated.

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 furring for on outside surface of exterior masonry concrete walls.

3.2 INSTALLATION, GENERAL

.1 Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.

.2 Framing Standard: Comply with more stringent of *NBCC 2005 Part 9* and these specifications.

.3 Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

.4 Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.

.5 Do not splice structural members between supports, unless otherwise indicated.

.6 Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

.7 Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Use longest practical lengths.

.8 Comply with manufacturer’s instructions for applying field treatment to cut surfaces of preservative-treated lumber.
.1 Use inorganic boron for items that are continuously protected from liquid water.
.2 Use copper naphthenate for items not continuously protected from liquid water.

.9 Securely attach rough carpentry work to substrate by anchoring and fastening.

.10 Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

.11 For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
.1 Use finishing nails, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.

3.3 ANCHOR BOLT AND SILL PLATE INSTALLATION

.1 Construct sill plates from wood treated with preservative.

.2 Anchor sill plates to concrete and masonry foundation using anchor bolts embedded into foundation.
.1 Insure each individual sill plate segment is secured to concrete and masonry foundations with a minimum of two anchor bolts spaced not more than 1800 mm, within 300 mm of each end, and embedded into the foundation a minimum of 100 mm..
.2 Provide full contact between sill plate and foundation. Fill any voids between the sill plate and concrete and masonry foundations with full bed of non-shrink structural grout.
.3 Grind level any concrete and masonry imperfections preventing the level installation of the sill plate.

.3 Provide continuous sill-sealer gaskets between sill plates and concrete and masonry construction.

3.4 WOOD SLEEPER, BLOCKING, AND NAILER INSTALLATION

.1 Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

.2 Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

3.5 WOOD FURRING INSTALLATION

.1 Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.

3.6 WALL AND PARTITION FRAMING INSTALLATION

.1 General: Provide single bottom plate and double top plates using members of 38 mm actual thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction, unless otherwise indicated.
.1 For exterior walls, provide 38-by-140 mm actual size wood studs spaced 610 mm o.c., unless otherwise indicated.
.2 For interior partitions and walls, provide 38-by-89 mm actual size wood studs spaced 406 mm o.c., unless otherwise indicated.
.3 Provide continuous horizontal blocking at mid-height of partitions, using members of 38 mm actual thickness and of same width as wall or partitions.

.2 Construct corners and intersections with three or more studs.

.3 Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.

.1 For non-load-bearing partitions, provide double-jamb studs and headers not less than 89 mm actual depth for openings 1200 mm and less in width, 140 mm actual depth for openings 1200 to 1800 mm in width, 184 mm actual depth for openings 1800 to 3000 mm in width, and not less than 235 mm actual depth for openings 3 to 3.6 m in width.

.2 For load-bearing walls, provide double-jamb studs for openings 1500 mm and less in width, and triple-jamb studs for wider openings. Provide headers of depth indicated or, if not indicated, according to NBCC 2005 Part 9.

.4 Provide diagonal bracing in exterior walls, at both walls of each external corner and walls, at locations indicated, at 45-degree angle, full-story height, unless otherwise indicated. Use 19-by-89 mm actual- size boards, let-in flush with faces of studs.

3.7 PROTECTION

.1 Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply borate treatment. Apply borate solution by spraying

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Supply all labour, materials, services and equipment necessary to complete the Work of this Section. Work includes, but is not limited to, the following:
  .1 Remove and replace all damaged and/or deteriorated exterior sheathing as per Appendix C2 – Unit Rates and as directed by the Owner's Representative.

1.2 SUBMITTALS

.1 Product Data: For building wrap, flexible flashings, and joint-and-penetration treatment. Include manufacturer's installation instructions.

.2 Sustainability Submittals:
  .1 For adhesives, including printed statement of VOC content.
  .2 For composite-wood products, documentation indicating that product contains no urea formaldehyde.
  .3 Chain-of-custody certificates certifying that products specified to be made from certified wood comply with forest certification requirements. Include evidence that manufacturer is certified for chain of custody by an FSC-accredited certification body.

1.3 QUALITY ASSURANCE

.1 Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance by a testing and inspecting agency acceptable to authorities having jurisdiction.

.2 Source Limitations: Obtain building wrap and flexible flashing material from single source.

1.4 DELIVERY, STORAGE, AND HANDLING

.1 Stack plywood and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WALL SHEATHING

.1 Glass-Mat Gypsum Wall Sheathing: ASTM C 1177/1177M.
  .1 Locations: Over steel stud framing and where specifically indicated on drawings.

2.2 FASTENERS

.1 General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  .1 For roof and wall sheathing and wood treated with preservative, provide fasteners with hot-dip zinc coating complying with A CAN/CSA-G164 or Type 304 stainless steel.

.2 Nails, Brads, and Staples: to CSA B111.

.3 Power-Driven Fasteners: NES NER-272.

.4 Wood Screws: ASME B18.6.1.

.5 Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
.1 For wall and roof sheathing panels, provide screws with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.

.6 Screws for Fastening Gypsum Sheathing to Cold-Formed Metal Framing: Steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing board to be attached, with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.
.1 For steel framing from 0.84 to 2.84 mm thick, attach sheathing to comply with ASTM C 954.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

.1 Comply with requirements of NBC 1995 Part 9 supplemented by following paragraphs.

.2 Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

.3 Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction, unless otherwise indicated.

.4 Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.

.5 Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

.6 Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

.7 Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 GYPSUM SHEATHING INSTALLATION

.1 Comply with GA-253 and with manufacturer's written instructions.
.1 Fasten gypsum sheathing to wood framing with screws.
.2 Fasten gypsum sheathing to cold-formed metal framing with screws.
.3 Install boards with a 9.5-mm gap where non-load-bearing construction abuts structural elements.
.4 Install boards with a 6.4-mm gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.

.2 Apply fasteners so heads bear tightly against face of sheathing boards but do not cut into facing.

.3 Horizontal Installation: Install sheathing with V-grooved edge down and tongue edge up. Interlock tongue with groove to bring long edges in contact with edges of adjacent boards without forcing. Abut ends of boards over

centers of studs, and stagger end joints of adjacent boards not less than one stud spacing. Attach boards at perimeter and within field of board to each steel stud.

.1 Space fasteners approximately 200 mm o.c. and set back a minimum of 9.5 mm from edges and ends of boards.

.2 For sheathing under stucco cladding, boards may be initially tacked in place with screws if overlying self-furring metal lath is screw-attached through sheathing to studs immediately after sheathing is installed.

.4 Vertical Installation: Install board vertical edges centered over studs. Abut ends and edges of each board with those of adjacent boards. Attach boards at perimeter and within field of board to each stud.

.1 Space fasteners approximately 200 mm o.c. and set back a minimum of 9.5 mm from edges and ends of boards.

.2 For sheathing under stucco cladding, boards may be initially tacked in place with screws if overlying self-furring metal lath is screw-attached through sheathing to studs immediately after sheathing is installed.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Supply all labour, materials, services and equipment necessary to complete the Work of this Section. Work includes, but is not limited to, the following:
  .1 Supply and install new wood trims at all interior window locations, as indicated on the Drawings.
  .2 Apply a paintable interior sealant at the perimeter of all new window systems and all joints in the new interior trim in accordance with Section 09 92 00.
  .3 Prime and pain two finish coats of paint to all interior millwork and finished carpentry work following installation, in accordance with Section 09 91 23.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

.1 Lumber grading agencies, and the abbreviations used to reference them, include the following:
  .1 NHLA: National Hardwood Lumber Association.
  .2 NLGA: National Lumber Grades Authority.

1.4 SUBMITTALS

.1 Product Data: indicate materials, thicknesses and finishes for each product.

1.5 QUALITY ASSURANCE

.1 Lumber by grade stamp of agency certified by Canadian Lumber Standards Accreditation Board (CLSAB).

.2 Plywood to CSA and ANSI standards.

1.6 MOCK-UP

.1 Complete a mock-up of the following components (as described below) for review and acceptance by the Owner's Representative prior to proceeding with the remaining work:
  .1 Perform a mock-up demonstrating the finished carpentry and millwork showing installation of new wood trim.

.2 Do not proceed with any other interior finish work until the mock-up has been reviewed and accepted by the Owner's Representative.

.3 Approved mock-up will form the minimum standard of acceptance that which all other work will evaluated.

1.7 DELIVERY, STORAGE, AND HANDLING

.1 Protect materials against weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation within and around stacks and under temporary coverings.

.2 Deliver interior finish carpentry materials only when environmental conditions meet requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.8 PROJECT CONDITIONS

.1 Environmental Limitations
.1 Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

.2 Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
.1 Indications that materials are wet or moisture damaged include, but are not limited to, discolouration, sagging, or irregular shape.
.2 Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discolouration.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 General
.1 Provide materials that comply with requirements of AWMAC's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.

.2 Hardwood Lumber Trim for Transparent Finish (Stain or Clear Finish)
.1 Species
.1 Refer to drawings.
.2 If drawings do not indicate species, provide maple.
.2 Forestry Stewardship Council (FSC) certified.
.3 Maximum Moisture Content: 13 percent.
.4 Finger Jointing: Not allowed.
.5 Gluing for Width: Allowed.
.6 Veneered Material: Allowed.
.7 Face Surface: Surfaced (smooth).
.8 Matching: Selected for compatible grain and colour.

.3 Lumber Trim for Opaque Finish (Painted)
.1 Species
.1 Refer to drawings.
.2 If drawings do not indicate species, provide any closed grain hardwood.
.2 Forestry Stewardship Council (FSC) certified.
.3 Maximum Moisture Content: 13 percent.
.4 Finger Jointing: Allowed.
.5 Face Surface: Surfaced (smooth).

.4 Furring, Blocking, Shims, and Hanging Strips
.1 Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.

.5 Anchors

.1 Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

.6 Adhesives, General
- .1 Do not use adhesives that contain urea formaldehyde.
- .2 VOC Limits for Installation Adhesives and Glues
  - .1 Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
    - .1 Wood Glues: 30 g/L.
    - .2 Contact Adhesive: 250 g/L.

2.2 FABRICATION, GENERAL

.1 Interior Finish Carpentry Grade: Unless otherwise indicated, provide AWMAC Custom-grade.

.2 Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.

.3 Back out or kerf backs of the following members except those with ends exposed in finished work:
- .1 Interior standing and running trim except shoe and crown mouldings.
- .2 Interior wood door frames.

2.3 STANDING AND RUNNING TRIM

.1 Wood Species
- .1 Refer to drawings for wood species.
- .2 If drawings do not indicate wood species, provide maple for transparent finish.

.2 Sizes and Profiles
- .1 Refer to drawings.

2.4 INTERIOR WOOD FRAMES AND JAMBS

.1 Wood Species
- .1 Refer to drawings for wood species.
- .2 If drawings do not indicate wood species, provide maple for transparent finish.

.2 For frames or jambs wider than available lumber, use veneered construction. Do not glue for width.

.3 Profiles
- .1 Refer to drawings.
- .2 If drawings do not describe interior frames and jambs, provide 19 mm thick frames and jambs, 38 mm wide mullions, and 9.5 x 38 mm applied wood stops and glazing beads.

2.5 MISCELLANEOUS MATERIALS

.1 Fasteners for Interior Finish Carpentry
- .1 Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.

.2 Glue
.1 Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
.2 Use wood glue that has a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

.3 Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.
.1 Use adhesive that has a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

.2 Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

.3 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

.1 Clean substrates of projections and substances detrimental to application.

.2 Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours.

3.3 INSTALLATION, GENERAL

.1 Grade
.1 Install interior finish carpentry to comply with requirements for AWMAC Custom grade.

.2 Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.

.3 Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
.1 Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
.2 Countersink fasteners, fill surface flush, and sand where face fastening is unavoidable.
.3 Install to tolerance of 3 mm in 2438 mm for level and plumb. Install adjoining interior finish carpentry with 0.8-mm maximum offset for flush installation and 1.5-mm maximum offset for reveal installation.
.4 Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

.4 Preparation for Finishing
.1 Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for interior finish carpentry.

3.4 STANDING AND RUNNING TRIM INSTALLATION

.1 Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 610 mm long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.
   .1 Match colour and grain pattern of trim for transparent finish (stain or clear finish) across joints.
   .2 Install trim after gypsum board joint finishing operations are completed.
   .3 Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.

3.5 INTERIOR WOOD FRAMES AND JAMBS

.1 Install wood frames and jambs in accordance with the referenced quality standard.

3.6 ADJUSTING

.1 Replace interior finish carpentry that is damaged or does not comply with requirements. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.7 CLEANING

.1 Clean interior finish carpentry on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.8 PROTECTION

.1 Protect installed products from damage from weather and other causes during remainder of the construction period.

.2 Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
   .1 Indications that materials are wet or moisture damaged include, but are not limited to, discolouration, sagging, or irregular shape.
   .2 Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discolouration.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Provide labour, materials, services and equipment necessary to complete the work of this section. Work includes, but is not limited to the following:
  .1 Install new self-adhering sub-sill membrane around all window openings / transitions, as detailed on the drawings.
  .2 Install a new self-adhering membrane at all other locations shown on the drawings.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCES

.1 Sealant and Waterproofer's Institute – Sealant and Caulking Guide Specification.
  .1 Canadian General Standards Board (CGSB)
    .1 CAN/CGSB-19.24-M90 Sealing Compound, Multi-component, Chemical Curing.
    .2 CAN/CGSB-37.29-M89, Rubber-Asphalt Sealing Compound.
  .2 Canadian Roofing Contractor's Association (CRCA)
    .1 CRCA Specification

1.4 INFORMATION SUBMITTALS

.1 Submit manufacturer's product data sheets.

.2 Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

.1 Perform work in accordance with Sealant and Waterproofer's Institute – Sealant and Caulking Guide Assurance program and requirements for materials and installation.

.2 Perform Work in accordance with National Air Barrier Association – Professional Contractor Quality Assurance program and requirements for materials and installation.

1.6 MOCK-UPS

.1 Construct mock-up in accordance with Section 01 45 00 – Quality Control.

  .1 Perform a mock-up demonstrating the self-adhering membrane installation at all locations designated by the Owner's Representative for review and acceptance, prior to proceeding with the remaining work.

  .2 Allow 48 hours for inspection of mock-up by Owner's Representative before proceeding with remaining work.

  .3 Complete the mock-up to the satisfaction of the Owner's Representative. Make good, repair or redo any components of the work not meeting the standard of quality or design requirements as outline in the contact documents.

.4 When approved, Mock-up may remain and will become part of finished work.

.5 Mock-up will form the basis for the minimum standard of acceptance for all future work.

1.7 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with manufacturer's written instructions. Deliver membrane materials in factory wrapped packaging indicating name of manufacturer and product.

.2 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Labour Canada.

.3 Avoid spillage. Immediately notify Owner's Representative if spillage occurs and start clean up procedures.

.4 Clean spills and leave area as it was prior to spill.

.5 Store roll materials on end in original packaging.

.6 Store primers at temperature of 5° C and above to facilitate handling. Keep solvent away from open flame and excessive heat.

1.8 PROJECT CONDITIONS

.1 Do not install solvent curing sealants or vapour release adhesive materials in enclosed spaces without ventilation.

.2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

.3 No work to be carried out under conditions of rain or snow.

.4 Install membrane on dry substrates, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into membrane system.

.5 If water penetrates through the exterior wall assembly into the building and causes damage as a result of the contractor providing inadequate protection, the contractor will be required to cut and remove all damaged materials, allow for inspection of damages by the consultant, and replace all materials with new materials of equal or better quality at no additional cost to the owner.

1.9 SEQUENCING

.1 Sequence work to permit installation of materials in conjunction with related materials and seals.

1.10 WARRANTY

.1 Special Warranty: Manufacturer's warranty in which manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.

.1 Failures include, but are not limited to, the following:

.1 Failure of membrane products to achieve air tightness and watertight seal, exhibit loss of adhesion or cohesion, or membranes, sealants, or mastics do not cure as required.

.2 Warranty Period: 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 ten (10) years respectively.

PART 2 - PRODUCTS

.1 SELF ADHERING MEMBRANES

.1 Self-Adhering (S/A) Bituminous Membrane (for use around all rough window openings, transitional membrane and at all other locations as detailed on the drawings): Rubberized asphalt bonded to a film of high density cross laminated polyethylene film with the following minimum performance properties:
- .1 Minimum total membrane thickness 1.0mm (40mils).
- .2 Service Temperature: -040 º C to 70 º C
- .3 Elongation (membrane) to ASTM D412: 200% (min)
- .4 Tensile Strength (membrane) to ASTM D412: 3.4 Mpa (min).
- .5 Puncture Resistance (membrane) to ASTM E154: 200 N/m (min)
- .6 Acceptable Materials:
  - .1 Sopraseal Stick 1100, as manufactured by Soprema.
  - .2 Blueskin SA, as manufactured by Henry Bakor.
  - .3 An approved alternate.

.6 Contractor will substitute above materials, at no additional cost to Owner, for low temperature grade product to suit environmental conditions at time of application.

.2 ACCESSORIES
- .1 Primer: as required and recommended by membrane manufacturer.
- .2 Mastic or rubberized asphalt caulking compound (for use at joints in S/A membrane, as recommended by the membrane manufacturer or approved by the consultant): Polymer modified sealing compound, high solids, rubber asphalt sealant to CAN/CGSB-37.29-M89. Acceptable materials:
  - .1 Sopramastic, as manufactured by Soprema
  - .2 Polybitume 570-05, Polymer Modified Sealing Compound, as manufactured by Bakor
  - .3 Approved Alternate.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Verify that surfaces and conditions are ready to accept the work of this section.

.2 Ensure all surfaces are clean, dry, sound, smooth, continuous and comply with membrane manufacturer's requirements.

.3 Verify that surfaces and conditions are ready to accept the Work of this section. Notify Owner's Representative in writing of any discrepancies. Commencement of the Work or any parts thereof shall mean acceptance of the prepared substrate.

.4 Do not start work until deficiencies have been corrected.

3.2 PREPARATION

.1 Remove loose or foreign matter that might impair adhesion of materials.

.2 Ensure all substrates are clean of oil or excess dust; all masonry joints struck flush, and open joints filled; and all concrete surfaces free of large voids, spalled areas or sharp protrusions.

.3 Ensure all substrates are free of surface moisture prior to application of membrane and primer.

.4 Ensure metal closures are free of sharp edges and burrs.

.5 Prime substrate surfaces to receive adhesive and sealants in accordance with manufacturer's instructions.

3.3 INSTALLATION

.1 Prepare surfaces and install S/A membrane in strict accordance with the membrane manufacturer's installation instructions or as specified otherwise herein.

.2 All surfaces to receive membrane must be clean, dry, sound, smooth and continuous. Ensure no gaps or cracks exist in the substrate greater than 6mm (1/4") on the area to receive the membrane. If gaps or cracks greater than 6mm (1/4") are present between the substrate material, install 0.55mm thick (26ga.) galvanized steel back-up material (transition flashing) to support membrane across all gaps/cracks. Form all galvanized flashings to follow substrate profile.

.3 Over the properly prepared substrate surface apply primer with a roller and allow drying to a tacky surface. Apply primer for self-adhering membrane at rate recommended by manufacturer. Prime only area to be covered in a working day. Re-prime area not covered with membrane within 24 hours.

.4 After primer has dried, using a hand roller firmly press the entire membrane onto the primed surface in strict accordance with membrane manufacturer’s written instructions.

.5 Ensure complete coverage of and adhesion of all substrates to receive membrane, including wall penetrations. Co-operate with other trades to ensure continuity of the membrane. Apply transition membrane to surfaces indicated on drawings and as required by site conditions

.6 Overlap membrane 50 mm minimum for all end and side laps, and 150 mm on vertical laps. Carefully smooth out with a roller to ensure full continuous bond throughout overlaps without fissures or fishmouthing. All membrane must be installed in an overlapping shingle fashion to shed water (i.e. upper sheet must overlap the lower sheet and adjacent membranes/flashing).

.7 It is important that a complete water seal be achieved. Be responsible for the completeness of the membrane wherever it is not specifically detailed. Consult with Owner’s Representative if there is any doubt as to the integrity of the membrane, whether detailed or not.

.8 In order to ensure a complete seal, seal around all penetrations with an approved sealant.

.9 Seal membrane where it meets the substrate using trowel or caulking grade sealant, as approved by the Owner’s Representative. Feather edge to seal termination and shed water.

.10 All termination seals must be completed at end of each working day.

.11 Do not enclose membrane until it has been inspected and approved by Owner’s Representative. Inform Owner’s Representative 48 hours prior to required inspection.

3.4 PROTECTION OF WORK

.1 Protect all membrane from damage (prior to or following installation). Remove and repair any areas of damaged membrane as recommended by the Owner’s Representative.

.2 Membranes are not designed for permanent exposure. Ensure work enclosed in timely fashion as recommended by manufacturer.

.3 Replace all self-adhering membrane that has been exposed for a prolonged period of time, as recommended by the manufacturer.

.4 Ensure no self-adhering membrane is left exposed following installation of metal flashings. Trim and remove all exposed membrane. Clean/remove any exposed primer or bitumen residue to the satisfaction of the consultant.

.5 Protect all S/A membrane during installation of new curtain wall systems. Remove and replace any membrane damaged as a result of the window installation work.

3.5 FIELD QUALITY CONTROL

.1 Notify Owner's Representative when sections of work are complete to allow for review prior to enclosing/covering membrane. Do not cover completed work until reviewed by the Owner's Representative.

.2 Repair all deficient membrane areas in accordance with manufacturer’s recommendations.

.3 Misaligned or inadequately lapped seams, punctures or other damage must be repaired with a patch of membrane extending 50 mm in all directions from edge of damaged areas.

.4 Cover membrane immediately after Owner’s Representative’s inspection to protect from damage by other trades.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Provide labour, materials, services and equipment necessary to complete the work of this section. Work includes, but is not limited to the following:
  .1 Installation of spray-in-place urethane foam insulation into the cavity between all window frames and the adjacent building elements, as shown on the drawings.
  .2 Installation of spray-in-place foam insulation in all other locations as shown on the drawings.

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-S710.1, Standard for Thermal Insulation - Bead Applied One-Component Polyurethane Air Sealant Foam, Part 1: Material Specification.
  .4 CAN/ULC-S710.2, Standard for Thermal Insulation - Bead Applied One-Component Polyurethane Air Sealant Foam, Part 2: Application

.3 American Society for Testing and Materials (ASTM)

  .1 ASTM C518-10, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
  .2 ASTM C1620-12, Standard Specification for Aerosol Polyurethane and Aerosol Latex Foam Sealants

.4 Canadian General Standards Board (CGSB)

  .1 CAN/CGSB-51.23-92, Spray-Applied Rigid Polyurethane Cellular Plastic Thermal Insulation.
  .2 CAN/CGSB-51.39-92, Spray Application of Rigid Polyurethane Cellular Plastic Thermal Insulation for Building Construction.
  .3 CAN/CGSB-51-GP-46MP-80, Manual for: Installers of Spray Urethane Foam Thermal Insulation.

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 SAFETY REQUIREMENTS

.1 Protect workers in accordance with the spray-in-place urethane foam manufacturer's recommendations:
  .1 Workers must wear gloves, respirators, dust masks, eye protection, protective clothing when applying foam sealant.

1.5 PROTECTION

.1 Protect adjacent surfaces and equipment from damage by overspray, fall-out, and dusting of insulation materials.

.2 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.

1.6 ENVIRONMENTAL REQUIREMENTS

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

1.7 MOCK-UP

.1 Construct a mock-up of spray-in-place urethane foam insulation surrounding the entire perimeter of one complete window installation. Allow for review by the consultant.

.2 Do not proceed with any other work until the mock-up has been reviewed and accepted by the Owner's Representative.

.3 Complete the mock-up to the satisfaction of the Owner's Representative.

.4 Mock-up will be in-situ and will become part of finished work after approval.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Spray-in-place urethane foam insulation for use around curtain wall / rough opening perimeters.
  .1 Single component, low expansion, polyurethane foam to CAN/CGSB-51.23 and ASTM C 1620. Minimum performance requirements as follows:
    .1 Thermal Resistance (R-Value) per inch to ASTM C518, at 75°F mean temperature (°F x ft2 x h/btu), minimum R-value 4.27 (per inch), or greater.
    .2 Minimum Density: 1.5 lbs/ft3.
    .3 Acceptable material:
      .1 Hilti CF 812 Window and Door Pro, as manufactured Hilti.
      .2 An approved alternate.
  .2 Primers: in accordance with manufacturer's recommendations for surface conditions.
  .3 Contractor will substitute above materials, at no additional cost to Owner, for low temperature grade product to suit environmental conditions at time of application.
    .1 Or equivalent.
  .2 Colour: As selected by Owner's Representative from full range of industry colours if not specifically indicated in *Exterior Finishes Legend*.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Examine substrates and immediately inform Consultant in writing of any defects and/or conditions that will affect the installation or performance of the low expanding foam.

.2 Prior to commencement of work ensure:

.1 Substrates are firm, straight, smooth, dry, free of snow, ice or frost, and clean of dust and debris.
.2 Apply insulation only when surfaces and ambient temperatures are within manufacturers' prescribed limits.

3.2 APPLICATION

.1 Apply foam sealant to clean surfaces in accordance with CAN/CGSB-51.39 and the manufacturer's printed instructions. Surfaces to be free of dust, dirt, oil and other foreign materials. Use primer where recommended by manufacturer.

.2 Cover surfaces not intended to be foamed, as directed on-site by the consultant.

.3 Apply sprayed foam insulation as specified to fill the shim space cavity completely, making an air tight seal between the window framing system and adjacent wall components. Ensure insulation fills cavity to maintain continuity of thermal and air barrier connection to building elements and spaces.

.4 As a minimum, install foam to provide a continuous thermal insulation from the interior portion of the aluminum frame extending beyond the exterior portion of the thermal break. The entire thermal break must be protected from exterior conditions.

.5 Allow insulation to fully expand before enclosing shim space. Avoid over spraying. Trim any overspray with sharp knife so foam is flush with window frame. Do not damage window frame or surround finishes.

.6 When foaming the sill cavity of windows, foam shall extend from the interior portion of the frame to the exterior surface of the thermal break. Do not foam the area from the exterior of the frame to the thermal break (if possible) to allow for drainage.

.7 Perform touch-ups following the installation of the low expanding foam to repair any voids or discontinuities in the foam installation and to touch up any areas where the exterior portion of the thermal break is not protected from exterior conditions (note touch-ups may also be required from the exterior to ensure continuity of thermal insulation is maintained).

.8 Spray-in-place urethane foam is not intended for permanent exposure, cover all exposed urethane foam sealants to protect from adverse affects from ultraviolet light (sunlight)

3.3 CLEANING

.1 Clean and remove all foam residue from window frames, glass, interior trim, exterior cladding, etc., to the satisfaction of the consultant. Low expanding foam that can not be adequately cleaned from the stained substrate will require replacement at no additional cost to the owner.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Provide labour, materials, services and equipment necessary to complete the work of this section. Work includes, but is not limited to the following:
  .1 Fabricate and install new prefinished aluminum flashing at head, jamb and sill of all new window locations, as detailed on the drawings.
  .2 Fabricate and install new prefinished aluminum transition and closure flashings at all new existing inside and outside corner locations, as detailed on the drawings.
  .3 Perform all other flashing related work as detailed on the drawings or specified herein.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCES

.1 The Aluminum Association Inc. (AA)
  .1 Aluminum Sheet Metal Work in Building Construction.
  .2 AA DAF45, Designation System for Aluminum Finishes.

.2 American Society for Testing and Materials (ASTM International)
  .1 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  .2 ASTM A792/A792M, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
  .3 ASTM D523, Standard Test Method for Specular Gloss.
  .4 ASTM D5796, Standard Test Method for Measurement of Dry Film Thickness of Thin Film Coil-Coated Systems by Destructive Means Using a Boring Device
  .5 ASTM D822, Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.

.3 Canadian General Standards Board (CGBS)
  .1 CAN/CGSB-93.1-M85, Sheet, Aluminium Alloy, Prefinished, Residential.
  .2 CAN/CGSB-93.4-92, Galvanized Steel and Aluminum-Zinc Alloy Coated Steel Siding Soffits and Fascia, Prefinished, Residential.
  .3 CAN/CGSB 1.181-99, Ready-Mixed Organic Zinc-Rich Coating.

.4 American Architectural Manufacturers Association (AAMA)
  .1 AAMA 2605-05, Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
  .2 AAMA 620-02, Voluntary Specification for High Performance Organic Coatings on Coil Coated Architectural Aluminum Substrates.

.5 American National Standards Institute (ANSI)
  .1 ANSI B18.6.4-1981 (R1991), Screws, Tapping and Metallic Drive, Inch Series, Thread Forming and Cutting.
  .2 Copper in Architecture Handbook (1998), Copper Development Association (CDA) and Canadian Copper & Brass Development Association (CCBDA).

.6 Canadian Roofing Contractors Association (CRCA)
.1 Roofing Specifications Manual.

.7 Canadian Standards Association (CSA International)
.1 CSA B111, Wire Nails, Spikes and Staples.

1.4 PERFORMANCE REQUIREMENTS

.1 General: Sheet metal flashing and trim assemblies as indicated shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

.2 Thermal Movements: Provide sheet metal flashing and trim that allows for thermal movements from ambient and surface temperature changes.
.1 Temperature Change (Range): 67 deg C, ambient; 100 deg C, material surfaces.

1.5 SUBMITTALS

.1 Submit manufacturer's printed product literature for sheet metal flashing systems materials, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit samples for all sheet metal flashing materials proposed for use on this project, as follows:
.1 Submit duplicate, 150 x 150 mm sample(s) of each type of sheet metal material specified (in a range of manufacturer's standard colours to demonstrate colour match of new flashing material to new adjacent curtain wall system, for review and final selection by the owner. Colour match shall be demonstrated and approved by owner prior to undertaking work.
.2 Allow for one re-submission of each colour should adjustment to proposed colour be required by the owner.
.3 Sample(s) to include reference to manufacturer's colour code, colour name and base metal flashing thickness.

1.6 QUALITY ASSURANCE

.1 Fabricator Qualifications: Shop that employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

.2 Sheet Metal Flashing and Trim Standard: Comply with SMACNA's *Architectural Sheet Metal Manual* unless more stringent requirements are specified or shown on Drawings.

.3 Mock-ups: Build mock-ups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
.1 Construct mock-up of each type of sheet metal flashing and trim, including supporting construction cleats, seams, attachments, underlying membrane flashing, and accessories. Mock-up may be part of finished work
.2 Allow 48 hours for inspection of mock-up by Owner’s Representative.
.3 Approval of mock-ups does not constitute approval of deviations from the Contract Documents contained in mock-ups unless Owner’s Representative specifically approves such deviations in writing.
.4 Mock-up will be used to judge workmanship, substrate preparation, and material application
.5 Approved mock-ups may become part of the completed Work if undisturbed at time of Substantial Completion.
.6 When accepted, mock-up will demonstrate minimum standard of quality required for this work.

1.7 DELIVERY, STORAGE, AND HANDLING

.1 Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

.2 Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to the extent necessary for the period of sheet metal flashing and trim installation.

PART 2 - PRODUCTS

2.1 PREFINISHED ALUMINUM SHEET

.1 Prefinished aluminum sheets for fabrication into new metal flashing components. Thickness of aluminum flashing varies dependent on required use, minimum flashing thickness as follows (note: thickness specified applies to base metal material only):
  .1 All exterior perimeter window flashings (as indicated on the drawings) includes; drip flashings, sill flashings, jamb extension flashings, end dams, closure flashings, and associated cleats: 0.82mm (0.032") thick.
  .2 Finish: factory applied coating to AAMA 2605 and CAN/CGSB-93.1 supplemented and amended as follows:
    .1 Exterior Finish: Three coat, factory applied fluoropolymer coating system for extruded aluminum and aluminum sheet, meeting the requirements of AAMA 2605.
      .1 Acceptable Coating System: Duranar XL Coating (3-coat), as manufactured by PPG.
      .2 An approved alternate.
    .2 Colour: Colour to match new aluminum window systems, and as approved by Owner.
    .3 Specular gloss: 30 units +/- in accordance with ASTM D 523.
    .4 Coating thickness:
      .1 Duranar finish shall have a minimum dry film thickness of 1.2 mil (2 coats) to ASTM D1400.
    .5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20% to ASTM D 822 as follows:
      .1 Outdoor exposure period 2500 hours.
      .2 Humidity resistance exposure period 5000 hours.
    .6 Requirements for application of new Duranar coating system:
      .1 For base metal flashing thickness of 0.82mm (0.032") thick or less, the fluoropolymer coating can be applied to flat stock sheet material prior to fabrication/bending into the required flashing profiles. Provided it can be demonstrated that the crazing of the finishes will not occur during break forming.
      .2 For base metal flashing thickness greater than 0.82mm (0.032") thick the flashing/panel components are to be fabricated into the required profiles prior to the application of the fluoropolymer coating system.

2.2 PREFINISHED STEEL SHEET

.1 General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.

.2 Prefinished sheet with a factory applied fluoropolymer 2-coat coating system, comprised of a corrosion inhibiting primer and a colour coat utilizing the polyvinylidene fluoride (PVDF) resins, supplemented as follows:
  .1 Base sheet steel material: Apply polyvinylidene fluoride (PVDF) coating overtop of steel sheet containing the following coatings (note: base metal thickness as specified below):

.1 55% Aluminum-zinc (Galvalume) alloy coated sheet steel conforming to the requirements of ASTM A792/A792M, commercial quality, with a minimum coating weight of AZM150 150g/m2, minimum triple spot
.2 Grade: 33

.2 Class F1S

.3 Colour as selected by Owner's Representative from manufacturer's standard range to match existing/adjacent metal flashing.

.4 Specular gloss: 30 units +/- 5 in accordance with ASTM D523.

.5 Film thickness: Dry film thickness of 25um +/- 5um (1.0mils +/- 0.1mils) in accordance with ASTM D5796

.6 Resistance to accelerated weathering for caulk rating of 8, colour fade 5 units or less and erosion rate less than 20 % to ASTM D822 as follows:
.1 Outdoor exposure period 2500 hours.
.2 Humidity resistance exposure period 5000 hours.

.3 Base metal flashing thickness for use on this project is as follows:
.1 Metal parapet flashings: 0.61mm (0.024") thick
.2 Counterflashings and throughwall flashings: 0.46mm (0.018") thick

.4 Acceptable coating system:
.1 10,000 Series Finish, as manufactured by ArcelorMittal Dofasco Inc.

2.3 GALVANIZED METAL FLASHING

.1 Zinc coated (hot-dipped galvanized) steel sheet (for use as transition flashing to support new S/A membrane installation as identified on the drawings): Continuous zinc coated steel sheet, commercial quality, conforming to ASTM A 653/A653M, supplemented as follows:
.1 Minimum zinc coating weight: Z275-275 g/m2 thick, minimum triple spot.
.2 Base metal thickness: 0.55mm (0.022") thick, profile as shown on the drawings

2.4 UNDERLAYMENT MATERIALS

.1 Self-Adhering, High-Temperature Sheet: Minimum 0.76 to 1.0 mm thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
.1 Thermal Stability: ASTM D 1970; stable after testing at 116 deg C.
.2 Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 29 deg C.

.2 Slip Sheet: Building paper, 0.16-kg/sq. m minimum, rosin sized.

2.5 MISCELLANEOUS MATERIALS

.1 General: Provide materials and types of fasteners, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal unless otherwise indicated.

.2 Isolation coating: alkali resistant bituminous paint.

.3 Plastic cement: to CAN/CGSB 37.5.

.4 Sealants: Refer to Section 07 92 00 – Joint Sealants.

.5 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide or as indicated otherwise on the drawings. Thickness same as sheet metal being secured.

.6 Fasteners (all new flashing components): to CAN/CSA B111 and as described below:
- .1 Exposed Fasteners: ACQ compatible, self-tapping sheet metal screws, complete with neoprene washers. Colour to match metal flashing being secured and of sufficient length to secure metal flashing to substrate (provide 1-1/2" minimum embeddment into substrate).
- .2 Hidden fasteners: galvanized, ring threaded nails of length and thickness suitable for metal flashing application.
- .3 Fasteners used for ACQ treated wood shall be manufactured from steel either galvanized in accordance with ASTM A653/A653M, G185 designation (coating thickness of 1.85oz/ft2, both sides), or be galvanized after manufacture in accordance with ASTM A123. Alternatively, the contractor may be permitted to use self-tapping stainless steel sheet metal screws (type 304 or 316) for use in ACQ treated lumber.
- .4 Fasteners (for attachment of galvanized flashing into concrete or concrete block walls): Self tapping concrete screws, coated with a corrosion resistant finish compatible with galvanized sheet metal material. Acceptable product/coating:
  - .1 5mm (3/16") diameter with Phillips flat head and blue stalgard coating, as manufactured by Tapcon.
  - .2 5mm (3/16") diameter, stainless steel self-tapping concrete screws, as manufactured by Tapcon.
  - .3 Approved alternate.

.7 Washers: of same material as sheet metal, 1 mm thick with rubber packings.

.8 Touch-up paint: as recommended by prefinished material manufacturer.

.9 Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 13 mm wide and 3 mm thick.

.10 Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

.11 Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

.12 Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.6 FABRICATION, GENERAL

.1 General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's *Architectural Sheet Metal Manual* that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.
- .1 Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
- .2 Obtain field measurements for accurate fit before shop fabrication.
- .3 Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
- .4 Conceal fasteners and expansion provisions where possible.
- .5 Form pieces in 2400 mm maximum lengths. Make allowance for expansion at joints.
- .6 Hem exposed edges on underside 12 mm. Mitre and seal corners with sealant.

.2 Fabricate non-moving seams in metal flashing, as follows:

.1 Fabricate all non-moving seams with either a "flat lock seam", or "flat lock cleated seams" or "single common lock" or "hook seams" as defined in the Copper Development Association handbook (see typical flashing details included in Figures 1 & 3, below).

.2 Fabricate all joints in exposed flashings with standard "S" pocket seams (applicable only to flashings where the above noted locking seams cannot be performed), see typical flashing details included in Figure 1, below.

.3 Fabricate expansion joints in metal flashing, as follows:

.1 Fabricate all dynamically moving expansion seams using either a "slip expansion seam" or "loose lock with sealant", as defined in the Copper Development Association handbook (see typical flashing details included in Figure 2, below).

.4 Separation of dissimilar metals/materials to prevent galvanic corrosion:

.1 Apply isolation coating to all metal surfaces to be embedded in concrete or mortar.

.2 Provide separation of metal from non-compatible metal or corrosive substrates by coating all concealed surfaces at locations of contact, with bituminous coating or other permanent separation (such as a S/A membrane), as approved by the Owner's Representative.

.5 No exposed or visible flashing work shall be unfinished (i.e. visible undersides, joints, etc...).

.6 Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

.7 Fabricate cleats and attachment devices of sizes as recommended by SMACNA's *Architectural Sheet Metal Manual* and by FM Gloabal Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.

.8 Do not use graphite pencils to mark metal surfaces.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, Storage and installation instructions, and datasheets.

3.2 EXAMINATION

.1 Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of the Work.

.1 Verify compliance with requirements for installation tolerances of substrates.

.2 Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

.2 For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

.3 Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION, GENERAL

.1 Coordinate all flashing work with other trades.

.2 Install sheet metal work in accordance with CRCA FL series details and as detailed on the drawings.

.3 Form and lock joints of all metal flashing as described above and in accordance with the typical details included in the Copper Development Association Handbook (details attached) or as shown on the drawings.

.4 Use concealed fastenings except where approved before installation by the Owner's Representative.

.5 Provide underlay under sheet metal. Secure in place and lap joints 100 mm.

.6 Counterflash bituminous flashings at intersections of roof with vertical surfaces and curbs as detailed on the drawings.

.7 Install all metal flashing to provide a minimum of 50mm (2") overlapping joints.

.8 All new metal flashing must be continuously supported. Any unsupported metal flashing will not be accepted.

.9 Shingle and sequence all metal flashing installation to shed water away from building.

.10 Lock end joints and caulk with sealant.

.11 Where indicated, insert metal flashing into 25mm reglets or under cap flashing to form weather tight junction.

.12 Secure sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. as recommended by SMACNA's *Architectural Sheet Metal Manual* and by FM Gloabal Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.

.13 Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.

.14 Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

.15 Do not use graphite pencils to mark metal surfaces.

.16 Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.

- .1 Coat back side of uncoated aluminum and stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
- .2 Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet.

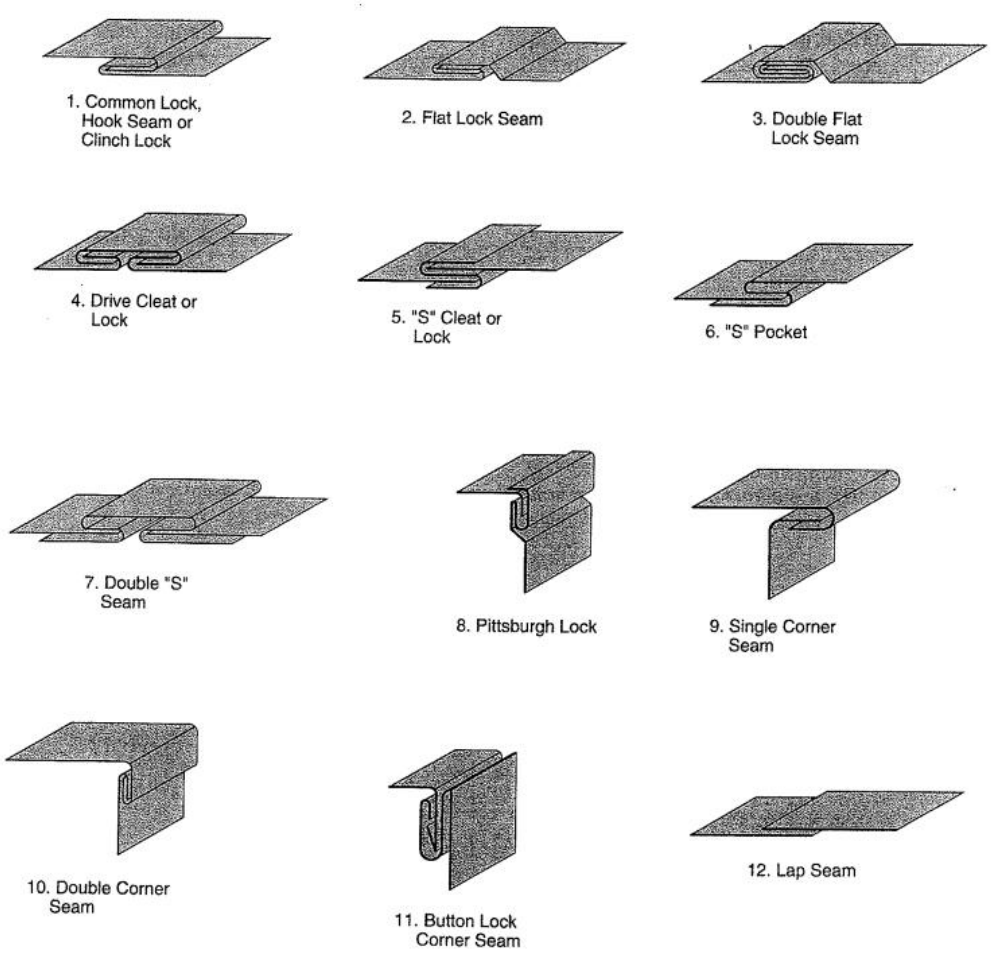


Figure 1 – Typical Flashing Joints-Seams

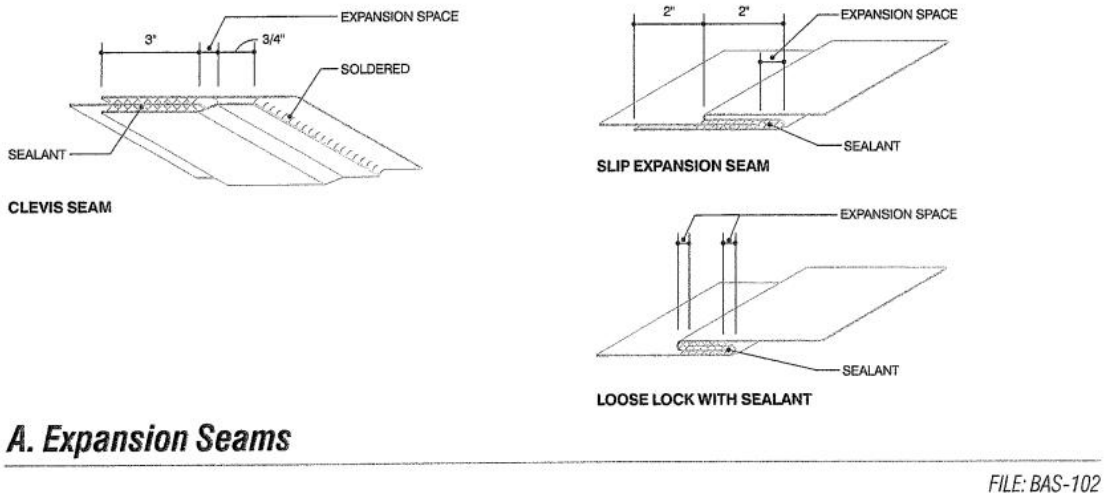


Figure 2 – Typical Expansion Seams
Note: Above details were taken from the Copper Development Association Handbook (CDA)

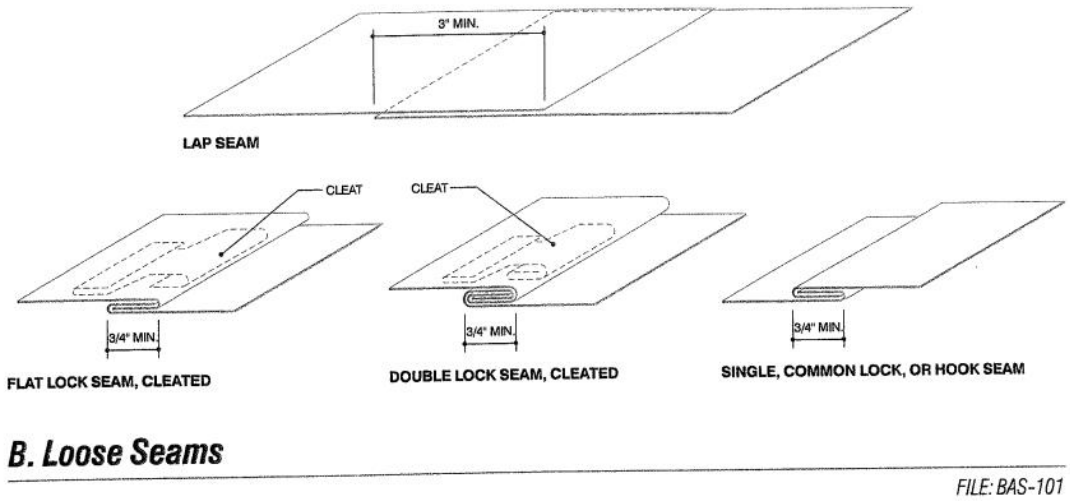


Figure 3 – Typical Loose Seams
Note: Above details were taken from the Copper Development Association Handbook (CDA)

3.4 CLEANING AND PROTECTION

.1 Clean off excess sealants.

.2 Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of installation, remove unused materials and clean finished surfaces. Maintain in a clean condition during construction.

.3 Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Provide labour, materials, services and equipment necessary to complete the work of this section. Work includes, but is not limited to the following:

.1 Installation of new backer rod and exterior sealant at the perimeter of all new windows, and includes all joints between metal flashing and new aluminum window systems, and all joints between metal flashing and existing cladding elements and all other joints as indicated on the drawings.

.2 Installation of new exterior sealant all joints between metal flashing and cladding elements and all other joints as indicated on the drawings.

.3 Installation of new sealant at joints in glazing tape or at exterior dry glazing gaskets in new fixed glazing units.

.4 Installation of new interior paintable latex sealant at the perimeter of all new window systems and at all joints in new interior trim, as detailed on the drawings.

.5 Installation of new sealant at all other locations as indicated on the drawings or specified herein.

1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM)

.1 ASTM C 834-10, Standard Specification for Latex Sealants

.2 ASTM C 919-12, Standard Practice for Use of Sealants in Acoustical Applications.

.3 ASTM C 920-11, Standard Specification for Elastomeric Joint Sealants

.4 ASTM C 1193-12, Standard Guide for Use of Joint Sealants

.5 ASTM C 1521-09e1, Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints.

.2 Department of Justice Canada (Jus)
.1 Canadian Environmental Protection Act (CEPA).

.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
.1 Material Safety Data Sheets (MSDS)

.4 Transport Canada (TC)
.1 Transportation of Dangerous Goods Act (TDGA).

1.3 SUBMITTALS

.1 Product Data: For each joint-sealant product indicated.

.2 Samples for Initial Selection: Manufacturer's colour charts consisting of strips of cured sealants showing the full range of colours available for each product exposed to view.

.3 Joint-Sealant Schedule: Include the following information for each product used:
.1 Joint-sealant application, joint location, and designation.
.2 Joint-sealant manufacturer, product name, installation instructions, surface preparation and product limitations.
.3 Joint-sealant formulation.

.4 Joint-sealant primer.
.5 Joint-sealant colour.

.4 Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

.5 Warranties: Sample of special warranties.

1.4 QUALITY ASSURANCE

.1 Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

.2 Construct mock-up to show location, size, shape and depth of joints complete with back-up material, primer, caulking and sealant. Mock-up may be part of finished work. Mock-ups required includes the following:
.1 Perimeter of one complete window installation.

.3 Allow 48 hours for inspection of mock-up by Owner's Representative before proceeding with sealant work.

.4 Mock-up will be used to judge workmanship, substrate preparation, operation of equipment and material application.

.5 When accepted, mock-up will demonstrate minimum standard of quality required for this Work..

1.5 DELIVERY, STORAGE AND HANDLING

.1 Deliver, handle, store and protect materials in accordance with Section 01 60 00 - Product Requirements.

.2 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor

1.6 PROJECT CONDITIONS

.1 Do not proceed with installation of joint sealants under the following conditions:
.1 When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 4.4˚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.

1.7 WARRANTY

.1 For the work of this Section, the contractor shall warrant all sealant installation work for a period of not less than 60 months (5 years) from the date of substantial completion.

.2 The manufacturer shall provide a material warranty for a period not less than 60 months (5 years) from the date of substantial completion.

.3 The Contractor shall provide a written installation warranty stating that the sealant will be free of defects related to workmanship, installation and material deficiency for the period noted above. The following shall be specifically covered under the warranty: water penetration, separation, scaling, debonding, crazing, cracking, bubbling, shrinkage, disintegration, pinholing, sagging, loss of adhesion, loss of cohesion, and staining of the adjoining or adjacent materials or surfaces.

.4 Correct all deficiencies or sealant failures immediately. Any repair(s) required under the warranty shall be carried out in accordance with the requirements of this specification section and recommendations of the manufacturer and Owner's Representative. The contractor shall include as part of their material and installation warranty all costs associated with providing access to facilitate any replacement under the project warranties.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

.1 Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

.2 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.

.3 Where sealants are qualified with primers use only these primers.

.4 VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when:
.1 Architectural Sealants: 250 g/L.
.2 Sealant Primers for Nonporous Substrates: 250 g/L.
.3 Sealant Primers for Porous Substrates: 775 g/L.

2.2 SEALANT MATERIAL DESIGNATIONS

.1 Type 1 Sealant (for use as exterior sealant): Single component, neutral-curing, low modulus, non-staining construction grade silicone sealant with +/- 50% movement capability, to ASTM C920:
.1 Acceptable Material:
.1 Spectrem 2, as manufactured by Tremco Canada.
.2 Dow Corning 795, Silicone sealant.
.3 Approved alternate.
.2 Sealant Colour:
.1 As selected and approved by the owner from the manufacturer's standard colour range.

.2 Type 2 sealant (for use at joints in the glazing tape or exterior dry glazing gaskets of fixed window systems glazed on-site): High performance, Medium Modulus, one-part, neutral cure, silicone sealant to ASTM C920.
.1 Acceptable Materials:
.1 Dow Corning 795
.2 Spectrem 2, as manufactured by Tremco Canada
.3 An approved alternate
.2 Colour: Black

.3 Type 3 sealant (heel bead for rainscreen window systems): High performance, Medium Modulus, one-part, neutral cure, silicone sealant to ASTM C920.

.1 Acceptable Materials:
.1 Dow Corning 795
.2 Spectrem 2, as manufactured by Tremco Canada
.3 An approved alternate
.2 Colour: Black

.4 Type 4 sealant (for use as interior sealant between all trim/window systems): General purpose, paintable, acrylic latex sealant complying with ASTM C920. Joint movement capacity +/- 10%.
.1 Acceptable Material:
.1 Tremco Tremflex 834, as manufactured by Tremco Canada,
.2 An approved alternate.
.2 Colour: As selected and approved by the owner from the manufacturer's standard colour range.

.5 Type 5 sealant (for application at lap joints and perimeter of new polyethylene sheets): Acoustical Sealant to ASTM C919, single component, non-curing.
.1 Acceptable material:
.1 Acoustical sealant, as manufactured by Tremco Canada
.2 An approved alternate.

2.3 SEALANT ACCESSORIES

.1 Preformed Compressible and Non-Compressible back-up materials.
.1 High Density Foam:
.1 Extruded closed cell extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m^3 density, or neoprene foam backer, size as recommended by manufacturer.
.2 Bond Breaker Tape:
.1 Polyethylene bond breaker tape which will not bond to sealant.

2.4 JOINT CLEANER

.1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

.2 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PROTECTION

.1 Protect installed Work of other trades from staining or contamination.

3.3 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. Use 'two cloth' method for solvent cleaning.

.3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.

.4 Ensure joint surfaces are dry and frost free.

.5 Prepare surfaces in accordance with manufacturer's directions.

3.4 PRIMING

.1 Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

.2 Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.5 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.

3.6 INSTALLATION OF JOINT SEALANTS

.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.

.4 Upon completion remove surplus materials, rubbish, tools and equipment.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

.1 Types of items described in this Section:
  .1 Fixed and operable vinyl-framed windows.

.2 Types of items you will not find described in this Section:
  .1 Air/vapour barrier seals.
  .2 Building wrap.

1.3 DEFINITIONS

.1 Performance class designations according to AAMA/WDMA/CSA 101/I.S.2/A440-05:
  .1 AW: Architectural.
  .2 HC: Heavy Commercial.
  .3 C: Commercial.
  .4 LC: Light Commercial.
  .5 R: Residential.

.2 Minimum Test Size: Smallest size permitted for performance class (gateway test size). Products must be tested at minimum test size or at a size larger than minimum test size to comply with requirements for performance class.

1.4 PERFORMANCE REQUIREMENTS

.1 General: Provide vinyl windows capable of complying with performance requirements indicated, based on testing manufacturer's windows that are representative of those specified, and that are of minimum test size indicated below:
  .1 Size required by AAMA/WDMA/CSA 101/I.S.2/A440-05 for gateway performance.

.2 Energy ratings: windows to be Energy Star certified to Canadian Standards Association as follows:
  .1 Zone D.

1.5 SUBMITTALS

.1 Product Data: Include construction details, material descriptions, fabrication methods, dimensions of individual components and profiles, hardware, finishes, and operating instructions for each type of vinyl window indicated.

.2 Shop Drawings: Include plans, elevations, sections, details, hardware, attachments to other work, operational clearances, installation details, and the following:
  .1 Mullion details, including reinforcement and stiffeners.
  .2 Joinery details.
  .3 Expansion provisions.
  .4 Flashing and drainage details.
  .5 Weather-stripping details.
  .6 Glazing details.

.7 Window cleaning provisions.

.3 Samples for Verification: For vinyl windows and components required, prepared on Samples of size indicated below.
.1 Operable Window: Full-size unit with factory-applied finish.

.4 Product Schedule: For vinyl windows. Use same designations indicated on Drawings.

.5 Qualification Data: For manufacturer.

.6 Product Test Reports: Based on evaluation of comprehensive tests performed within the last four years by a qualified testing agency for each type, class, grade, and size of vinyl window. Test results based on use of downsized test units will not be accepted.

.7 Maintenance Data: For operable window sash, operating hardware, weather stripping and finishes to include in maintenance manuals.

.8 Warranty: Special warranty specified in this Section.

1.6 QUALITY ASSURANCE

.1 Manufacturer Qualifications: A manufacturer capable of fabricating vinyl windows that meet or exceed performance requirements indicated and of documenting this performance by inclusion in lists and by labels, test reports, and calculations.

.2 Source Limitations: Obtain vinyl windows through one source from a single manufacturer.

.3 Product Options: Information on Drawings and in Specifications establishes requirements for vinyl windows' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.

.4 Fenestration Standard: Comply with AAMA/WDMA 101/I.S.2/NAFS, *North American Fenestration Standard Voluntary Performance Specification for Windows, Skylights and Glass Doors*, for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
.1 Provide CSA-certified vinyl windows with an attached label.

.5 Glazing Publications: Comply with published recommendations of glass manufacturers and with GANA's *Glazing Manual* unless more stringent requirements are indicated.

1.7 PROJECT CONDITIONS

.1 Field Measurements: Verify vinyl window openings by field measurements before fabrication and indicate measurements on Shop Drawings.
.1 Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating vinyl windows without field measurements. Coordinate wall construction to ensure that actual opening dimensions correspond to established dimensions.

1.8 WARRANTY

.1 Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace vinyl windows that fails in materials or workmanship within specified warranty period.
  .1 Failures include, but are not limited to, the following:
    .1 Failure to meet performance requirements.
    .2 Structural failures including excessive deflection, water leakage, air infiltration, or condensation.
    .3 Faulty operation of movable sash and hardware.
    .4 Deterioration of vinyl, other materials, and finishes beyond normal weathering.
    .5 Failure of insulating glass.
  .2 Warranty Period:
    .1 Window: Two years from date of Substantial Completion.
    .2 Glazing: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Vinyl Extrusions: Rigid (unplasticized) hollow PVC extrusions, formulated and extruded for exterior applications, complying with AAMA/WDMA 101/I.S.2/NAFS and the following:
  .1 PVC Resins: 100 percent virgin resin.
  .2 PVC Formulation: High impact, low heat build-up, lead free, nonchalking, and colour and UV stabilized.
  .3 Extrusion Wall Thickness: Not less than 3.2 mm.
  .4 Multichamber Extrusions: Profile designed with multichambers between interior and exterior faces of the extrusions.

.2 Vinyl Trim and Glazing Stops: Material and finish to match frame members.

.3 Fasteners: Aluminum, nonmagnetic stainless steel, epoxy adhesive, or other materials warranted by manufacturer to be noncorrosive and compatible with vinyl window members, cladding, trim, hardware, anchors, and other components.
  .1 Exposed Fasteners: Unless unavoidable for applying hardware, do not use exposed fasteners. For application of hardware, use fasteners that match finish of member or hardware being fastened, as appropriate.

.4 Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions;.

.5 Reinforcing Members: Aluminum, or nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions; provide sufficient strength to withstand design pressure indicated.

.6 Compression-Type Weather Stripping: Provide compressible weather stripping designed for permanently resilient sealing under bumper or wiper action, and for complete concealment when vinyl window is closed.
  .1 Weather-Stripping Material: Manufacturer's standard system and materials complying with AAMA/WDMA 101/I.S.2/NAFS.

.7 Sliding-Type Weather Stripping: Provide woven-pile weather stripping of wool, polypropylene, or nylon pile and resin-impregnated backing fabric. Comply with AAMA 701/702.
  .1 Weather Seals: Provide weather stripping with integral barrier fin or fins of semi rigid, polypropylene sheet or polypropylene-coated material. Comply with AAMA 701/702.

.8 Replaceable Weather Seals: Comply with AAMA 701/702.

2.2 WINDOW

.1 Window Type: As indicated on Drawings.
- .1 Provide integral and continuous nailing flange around all four sides of window.
- .2 Do not provide brick moulding around windows, unless noted otherwise.

.2 AAMA/WDMA Performance Requirements: Provide vinyl windows of performance indicated that comply with AAMA/WDMA/CSA 101/I.S.2/A440-05 unless more stringent performance requirements are indicated.

.1	Air Tightness:	A3 / Fixed
.2	Water Tightness:	B5
.3	Wind Load Resistance:	C4
.4	Temperature Index:	54
.5	Forced Entry:	F20
.6	Insect Screen Rating:	S2

2.3 GLAZING

.1 Glass: Clear, insulating-glass units, unless otherwise indicated on drawings; complying with Division 08 Section *Glazing*.

.2 Glazing System: Manufacturer's standard factory-glazing system that produces weather tight seal.

2.4 HARDWARE

.1 General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907 or other corrosion-resistant material compatible with vinyl; designed to smoothly operate, tightly close, and securely lock vinyl windows, and sized to accommodate sash or ventilator weight and dimensions. Do not use aluminum in frictional contact with other metals. Where exposed, provide solid bronze or nonmagnetic stainless steel.

.2 Counterbalancing Mechanism: Comply with AAMA 902.

.3 Push-Bar Operators: Provide telescoping-type, push-bar operator designed to open and close ventilators with fixed screens.

.4 Gear-Type Rotary Operators: Comply with AAMA 901 when tested according to ASTM E 405, Method A.
- .1 Operation Function: All ventilators move simultaneously and securely close at both jambs without using additional manually controlled locking devices.

.5 Four- or Six-Bar Friction Hinges: Comply with AAMA 904.
- .1 Locking mechanism and handles for manual operation.
- .2 Friction Shoes: Provide friction shoes of nylon or other nonabrasive, nonstaining, noncorrosive, durable material.

.6 Limit Devices: Provide limit devices designed to restrict sash or ventilator opening.
- .1 Safety Devices: Limit clear opening to 100 mm for ventilation; with custodial key release.

2.5 INSECT SCREENS

.1 General: Design windows and hardware to accommodate screens in a tight-fitting, removable arrangement, with a minimum of exposed fasteners and latches. Fabricate insect screens to fully integrate with window frame. Locate screens on inside of window and provide for each operable exterior sash or ventilator.
  .1 Aluminum Tubular Frame Screens: Comply with SMA 1004, *Specifications for Aluminum Tubular Frame Screens for Windows*, Architectural C-24 class or better.

.2 Aluminum Insect Screen Frames: Manufacturer's standard aluminum alloy complying with SMA 1004. Fabricate frames with mitred or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
  .1 Aluminum Tubular Framing Sections and Cross Braces: Roll formed from aluminum sheet with minimum wall thickness as required for class indicated.
  .2 Finish: Manufacturer's standard.

.3 Glass-Fibre Mesh Fabric: 0.85-by-0.85 mm or 0.85-by-0.42 mm mesh of PVC-coated, glass-fibre threads; woven and fused to form a fabric mesh resistant to corrosion, shrinkage, stretch, impact damage, and weather deterioration, in the following colour. Comply with ASTM D 3656.

2.6 FABRICATION

.1 Fabricate vinyl windows in sizes indicated. Include a complete system for assembling components and anchoring windows.
  .1 Welded Frame and Sash/Ventilator Corners: Mitre-cut and fusion or chemically welded.

.2 Fabricate vinyl windows that are reglazable without dismantling sash or ventilator framing.

.3 Weather Stripping: Provide full-perimeter weather stripping for each operable sash and ventilator, unless otherwise indicated.
  .1 Double-Hung Windows: Provide weather stripping only at horizontal rails of operable sash.

.4 Factory-Glazed Fabrication: Except for light sizes in excess of 2500 mm width plus length, glaze vinyl windows in the factory where practical and possible for applications indicated. Comply with requirements in Division 08 Section *Glazing* and with AAMA/WDMA 101/I.S.2/NAFS.

.5 Glazing Stops: Provide nailed or snap-on glazing stops coordinated with Division 08 Section *Glazing* and glazing system indicated. Provide glazing stops to match sash and ventilator frames.

.6 Hardware: Mount hardware through double walls of vinyl extrusions or provide corrosion-resistant steel reinforcement complying with requirements for reinforcing members, or do both.

.7 Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.

2.7 VINYL FINISHES

.1 Colour: integral, uniform, and homogenous colour. If not otherwise indicated, provide white interior and exterior.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate, and operational clearances. Examine wall flashings, vapour retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight window installation.

.1 Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.

.2 Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 76 mm of opening.

.3 Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.

.4 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

.1 Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing windows, hardware, accessories, and other components.

.2 Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

.3 Set sill members in bed of sealant or with gaskets, as indicated, for weather tight construction.

.4 Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3 ADJUSTING, CLEANING, AND PROTECTION

.1 Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weather tight closure. Lubricate hardware and moving parts.

.2 Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

.3 Clean factory-glazed glass immediately after installing windows. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

.4 Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

.5 Protect window surfaces from contact with contaminating substances resulting from construction operations. In addition, monitor window surfaces adjacent to and below exterior concrete and masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written recommendations.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

.1 Supply all labour and materials to prime, and apply two (2) coats of paint to the new wood trim, jambs and areas affected by the work and as indicated on the Drawings.

.2 Supply all labour and materials to complete repairs to adjacent finishes/damages as a result of the Work.

1.2 SUMMARY

.1 Types of items described in this Section:
- .1 Surface preparation and the application of paint systems on the following interior substrates:
  - .1 Concrete.
  - .2 Wood.
  - .3 Gypsum board.
  - .4 Plaster.
  - .5 Spray-textured ceilings.

.2 Types of items you will not find described in this Section:
- .1 Wood stains and transparent finishes.
- .2 Shop priming of metal substrates with primers specified in this Section.
- .3 Shop priming carpentry with primers specified in this Section.
- .4 Factory finishing of steel doors and frames and of wood doors; where specified.
- .5 Gypsum board spackling.
- .6 Special-use coatings.
- .7 Intumescent painting.
- .8 Surface preparation and the application of paint systems on exterior substrates.
- .9 Surface preparation and the application of wood stains and transparent finishes on interior wood substrates.

.3 Scope of Work of this Contract
- .1 While drawings and schedules identify locations for some finishes, the scope of work entails painting all of the following interior surfaces:
  - .1 All surfaces explicitly noted to be painted.
  - .2 All surfaces scheduled to be covered with wall coverings.
  - .3 All unfinished surfaces that are either exposed-to-view or semi-exposed-to-view and not otherwise scheduled to receive another type of finish, excluding finished hardwood; unless otherwise noted.
- .2 Specifically, do not paint any of the following surfaces:
  - .1 Grating.
  - .2 Concrete floors, unless specifically indicated.
  - .3 Stainless steel.
  - .4 Aluminum handrail and aluminum stair and ladder components.
  - .5 PVC, rubber, copper, bronze or brass surfaces.

1.3 DEFINITIONS

.1 Concealed Surface: A surface that cannot be seen because the view from any angle is obstructed by an immovable object.

.2 Exposed and semi-exposed surface: Any surface that is not a concealed surface.

.3 Finish: a final surface treatment intended to enhance the appearance of a substrate or protect it from the adverse effects of its environmental, or both, and includes but is not limited to paint, stains, coatings, laminates, tiles, fabrics and carpets.
.1 Primer finish is not considered a finish.

.4 Unfinished Surface: A surface having no Finish.

1.4 SUBMITTALS

.1 Product Data: For each type of product indicated.

.2 Samples for Verification: For each type of paint system and in each colour and gloss of topcoat indicated.
.1 Submit Samples on rigid backing, 200 mm square.
.2 Step coats on Samples to show each coat required for system.
.3 Label each coat of each Sample.
.4 Label each Sample for location and application area.

.3 Product List: For each product indicated, include the following:
.1 Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

.4 Sustainability Submittal:
.1 Product Data for paints, including printed statement of VOC content and chemical components.

1.5 QUALITY ASSURANCE

.1 MPI Standards:
.1 Products: Complying with MPI standards indicated and listed in *MPI Approved Products List*.
.2 Preparation and Workmanship: Comply with requirements in *MPI Architectural Painting Specification Manual* for products and paint systems indicated.

.2 Mock-ups: While paint colours may be specifically indicated in the documents, still proceed with mock-ups. Apply benchmark samples of each paint system indicated and each colour and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
.1 Owner's Representative will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
.1 Wall and Ceiling Surfaces: Provide samples of at least 9 sq. m.
.2 Other Items: Owner's Representative will designate items or areas required.
.2 Apply benchmark samples after permanent lighting and other environmental services have been activated.
.3 Final approval of colour selections will be based on benchmark samples.
.1 If preliminary colour selections are not approved, apply additional benchmark samples of additional colours selected by Owner's Representative at no added cost to Owner.

1.6 DELIVERY, STORAGE, AND HANDLING

.1 Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 7 deg C.
.1 Maintain containers in clean condition, free of foreign materials and residue.
.2 Remove rags and waste from storage areas daily.

1.7 PROJECT CONDITIONS

.1 Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 10 and 35 deg C.

.2 Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 3 deg C above the dew point; or to damp or wet surfaces.

1.8 EXTRA MATERIALS

.1 Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
.1 Quantity: Furnish an additional 5 percent, but not less than 3.8 L of each material and colour applied.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

.1 Material Compatibility:
.1 Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
.2 For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

.2 VOC Content of Field-Applied Interior Paints and Coatings: Provide products that comply with the following limits for VOC content, exclusive of colourants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24); these requirements do not apply to paints and coatings that are applied in a fabrication or finishing shop:
.1 Flat Paints, Coatings, and Primers: VOC content of not more than 50 g/L.
.2 Nonflat Paints, Coatings, and Primers: VOC content of not more than 150 g/L.
.3 Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
.4 Floor Coatings: VOC not more than 100 g/L.
.5 Shellacs, Clear: VOC not more than 730 g/L.
.6 Shellacs, Pigmented: VOC not more than 550 g/L.
.7 Flat Topcoat Paints: VOC content of not more than 50 g/L.
.8 Nonflat Topcoat Paints: VOC content of not more than 150 g/L.
.9 Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
.10 Floor Coatings: VOC not more than 100 g/L.
.11 Shellacs, Clear: VOC not more than 730 g/L.
.12 Shellacs, Pigmented: VOC not more than 550 g/L.
.13 Primers, Sealers, and Undercoaters: VOC content of not more than 200 g/L.
.14 Dry-Fog Coatings: VOC content of not more than 400 g/L.
.15 Zinc-Rich Industrial Maintenance Primers: VOC content of not more than 340 g/L.
.16 Pre-Treatment Wash Primers: VOC content of not more than 420 g/L.

.3 Colours: Refer to *Interior Finishes Legend*. When no colour is identified, then selected by Owner's Representative.
.1 M&E equipment: Assume no colour coding required unless otherwise indicated in mechanical and electrical specification sections.
.2 Where no colour is identified, Owner’s Representative shall chose up to a combination of 8 colours in each suite. Colours can be a combination of main and accent colours in each room.

.4 Gloss Levels: As determined by Owner's Representative.

2.2 BLOCK FILLERS

.1 Interior/Exterior Latex Block Filler: MPI #4.
.1 VOC Content: E Range of E3.

2.3 PRIMERS/SEALERS

.1 Interior Latex Primer/Sealer: MPI #50.
.1 VOC Content: E Range of E3.
.2 Environmental Performance Rating: EPR 3.

.2 Interior Alkyd Primer/Sealer: MPI #45.
.1 VOC Content: E Range of E2.

.3 Wood-Knot Sealer: Sealer recommended in writing by topcoat manufacturer for use in paint systems indicated.

2.4 METAL PRIMERS

.1 Alkyd Anticorrosive Metal Primer: MPI #79.
.1 VOC Content: E Range of E2.

.2 Quick-Drying Alkyd Metal Primer: MPI #76.
.1 VOC Content: E Range of E3.

.3 Rust-Inhibitive Primer (Water Based): MPI #107.
.1 VOC Content: E Range of E3.
.2 Environmental Performance Rating: EPR 3.

.4 Cementitious Galvanized-Metal Primer: MPI #26.
.1 VOC Content: E Range of E1.

.5 Waterborne Galvanized-Metal Primer: MPI #134.
.1 VOC Content: E Range of E3.
.2 Environmental Performance Rating: EPR 3.

.6 Vinyl Wash Primer: MPI #80.
.1 VOC Content: E Range of E3.

.7 Quick-Drying Primer for Aluminum: MPI #95.
.1 VOC Content: E Range of E3.

2.5 WOOD PRIMERS

.1 Interior Latex-Based Wood Primer: MPI #39.
.1 VOC Content: E Range of E3.
.2 Environmental Performance Rating: EPR 3.

2.6 LATEX PAINTS

.1 Interior Latex (Flat): MPI #53 (Gloss Level 1).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 2.5.

.2 Interior Latex (Low Sheen): MPI #44 (Gloss Level 2).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 3.

.3 Interior Latex (Eggshell): MPI #52 (Gloss Level 3).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 3.

.4 Interior Latex (Satin): MPI #43 (Gloss Level 4).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 3.5.

.5 Interior Latex (Semigloss): MPI #54 (Gloss Level 5).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 4.

.6 Interior Latex (Gloss): MPI #114 (Gloss Level 6, except minimum gloss of 65 units at 60 deg).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 4.

.7 Institutional Low-Odour/VOC Latex (Flat): MPI #143 (Gloss Level 1).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 5.5.

.8 Institutional Low-Odour/VOC Latex (Low Sheen): MPI #144 (Gloss Level 2).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 4.5.

.9 Institutional Low-Odour/VOC Latex (Eggshell): MPI #145 (Gloss Level 3).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 4.5.

.10 Institutional Low-Odour/VOC Latex (Semigloss): MPI #147 (Gloss Level 5).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 5.5.

.11 High-Performance Architectural Latex (Low Sheen): MPI #138 (Gloss Level 2).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 6.

.12 High-Performance Architectural Latex (Eggshell): MPI #139 (Gloss Level 3).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 6.

.13 High-Performance Architectural Latex (Satin): MPI #140 (Gloss Level 4).
  .1 VOC Content: E Range of E3.
  .2 Environmental Performance Rating: EPR 6.5.

.14 High-Performance Architectural Latex (Semigloss): MPI #141 (Gloss Level 5).
.1 VOC Content: E Range of E3.
.2 Environmental Performance Rating: EPR 7.

.15 Exterior Latex (Flat): MPI #10 (Gloss Level 1).
.1 VOC Content: E Range of E3.

.16 Exterior Latex (Semigloss): MPI #11 (Gloss Level 5).
.1 VOC Content: E Range of E3.

.17 Exterior Latex (Gloss): MPI #119 (Gloss Level 6, except minimum gloss of 65 units at 60 deg).
.1 VOC Content: E Range of E3.

2.7 ALKYD PAINTS

.1 Interior Alkyd (Flat): MPI #49 (Gloss Level 1).
.1 VOC Content: E Range of E3.

.2 Interior Alkyd (Eggshell): MPI #51 (Gloss Level 3).
.1 VOC Content: E Range of E2.

.3 Interior Alkyd (Semigloss): MPI #47 (Gloss Level 5).
.1 VOC Content: E Range of E2.
.2 Environmental Performance Rating: EPR 3.

.4 Interior Alkyd (Gloss): MPI #48 (Gloss Level 6).
.1 VOC Content: E Range of E2.

2.8 QUICK-DRYING ENAMELS

.1 Quick-Drying Enamel (Semigloss): MPI #81 (Gloss Level 5).
.1 VOC Content: E Range of E3.

.2 Quick-Drying Enamel (High Gloss): MPI #96 (Gloss Level 7).
.1 VOC Content: E Range of E3.

2.9 TEXTURED COATING

.1 Latex Stucco and Masonry Textured Coating: MPI #42.
.1 VOC Content: E Range of E3.

2.10 DRY FOG/FALL COATINGS

.1 Latex Dry Fog/Fall: MPI #118.
.1 VOC Content: E Range of E3.
.2 Environmental Performance Rating: EPR 3.

.2 Waterborne Dry Fall: MPI #133.
.1 VOC Content: E Range of E3.
.2 Environmental Performance Rating: EPR 3.

.3 Interior Alkyd Dry Fog/Fall: MPI #55.
.1 VOC Content: E Range of E3.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

.2 Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
.1 Concrete: 12 percent.
.2 Masonry (Clay and CMU): 12 percent.
.3 Wood: 15 percent.
.4 Gypsum Board: 12 percent.
.5 Plaster: 12 percent.

.3 Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

.4 Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
.1 Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

.1 Comply with manufacturer's written instructions and recommendations in *MPI Architectural Painting Specification Manual* applicable to substrates indicated.

.2 Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
.1 After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
.2 Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

.3 Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
.1 Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.

.4 Wood Substrates:
.1 Scrape and clean knots, and apply coat of knot sealer before applying primer.
.2 Sand surfaces that will be exposed to view, and dust off.
.3 Prime edges, ends, faces, undersides, and backsides of wood.
.4 After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

.5 Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

.6 Plaster Substrates: Do not begin paint application until plaster is fully cured and dry.

3.3 APPLICATION

.1 Apply paints according to manufacturer's written instructions.
  .1 Use applicators and techniques suited for paint and substrate indicated.
  .2 Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
  .3 Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.

.2 Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match colour of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

.3 If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, colour, and appearance.

.4 Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and colour breaks.

.5 Painting Mechanical and Electrical Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:
  .1 Mechanical Work:
    .1 Uninsulated metal piping.
    .2 Uninsulated plastic piping.
    .3 Pipe hangers and supports.
    .4 Tanks that do not have factory-applied final finishes.
    .5 Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
    .6 Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
    .7 Mechanical equipment that is indicated to have a factory-primed finish for field painting.
  .2 Electrical Work:
    .1 Galvanized and steel conduits.
    .2 Electrical equipment that is indicated to have a factory-primed finish for field painting.

3.4 CLEANING AND PROTECTION

.1 At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

.2 After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

.3 Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Owner's Representative, and leave in an undamaged condition.

.4 At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

.1 Propose paint system for any surfaces not listed. Propose paint system consisting of a minimum of a prime coat, intermediate coat, and topcoat.

.2 Dressed Lumber Substrates: Including Architectural woodwork and doors.
  .1 High-Performance Architectural Latex System: MPI INT 6.3A.
    .1 Prime Coat: Interior latex-based wood primer.
    .2 Intermediate Coat: High-performance Architectural latex matching topcoat.
    .3 Topcoat: High-performance Architectural latex.

.3 Wood Panel Substrates: Including painted plywood, medium-density fiberboard, and hardboard.
  .1 High-Performance Architectural Latex System: MPI INT 6.4S.
    .1 Prime Coat: Interior latex-based wood primer.
    .2 Intermediate Coat: High-performance Architectural latex matching topcoat.
    .3 Topcoat: High-performance Architectural latex.

.4 Dimension Lumber Substrates, Nontraffic Surfaces: Including exposed joists and exposed beams.
  .1 High-Performance Architectural Latex System: MPI INT 6.2B.
    .1 Prime Coat: Interior alkyd primer/sealer.
    .2 Intermediate Coat: High-performance Architectural latex matching topcoat.
    .3 Topcoat: High-performance Architectural latex.

.5 Wood Substrates, Traffic Surfaces:
  .1 Latex Floor Paint System: MPI INT 6.5G.
    .1 Prime Coat: Interior alkyd primer/sealer.
    .2 Intermediate Coat: Interior/exterior latex floor and porch paint.
    .3 Topcoat: Interior/exterior latex floor and porch paint.

.6 Gypsum Board Substrates:
  .1 High-Performance Architectural Latex System: MPI INT 9.2B.
    .1 Prime Coat: Interior latex primer/sealer.
    .2 Intermediate Coat: High-performance Architectural latex matching topcoat.
    .3 Topcoat: High-performance Architectural latex.

.7 Plaster Substrates:
  .1 High-Performance Architectural Latex System: MPI INT 9.2B.
    .1 Prime Coat: Interior latex primer/sealer.
    .2 Intermediate Coat: High-performance Architectural latex matching topcoat.
    .3 Topcoat: High-performance Architectural latex.
    .4 Intermediate Coat: Interior latex matching topcoat.
    .5 Topcoat: Interior latex.

END OF SECTION

Memorial University of Newfoundland

Window Replacement

BATTERY FACILITY

Signal Hill Campus

APRIL 25, 2024

ISSUED FOR TENDER

LIST OF DRAWINGS

PROJECT # B-508-22 ISSUED FOR TENDER

DEPARTMENT OF FACILITIES MANAGEMENT

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

MEMORIAL UNIVERSITY

GENERAL NOTES: (APPLY TO ALL DWG SHEETS)

1. ALL WORK TO BE DONE IN ACCORDANCE WITH LATEST ADDITION OF THE NATIONAL BUILDING CODE AND APPLICABLE LOCAL BUILDING CODES.
2. ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT ARE TO PROVIDE UTMOST QUALITY WORKMANSHIP. THEY MUST ALSO ADHERE TO ALL SCHEDULES AS SET OUT IN THE CONTRACT DOCUMENTS.
3. CONTRACTOR TO ENSURE A HAZARD ASSESSMENT IS DONE ONSITE PRIOR TO THE START OF WORK TO IDENTIFY POTENTIAL HAZARDS AND RECOMMENDED CONTROLS.
4. THE AREA OF WORK MAY BE OCCUPIED BY THE CLIENT STAFF FOR THE DURATION OF THE PROJECT. THE MUN PROJECT COORDINATOR AND GENERAL CONTRACTOR SHALL COORDINATE RENOVATING SMALL AREAS OF THE SPACE AT A TIME TO MINIMIZE DUST, DEBRIS, AND NOISE LEVELS. A SCHEDULE FOR WORK SHALL BE SUBMITTED BY THE GENERAL CONTRACTOR WITH THE BID FORM. THE PROJECT COORDINATOR SHALL COORDINATE WITH THE CLIENT AND GENERAL CONTRACTOR TO ESTABLISH A SCHEDULE OF WORK.
5. CONTRACTOR IS TO HOARD WORK AS NECESSARY AND PROTECT REMAINING PREMISES IN THE WORK AREA AND ADJACENT TENANT SPACES FROM DAMAGE AND MAKE GOOD ANY DAMAGES THAT MAY OCCUR DURING THE WORK. CONTRACTOR TO SEAL ALL AFFECTED DUCT SYSTEMS FOR DUST CONTROL WITHIN THE WORK AREA AND ADJACENT SPACES. ALL MATERIALS TO BE PROTECTED & COVERED DURING PAINTING.
6. CONCRETE BLOCK REMOVAL AND WORK CREATING EXCESSIVE NOISE SHALL BE SCHEDULED FOR AFTER NORMAL BUSINESS HOURS 8:30AM – 5:00PM, MONDAY – FRIDAY. TO LIMIT NOISE AND DISRUPTIONS TO SURROUNDING OCCUPANTS OF BUILDING.
7. ALL DEMOLISHED MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR. WORK SITE TO BE LEFT IN SAFE CONDITION AT THE END OF EACH WORK DAY.
8. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH FLOOR SLABS AND CONCRETE BLOCK WALLS.
9. CONTRACTOR TO OBTAIN AND PAY FOR ANY PERMITS REQUIRED BY LOCAL CODES AND REGULATIONS.
10. CONTRACTOR TO REVIEW EXISTING SITE CONDITIONS, VERIFY ALL DIMENSIONS AND SCOPE OF WORK AND REPORT ANY DISCREPANCIES TO THE MUN PROJECT COORDINATOR PRIOR TO SUBMISSIONS OF TENDER.
11. WHERE DRAWINGS INDICATE TO MATCH EXISTING, NO CHARGES AFTER TENDER ACCEPTANCE FOR MINIMUM QUANTITIES OR SPECIAL SHIPPING COSTS WILL BE CONSIDERED.
12. NO CHANGES OR REVISIONS TO THE WORK ARE TO BE EXECUTED WITHOUT THE PRIOR APPROVAL OF THE OWNER.
13. CONTRACTORS SHALL AWAIT WRITTEN APPROVAL FOR ANY CHANGE ORDERS BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCING ANY WORK OR ORDER OF ANY MATERIALS RELATING TO A CHANGE.
14. PROVIDE CERTIFICATE OF GUARANTEE OF WORKMANSHIP AND MATERIAL FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER.
15. COORDINATE DELIVERY OF MATERIALS USING FLAT BED TRUCK/BOOM TRUCK WITH MUN PROJECT COORDINATOR. 24HR NOTICE REQUIRED. ALL BOOM TRUCK OPERATORS SHALL BE REQUIRED TO PRESENT A HAZARD ASSESSMENT TO MUN SAFETY PERSONNEL PRIOR TO THE START OF OPERATION.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEANUP OF DEBRIS FIELD INCLUDING BUT NOT LIMITED TO; REMOVING DEMOLISHED MATERIALS FROM GRASS, ADJACENT ROOFS AND ROOF DRAINS, SIDEWALKS, PARKING SPACES AND ROADWAYS.
17. CONTRACTOR TO PLACE DUMPSTER AT PREDETERMINED LOCATION. VERIFY WITH PROJECT COORDINATOR.
18. CONTRACTOR RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLISHED ITEMS FROM SITE.
19. EXISTING METAL SIDING TO BE REMOVED AND REINSTATED TO ACCOMMODATE NEW WINDOW INSTALLATION.
20. NEW SIDING REQUIRED AS INDICATED ON DRAWINGS.
21. CONTRACTOR TO REINSTATE INTERIOR FINISHES TO MATCH EXISTING UPON INSTALLATION OF NEW WINDOWS.
22. EXISTING ROUGH OPENINGS TO REMAIN. CONTRACTOR TO ENSURE NEW WINDOWS MATCH EXISTING/ADJACENT WINDOW SIZES.
23. WORK TO BE SCHEDULED SUCH THAT THERE WILL BE MINIMAL DISRUPTION TO THE RESIDENCE OCCUPANTS THROUGHOUT CONSTRUCTION. CONTRACTOR TO REFLECT THE ANTICIPATED NUMBER OF TRIPS TO EACH ROOM ON PROJECT SCHEDULE.

24. ISOLATION OF WORK AREAS IN OCCUPIED FACILITIES:

24.1. INSTALLATION:

24.1.1. PREVENT DUST, FUMES, AND ODOURS FROM ENTERING OCCUPIED AREAS.

24.1.2. PERFORM DAILY CONSTRUCTION CLEANUP AND FINAL CLEANUP USING APPROVED, HEPA–FILTER–EQUIPPED VACUUM EQUIPMENT.

EXISTING BUILDING MATERIALS

1. AIR BARRIER: BLUESKIN VP 160
2. SELF–ADHERED MEMBRANE: BLUESKIN SA AS MANUFACTURED BY HENRY BAKOR
3. INSULATION: IKO ENERFOIL SHEATHING
   (38mm RIGID INSULATION (RSI 1.05/25mm: R 5.96/1")
4. LOW EXPANDING SPRAY FOAM: HILTI CF 812 WINDOW AND DOOR PRO AS MANUFACTURED BY HILTI
5. SEALANTS:
   5.1. EXISTING METAL SIDING SEALANT: TREMCO DYMERIC 240
6. EXISTING HORIZONTAL SIDING: CAMBRIDGE WHITE QC–16161
7. EXISTING HORIZONTAL CORRUGATED SIDING: STONE GREY QC–16071

HORIZONTAL CORRUGATED SIDING TO BE VICWEST 22mm (⅞") CORRUGATED PROFILE, 0.64mm THICK BASE, GALVANIZED STEEL, PRE–PAINTED 'WEATHER X' SYSTEM.

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

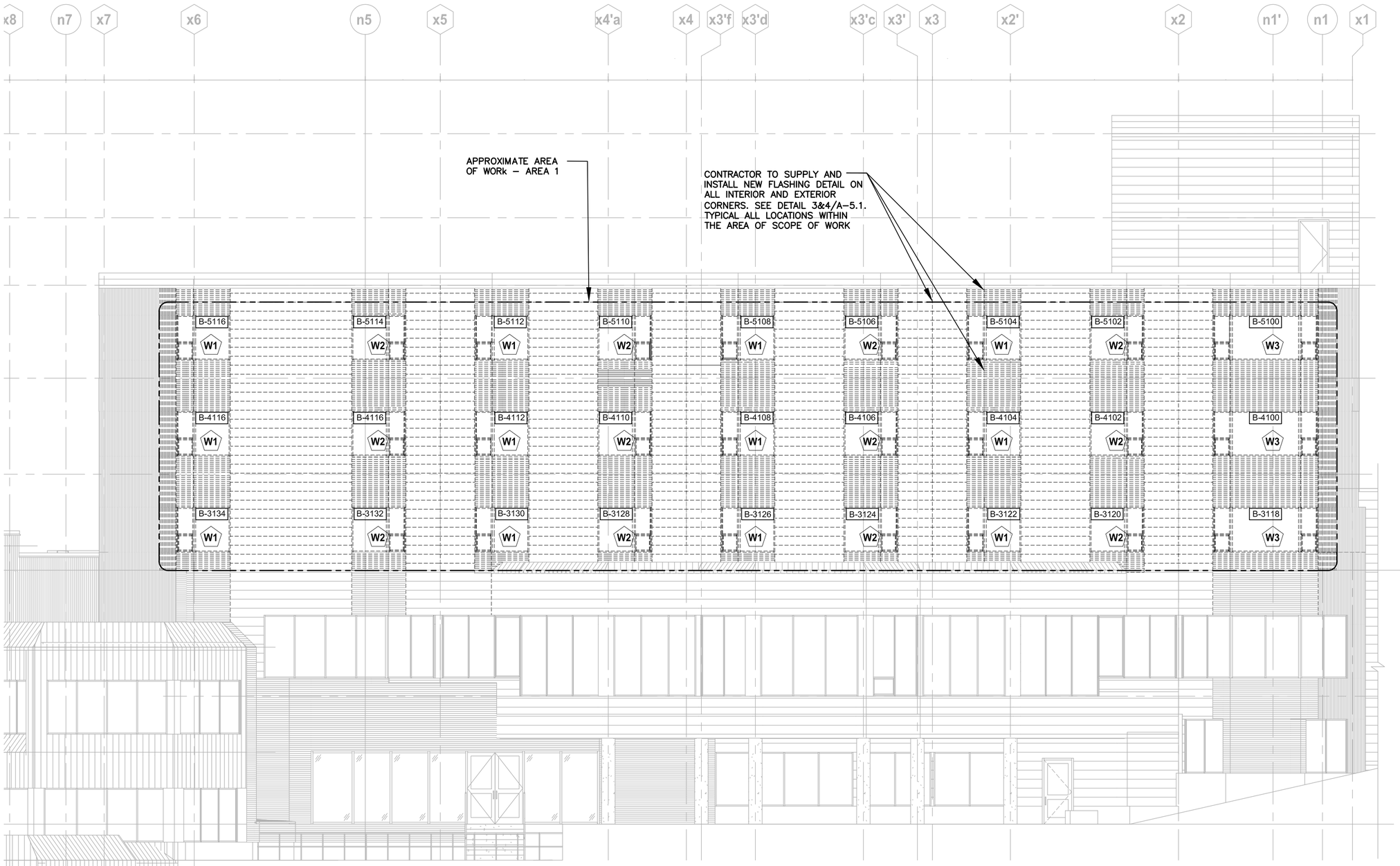
PROJECT NAME:

BATTERY FACILITY WINDOW REPLACEMENT

DRAWING TITLE:

GENERAL NOTES

REVIEWED:	DRAWN:
M.F.	G.F.
SCALE:	DATE:
NA	APRIL 2024
MUN PROJECT No.	DRAWING No.
B-508-22	**A-0.1**



Legend:

- Vertical Corrugated Metal Siding
- Horizontal Corrugated Metal Siding
- Horizontal Metal Siding
- B-XXXX — Room Number
- Wx — Window Type

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

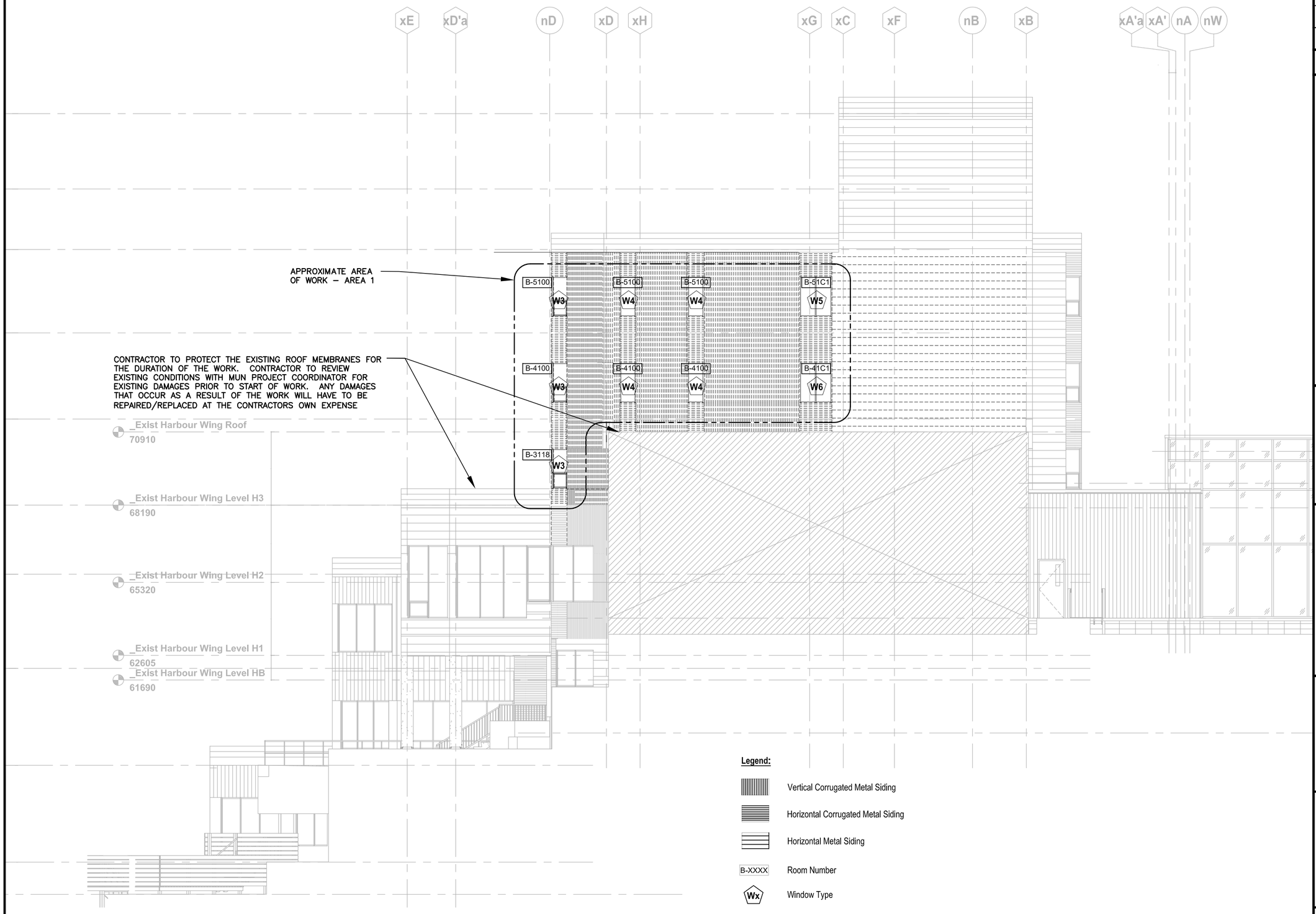
PROJECT NAME:

BATTERY FACILITY WINDOW REPLACEMENT

DRAWING TITLE:

RESIDENCE TOWER PARTIAL SOUTH ELEVATION AREA 1

REVIEWED:	DRAWN:
M.F.	G.F.
SCALE: AS SHOWN	DATE: APRIL 2024
MUN PROJECT No. **B-508-22**	DRAWING No. **A-1.0**



Legend:

- Vertical Corrugated Metal Siding
- Horizontal Corrugated Metal Siding
- Horizontal Metal Siding
- B-XXXX — Room Number
- Wx — Window Type

PARTIAL NORTH ELEVATION

SCALE: 1 : 200

1
A-1.1

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	MARCH 21, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

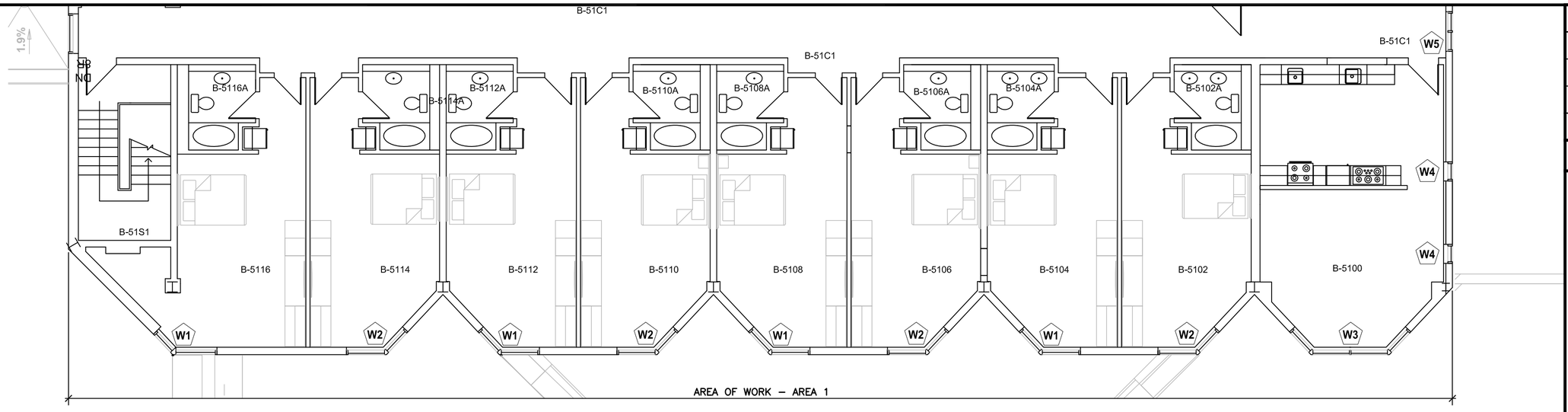
PROJECT NAME:

BATTERY FACILITY WINDOW REPLACEMENT

DRAWING TITLE:

RESIDENCE TOWER PARTIAL EAST ELEVATION AREA 1

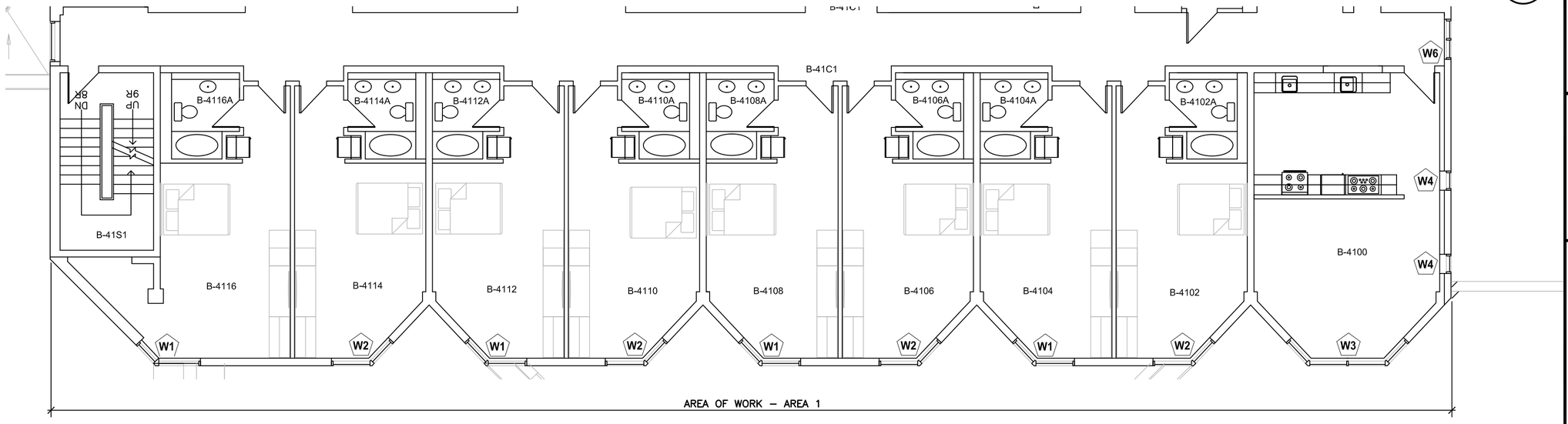
REVIEWED:	DRAWN:
M.F.	G.F.
SCALE: AS SHOWN	DATE: APRIL 2024
MUN PROJECT No. **B-508-22**	DRAWING No. **A-1.1**



PARTIAL LEVEL 5 FLOOR PLAN

SCALE: 1 : 100

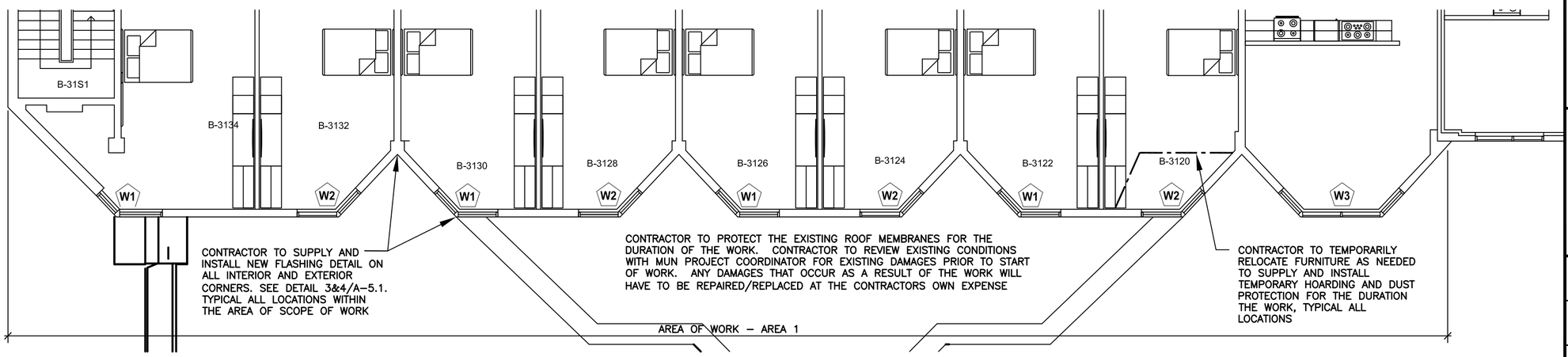
3
A–2.0



PARTIAL LEVEL 4 FLOOR PLAN

SCALE: 1 : 100

2
A–2.0



PARTIAL LEVEL 3 FLOOR PLAN

SCALE: 1 : 100

1
A–2.0

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

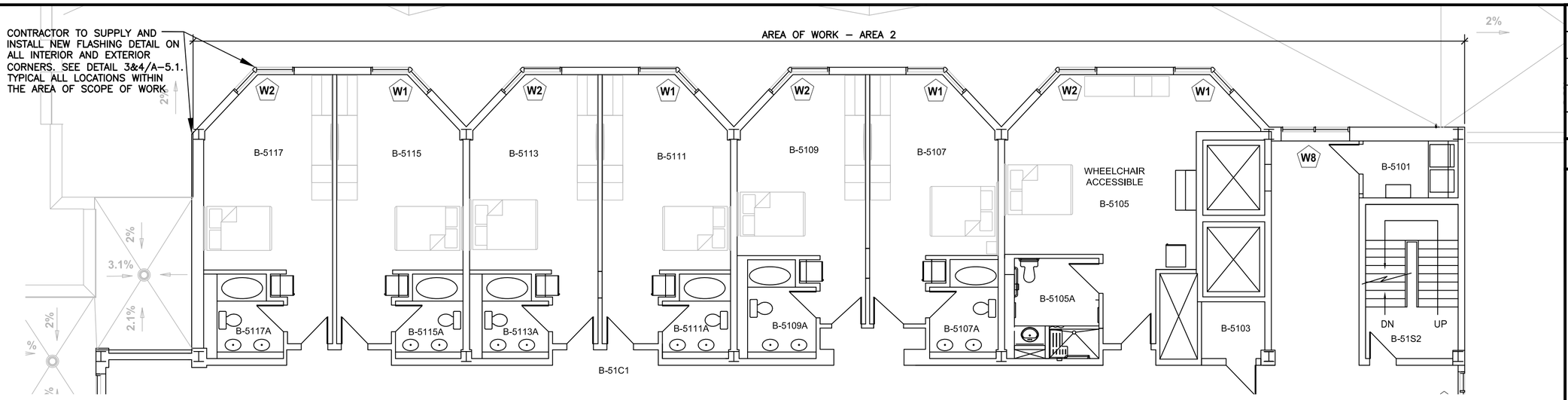
PROJECT NAME:

BATTERY FACILITY WINDOW REPLACEMENT

DRAWING TITLE:

RESIDENCE TOWER PARTIAL FLOOR PLANS AREA 1

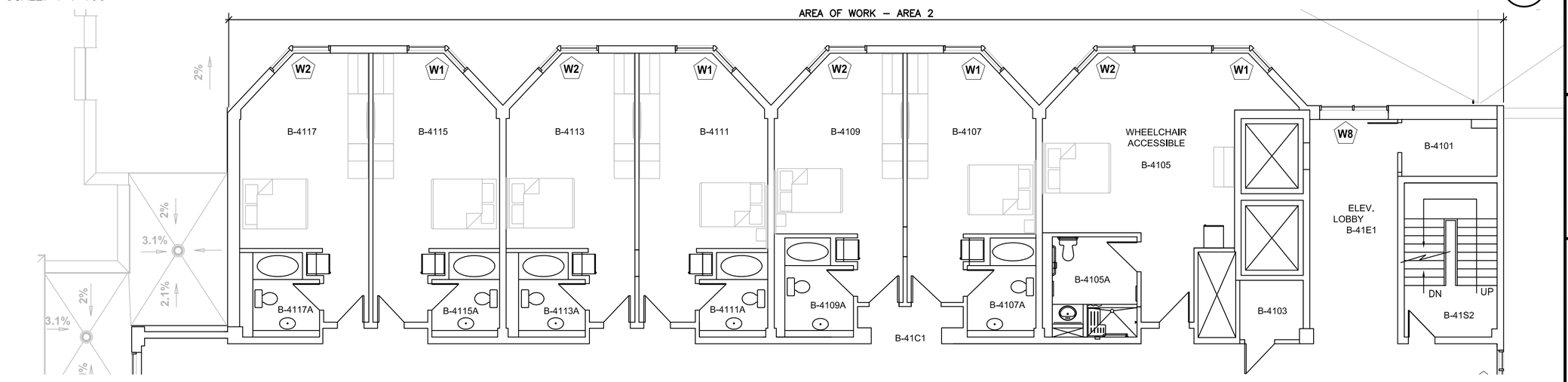
REVIEWED:	DRAWN:
M.F.	G.F.
SCALE: AS SHOWN	DATE: APRIL 2024
MUN PROJECT No. **B-508-22**	DRAWING No. **A-2.0**



PARTIAL LEVEL 5 FLOOR PLAN

SCALE: 1 : 100

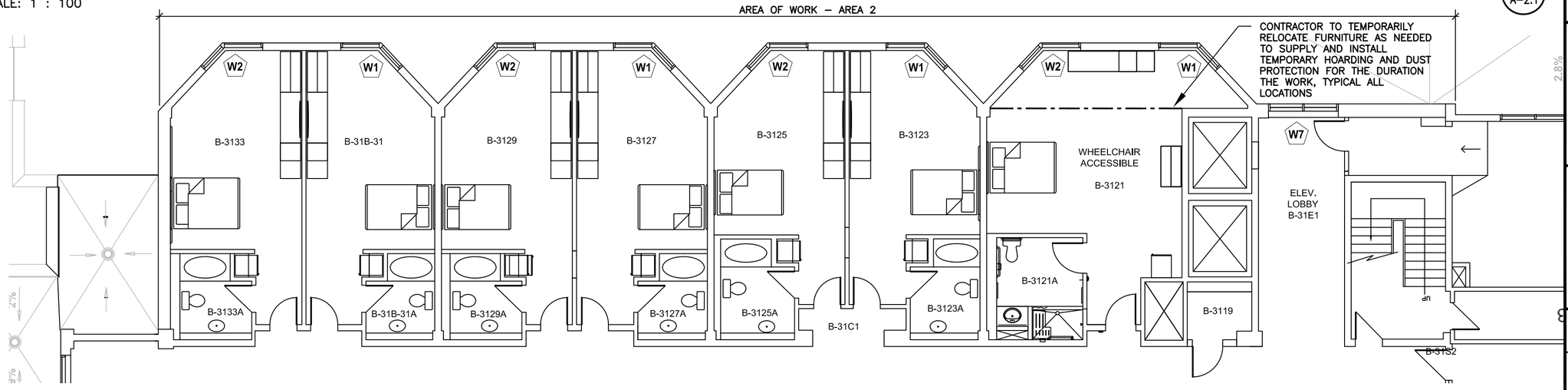
3 A-2.1



PARTIAL LEVEL 4 FLOOR PLAN

SCALE: 1 : 100

2 A-2.1



PARTIAL LEVEL 3 FLOOR PLAN

SCALE: 1 : 100

1 A-2.1

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

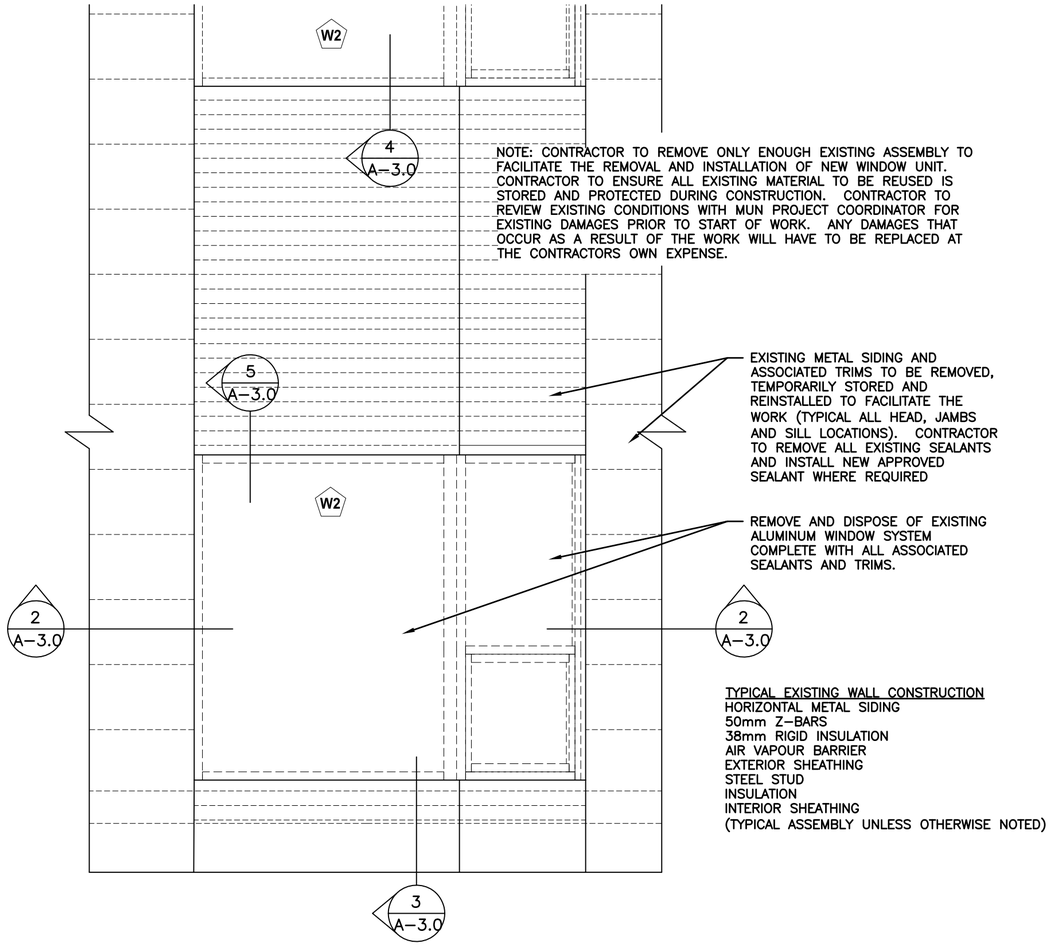
PROJECT NAME:

BATTERY FACILITY WINDOW REPLACEMENT

DRAWING TITLE:

RESIDENCE TOWER PARTIAL FLOOR PLANS AREA 2

REVIEWED:	DRAWN:
M.F.	G.F.
SCALE: AS SHOWN	DATE: APRIL 2024
MUN PROJECT No. **B-508-22**	DRAWING No. **A-2.1**



NOTE: CONTRACTOR TO REMOVE ONLY ENOUGH EXISTING ASSEMBLY TO FACILITATE THE REMOVAL AND INSTALLATION OF NEW WINDOW UNIT. CONTRACTOR TO ENSURE ALL EXISTING MATERIAL TO BE REUSED IS STORED AND PROTECTED DURING CONSTRUCTION. CONTRACTOR TO REVIEW EXISTING CONDITIONS WITH MUN PROJECT COORDINATOR FOR EXISTING DAMAGES PRIOR TO START OF WORK. ANY DAMAGES THAT OCCUR AS A RESULT OF THE WORK WILL HAVE TO BE REPLACED AT THE CONTRACTORS OWN EXPENSE.

EXISTING METAL SIDING AND ASSOCIATED TRIMS TO BE REMOVED, TEMPORARILY STORED AND REINSTALLED TO FACILITATE THE WORK (TYPICAL ALL HEAD, JAMBS AND SILL LOCATIONS). CONTRACTOR TO REMOVE ALL EXISTING SEALANTS AND INSTALL NEW APPROVED SEALANT WHERE REQUIRED

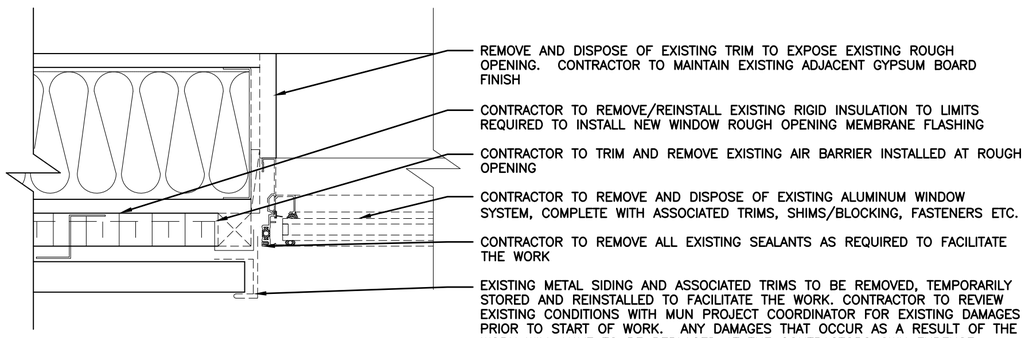
REMOVE AND DISPOSE OF EXISTING ALUMINUM WINDOW SYSTEM COMPLETE WITH ALL ASSOCIATED SEALANTS AND TRIMS.

TYPICAL EXISTING WALL CONSTRUCTION
HORIZONTAL METAL SIDING
50mm Z-BARS
38mm RIGID INSULATION
AIR VAPOUR BARRIER
EXTERIOR SHEATHING
STEEL STUD
INSULATION
INTERIOR SHEATHING
(TYPICAL ASSEMBLY UNLESS OTHERWISE NOTED)

TYPICAL EXISTING WINDOW ELEVATION – DEMOLITION

SCALE: 1 : 100

1 / A-3.0



REMOVE AND DISPOSE OF EXISTING TRIM TO EXPOSE EXISTING ROUGH OPENING. CONTRACTOR TO MAINTAIN EXISTING ADJACENT GYPSUM BOARD FINISH

CONTRACTOR TO REMOVE/REINSTALL EXISTING RIGID INSULATION TO LIMITS REQUIRED TO INSTALL NEW WINDOW ROUGH OPENING MEMBRANE FLASHING

CONTRACTOR TO TRIM AND REMOVE EXISTING AIR BARRIER INSTALLED AT ROUGH OPENING

CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING ALUMINUM WINDOW SYSTEM, COMPLETE WITH ASSOCIATED TRIMS, SHIMS/BLOCKING, FASTENERS ETC.

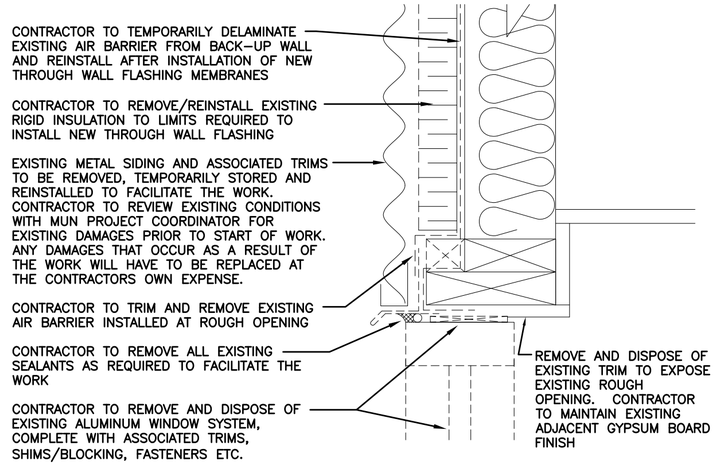
CONTRACTOR TO REMOVE ALL EXISTING SEALANTS AS REQUIRED TO FACILITATE THE WORK

EXISTING METAL SIDING AND ASSOCIATED TRIMS TO BE REMOVED, TEMPORARILY STORED AND REINSTALLED TO FACILITATE THE WORK. CONTRACTOR TO REVIEW EXISTING CONDITIONS WITH MUN PROJECT COORDINATOR FOR EXISTING DAMAGES PRIOR TO START OF WORK. ANY DAMAGES THAT OCCUR AS A RESULT OF THE WORK WILL HAVE TO BE REPLACED AT THE CONTRACTORS OWN EXPENSE

EXISTING WINDOW JAMB DETAIL – DEMOLITION

SCALE: 1 : 5

2 / A-3.0



CONTRACTOR TO TEMPORARILY DELAMINATE EXISTING AIR BARRIER FROM BACK-UP WALL AND REINSTALL AFTER INSTALLATION OF NEW THROUGH WALL FLASHING MEMBRANES

CONTRACTOR TO REMOVE/REINSTALL EXISTING RIGID INSULATION TO LIMITS REQUIRED TO INSTALL NEW THROUGH WALL FLASHING

EXISTING METAL SIDING AND ASSOCIATED TRIMS TO BE REMOVED, TEMPORARILY STORED AND REINSTALLED TO FACILITATE THE WORK. CONTRACTOR TO REVIEW EXISTING CONDITIONS WITH MUN PROJECT COORDINATOR FOR EXISTING DAMAGES PRIOR TO START OF WORK. ANY DAMAGES THAT OCCUR AS A RESULT OF THE WORK WILL HAVE TO BE REPLACED AT THE CONTRACTORS OWN EXPENSE.

CONTRACTOR TO TRIM AND REMOVE EXISTING AIR BARRIER INSTALLED AT ROUGH OPENING

CONTRACTOR TO REMOVE ALL EXISTING SEALANTS AS REQUIRED TO FACILITATE THE WORK

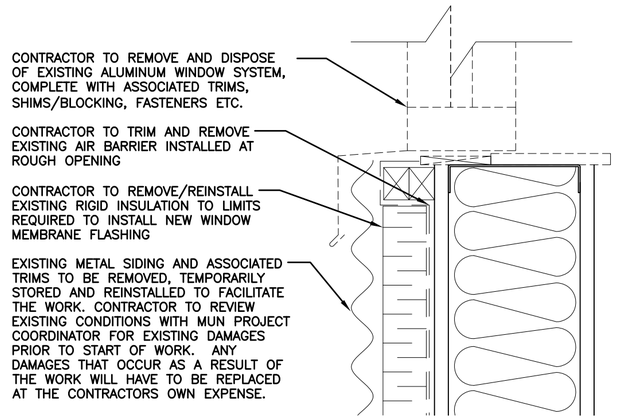
CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING ALUMINUM WINDOW SYSTEM, COMPLETE WITH ASSOCIATED TRIMS, SHIMS/BLOCKING, FASTENERS ETC.

REMOVE AND DISPOSE OF EXISTING TRIM TO EXPOSE EXISTING ROUGH OPENING. CONTRACTOR TO MAINTAIN EXISTING ADJACENT GYPSUM BOARD FINISH

EXISTING WINDOW HEAD DETAIL – DEMOLITION

SCALE: 1 : 5

5 / A-3.0



CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING ALUMINUM WINDOW SYSTEM, COMPLETE WITH ASSOCIATED TRIMS, SHIMS/BLOCKING, FASTENERS ETC.

CONTRACTOR TO TRIM AND REMOVE EXISTING AIR BARRIER INSTALLED AT ROUGH OPENING

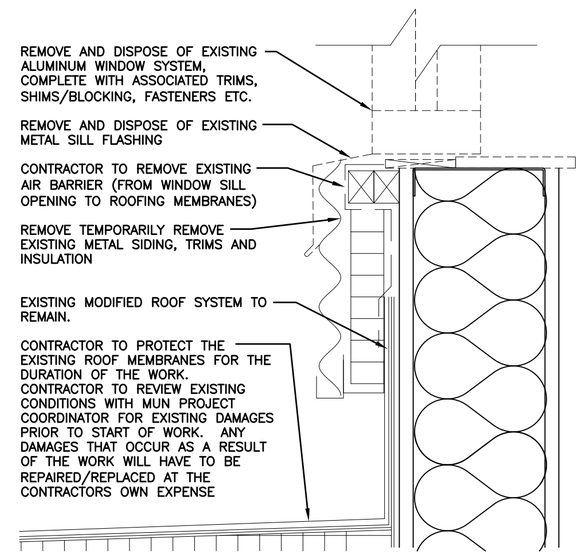
CONTRACTOR TO REMOVE/REINSTALL EXISTING RIGID INSULATION TO LIMITS REQUIRED TO INSTALL NEW WINDOW MEMBRANE FLASHING

EXISTING METAL SIDING AND ASSOCIATED TRIMS TO BE REMOVED, TEMPORARILY STORED AND REINSTALLED TO FACILITATE THE WORK. CONTRACTOR TO REVIEW EXISTING CONDITIONS WITH MUN PROJECT COORDINATOR FOR EXISTING DAMAGES PRIOR TO START OF WORK. ANY DAMAGES THAT OCCUR AS A RESULT OF THE WORK WILL HAVE TO BE REPLACED AT THE CONTRACTORS OWN EXPENSE.

EXISTING WINDOW SILL DETAIL – DEMOLITION

SCALE: 1 : 5

4 / A-3.0



REMOVE AND DISPOSE OF EXISTING ALUMINUM WINDOW SYSTEM, COMPLETE WITH ASSOCIATED TRIMS, SHIMS/BLOCKING, FASTENERS ETC.

REMOVE AND DISPOSE OF EXISTING METAL SILL FLASHING

CONTRACTOR TO REMOVE EXISTING AIR BARRIER (FROM WINDOW SILL OPENING TO ROOFING MEMBRANES)

REMOVE TEMPORARILY REMOVE EXISTING METAL SIDING, TRIMS AND INSULATION

EXISTING MODIFIED ROOF SYSTEM TO REMAIN.

CONTRACTOR TO PROTECT THE EXISTING ROOF MEMBRANES FOR THE DURATION OF THE WORK. CONTRACTOR TO REVIEW EXISTING CONDITIONS WITH MUN PROJECT COORDINATOR FOR EXISTING DAMAGES PRIOR TO START OF WORK. ANY DAMAGES THAT OCCUR AS A RESULT OF THE WORK WILL HAVE TO BE REPAIRED/REPLACED AT THE CONTRACTORS OWN EXPENSE

EXISTING WINDOW SILL DETAIL – DEMOLITION

SCALE: 1 : 5

3 / A-3.0

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

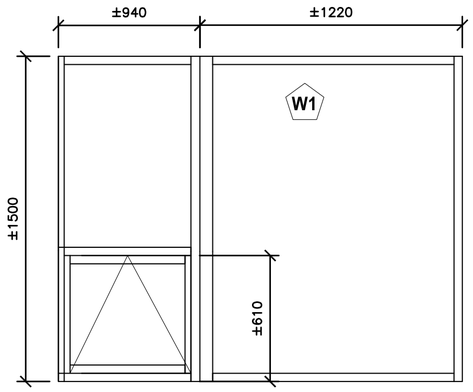
PROJECT NAME:

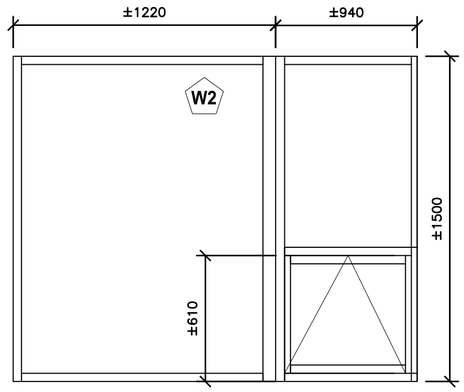
BATTERY FACILITY WINDOW REPLACEMENT

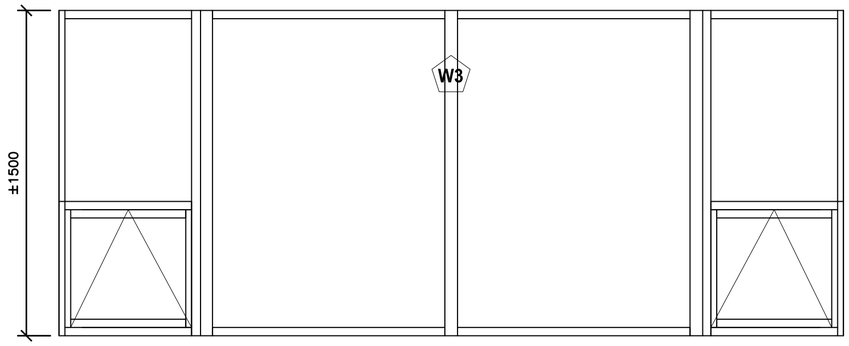
DRAWING TITLE:

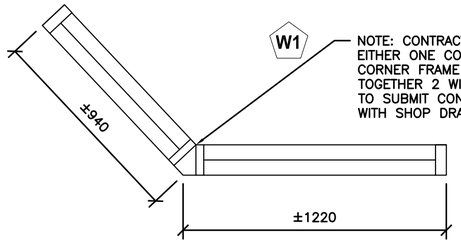
RESIDENCE TOWER EXISTING WINDOW ELEVATION AND DETAILS DEMOLITION

REVIEWED:	DRAWN:
M.F.	G.F.
SCALE: AS SHOWN	DATE: APRIL 2024
MUN PROJECT No. **B-508-22**	DRAWING No. **A-3.0**

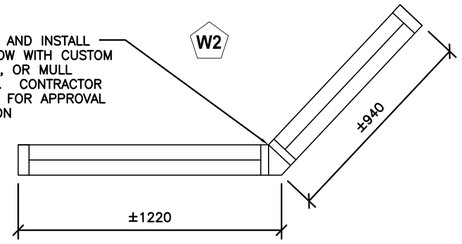


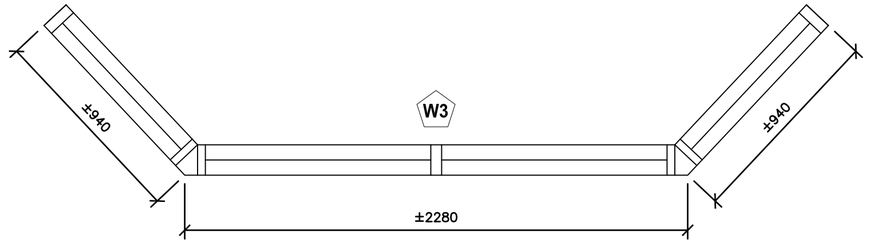


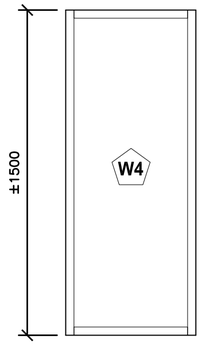


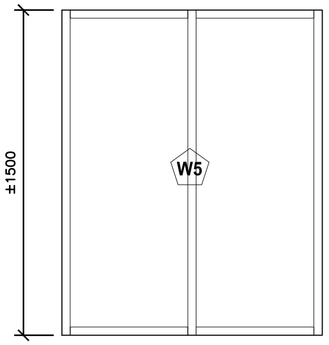


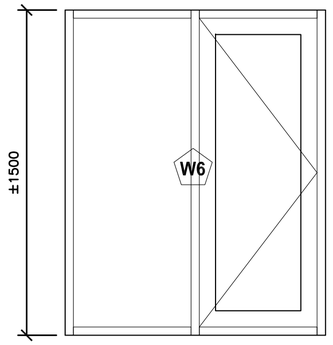
NOTE: CONTRACTOR TO SUPPLY AND INSTALL EITHER ONE CONTINUOUS WINDOW WITH CUSTOM CORNER FRAME TO SUIT ANGLE, OR MULL TOGETHER 2 WINDOWS TO SUIT. CONTRACTOR TO SUBMIT CONNECTION DETAIL FOR APPROVAL WITH SHOP DRAWING SUBMISSION

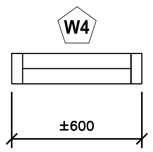


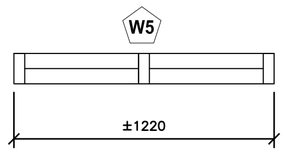


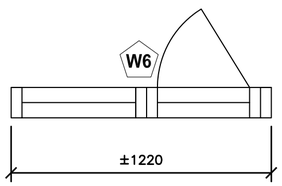












GENERAL NOTES:

1) WINDOW SIZES ARE APPROXIMATE AND MUST BE CONFIRMED BY CONTRACTOR ON SITE. EXISTING WINDOWS ARE INSTALLED WITH LIMITED/NO ROUGH OPENING SPACE. CONTRACTOR TO DECREASE THE SIZE OF EACH NEW WINDOW BY 25mm TO PERMIT LARGER GAP IN WINDOW ROUGH OPENING. CONTRACTOR TO SUPPLY AND INSTALL ALL NEW BLOCKING/SHIMS AS REQUIRED TO INSTALL NEW WINDOWS INTO EXISTING OPENINGS.
2) FABRICATE AND INSTALL NEW PREFINISHED STEEL FLASHINGS AROUND THE PERIMETER ALL NEW PUNCHED ALUMINUM WINDOW SYSTEMS AND PERIMETER FLASHINGS FOR ALL NEW/EXISTING STEEL SIDING INSTALLATION, AS DETAILED ON THE DRAWINGS.
3) PROVIDE SHOP DRAWINGS FOR ALL PRODUCTS USED.

MOCK–UPS:

1. CONSTRUCT ONE COMPLETE WINDOW INSTALLATION MOCK–UP IN THE PRESENCE OF MUNS PROJECT COORDINATOR. MOCK UP TO INCLUDE REVIEW OF ROUGH OPENING MEMBRANE INSTALLATION, ALL WINDOW COMPONENTS, ACCESSORIES AND INSTALLATION DETAILS, MOCK–UP TO INCLUDE INSTALLATION OF ONE COMPLETE SEALED GLAZING UNIT INSTALLATION IN THE PRESENCE OF THE PROJECT COORDINATOR TO SHOW LOCATION, SIZE AND SHAPE OF GLAZING SPLINE AND/OR GLAZING TAPES, HEEL BEAD INSTALLATION, APPLICATION OF ALL OTHER SEALANTS AND POSITIONING OF SETTING BLOCKS.
2. DO NOT PROCEED WITH ANY OTHER GLAZING INSTALLATION WORK UNTIL MOCK–UP HAS BEEN REVIEWED AND APPROVED BY THE PROJECT COORDINATOR.
3. MOCK–UP WILL BE USED TO JUDGE WORKMANSHIP, SUBSTRATE PREPARATION, OPERATION OF EQUIPMENT AND MATERIAL APPLICATION.

INSTALLATION:

1. WINDOWS: INSTALL NEW WINDOW SYSTEMS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS, DETAILS AND AS REQUIRED BY CAN/CSA A440.4

QUANTITIES, TO BE CONFIRMED BY CONTRACTOR:

W1 X 12	W3 X 3	W5 X 1
W2 X 12	W4 X 4	W6 X 1

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

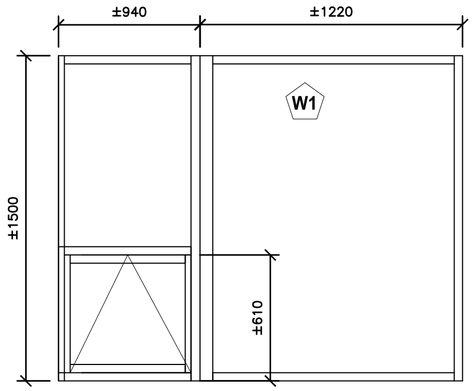
PROJECT NAME:

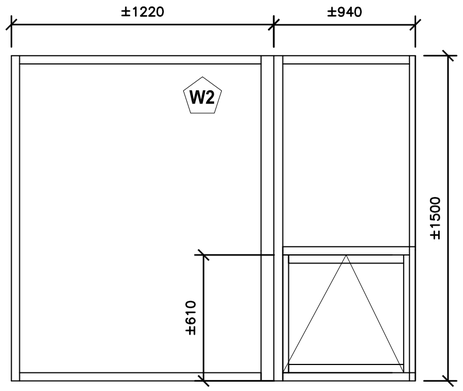
BATTERY FACILITY WINDOW REPLACEMENT

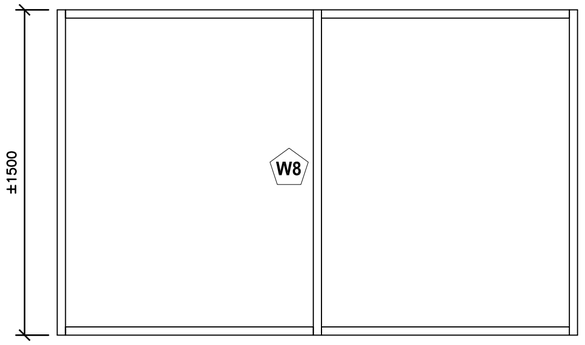
DRAWING TITLE:

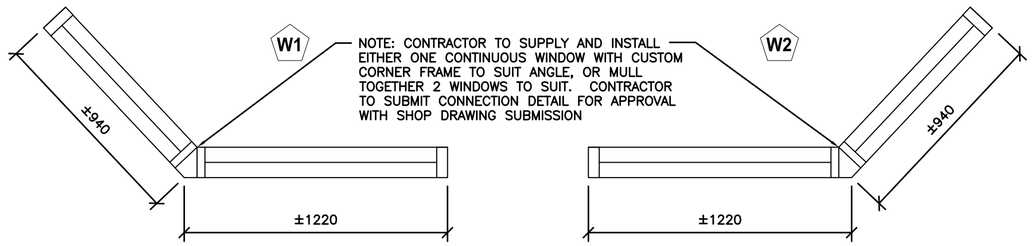
RESIDENCE TOWER NEW WINDOW SCHEDULE AND NOTES AREA 1

REVIEWED:	DRAWN:
M.F.	G.F.
SCALE: AS SHOWN	DATE: APRIL 2024
MUN PROJECT No. **B-508-22**	DRAWING No. **A-4.0**

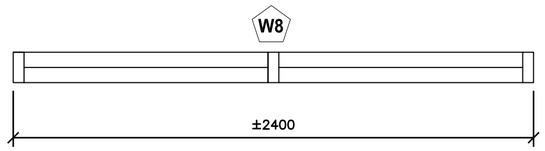


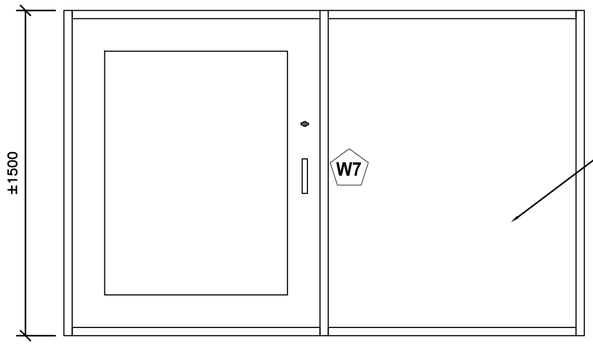






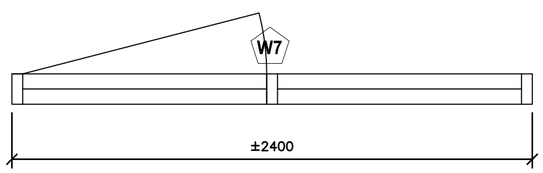
NOTE: CONTRACTOR TO SUPPLY AND INSTALL EITHER ONE CONTINUOUS WINDOW WITH CUSTOM CORNER FRAME TO SUIT ANGLE, OR MULL TOGETHER 2 WINDOWS TO SUIT. CONTRACTOR TO SUBMIT CONNECTION DETAIL FOR APPROVAL WITH SHOP DRAWING SUBMISSION





W7: CONTRACTOR TO REMOVE EXISTING WINDOW AND GLAZING/DOOR UNITS AND REINSTALL WITH ALL NEW SHIM TAPE, SEALANTS, AND SETTING BLOCKS. CONTRACTOR TO ENSURE EXISTING FRAME IS CLEANED OF ALL EXISTING SEALANT PRIOR TO INSTALLATION OF NEW. CONTRACTOR TO INSTALL ALL NEW BLOCKING AND MEMBRANE FLASHING PRIOR TO REINSTALLATION OF EXISTING WINDOW.

ALL WORK TO BE REVIEWED BY MUNS PROJECT COORDINATOR.



GENERAL NOTES:

1) WINDOW SIZES ARE APPROXIMATE AND MUST BE CONFIRMED BY CONTRACTOR ON SITE. EXISTING WINDOWS ARE INSTALLED WITH LIMITED/NO ROUGH OPENING SPACE. CONTRACTOR TO DECREASE THE SIZE OF EACH NEW WINDOW BY 25mm TO PERMIT LARGER GAP IN WINDOW ROUGH OPENING. CONTRACTOR TO SUPPLY AND INSTALL ALL NEW BLOCKING/SHIMS AS REQUIRED TO INSTALL NEW WINDOWS INTO EXISTING OPENINGS.
2) FABRICATE AND INSTALL NEW PREFINISHED STEEL FLASHINGS AROUND THE PERIMETER ALL NEW PUNCHED ALUMINUM WINDOW SYSTEMS AND PERIMETER FLASHINGS FOR ALL NEW/EXISTING STEEL SIDING INSTALLATION, AS DETAILED ON THE DRAWINGS.
3) PROVIDE SHOP DRAWINGS FOR ALL PRODUCTS USED.

MOCK–UPS:

1. CONSTRUCT ONE COMPLETE WINDOW INSTALLATION MOCK–UP IN THE PRESENCE OF MUNS PROJECT COORDINATOR. MOCK UP TO INCLUDE REVIEW OF ROUGH OPENING MEMBRANE INSTALLATION, ALL WINDOW COMPONENTS, ACCESSORIES AND INSTALLATION DETAILS, MOCK–UP TO INCLUDE INSTALLATION OF ONE COMPLETE SEALED GLAZING UNIT INSTALLATION IN THE PRESENCE OF THE PROJECT COORDINATOR TO SHOW LOCATION, SIZE AND SHAPE OF GLAZING SPLINE AND/OR GLAZING TAPES, HEEL BEAD INSTALLATION, APPLICATION OF ALL OTHER SEALANTS AND POSITIONING OF SETTING BLOCKS.
2. DO NOT PROCEED WITH ANY OTHER GLAZING INSTALLATION WORK UNTIL MOCK–UP HAS BEEN REVIEWED AND APPROVED BY THE PROJECT COORDINATOR.
3. MOCK–UP WILL BE USED TO JUDGE WORKMANSHIP, SUBSTRATE PREPARATION, OPERATION OF EQUIPMENT AND MATERIAL APPLICATION.

INSTALLATION:

1. WINDOWS: INSTALL NEW WINDOW SYSTEMS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS, DETAILS AND AS REQUIRED BY CAN/CSA A440.4

QUANTITIES. TO BE CONFIRMED BY CONTRACTOR:
W1 X 12
W2 X 12
W7 X 0 (REMOVE AND REINSTALL ONLY)
W8 X 2

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

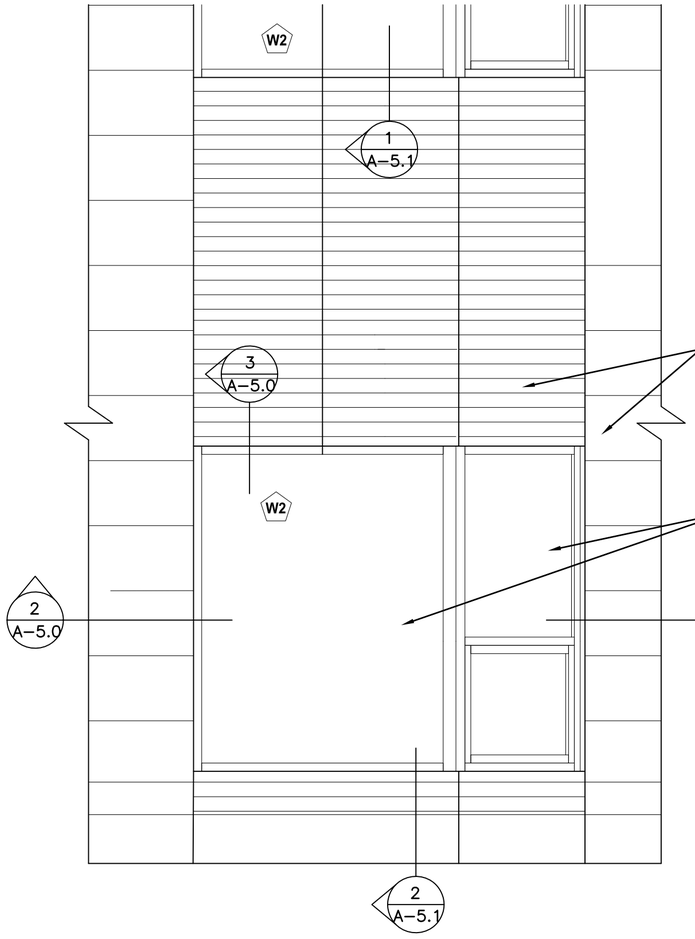
PROJECT NAME:

BATTERY FACILITY WINDOW REPLACEMENT

DRAWING TITLE:

RESIDENCE TOWER NEW WINDOW SCHEDULE AND NOTES AREA 2

REVIEWED:	DRAWN:
M.F.	G.F.
SCALE:	DATE:
AS SHOWN	APRIL 2024
MUN PROJECT No.	DRAWING No.
B-508-22	**A-4.1**



NOTES:
1) CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE FOR ESTIMATE PURPOSES ONLY
2) CONTRACTOR WILL BE REQUIRED TO COMPLETE A MOCK UP INSTALLATION OF THE NEW SELF–ADHERED MEMBRANES, WINDOW INSTALLATION AND METAL INSTALLATION. MOCK–UP INSTALLATION TO BE HELD AS STANDARD FOR ALL SUBSEQUENT INSTALLATIONS

CONTRACTOR TO REINSTALL EXISTING INSULATION, METAL SIDING AND ASSOCIATED TRIMS AFTER INSPECTION AND APPROVAL OF NEW MEMBRANE AND WINDOW INSTALLATION. NO WORK IS TO BE COVERED PRIOR TO REVIEW AND APPROVAL BY MUN'S REPRESENTATIVE.

SUPPLY AND INSTALL NEW WINDOWS AS PER DETAILS

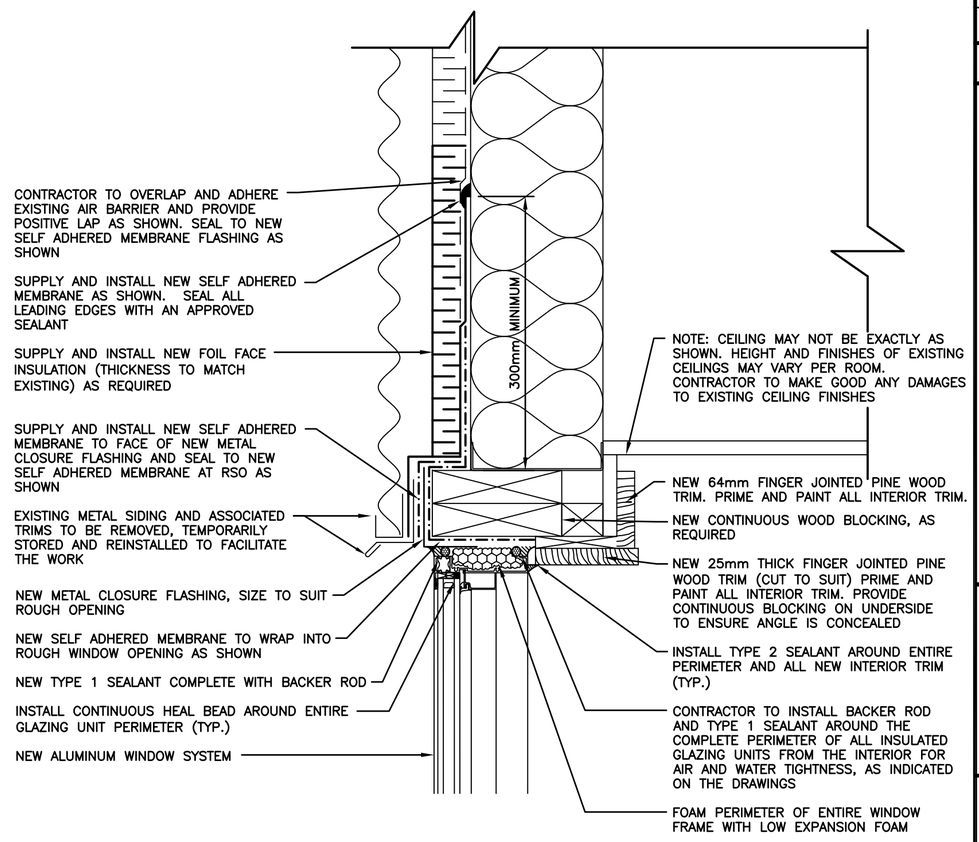
TYPICAL EXISTING WALL CONSTRUCTION
HORIZONTAL METAL SIDING
50mm Z–BARS
38mm RIGID INSULATION
AIR VAPOUR BARRIER
EXTERIOR SHEATHING
STEEL STUD
INSULATION
INTERIOR SHEATHING
(TYPICAL ASSEMBLY UNLESS OTHERWISE NOTED)

TYPICAL EXISTING WINDOW ELEVATION – DEMOLITION

1 A–5.0

SCALE: 1 : 100

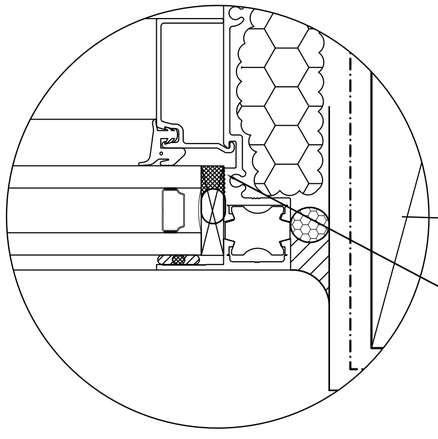
NOTE:
CONTRACTOR WILL BE REQUIRED TO COMPLETE A MOCK UP INSTALLATION OF THE NEW SELF–ADHERED MEMBRANES, WINDOW INSTALLATION AND METAL INSTALLATION. MOCK–UP INSTALLATION TO BE HELD AS STANDARD FOR ALL SUBSEQUENT INSTALLATIONS

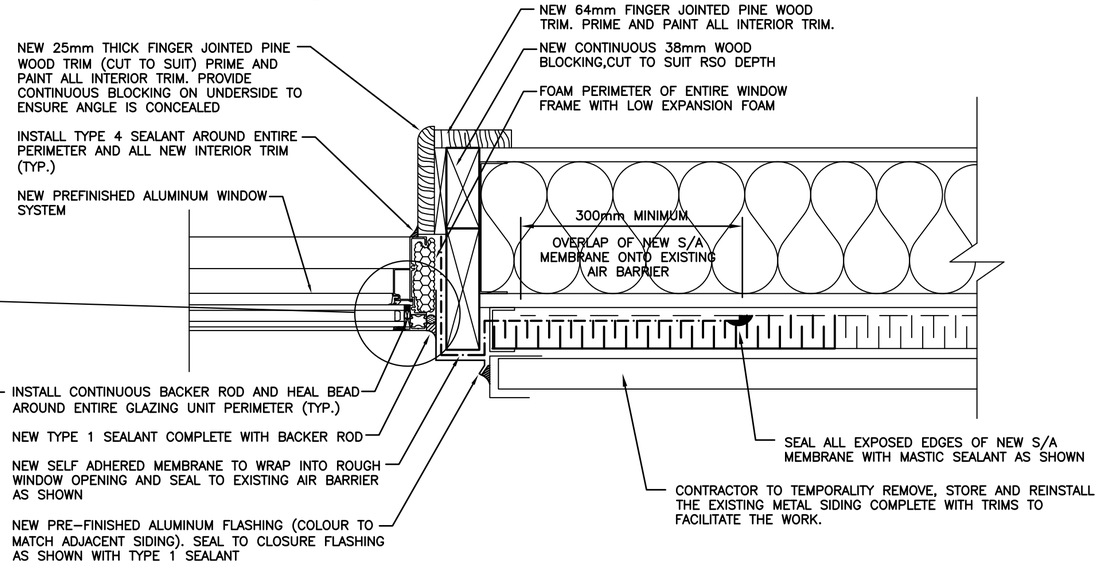


NEW WINDOW HEAD DETAIL

3 A–5.0

SCALE: 1 : 5





NEW WINDOW JAMB DETAIL

2 A–5.0

SCALE: 1 : 5

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

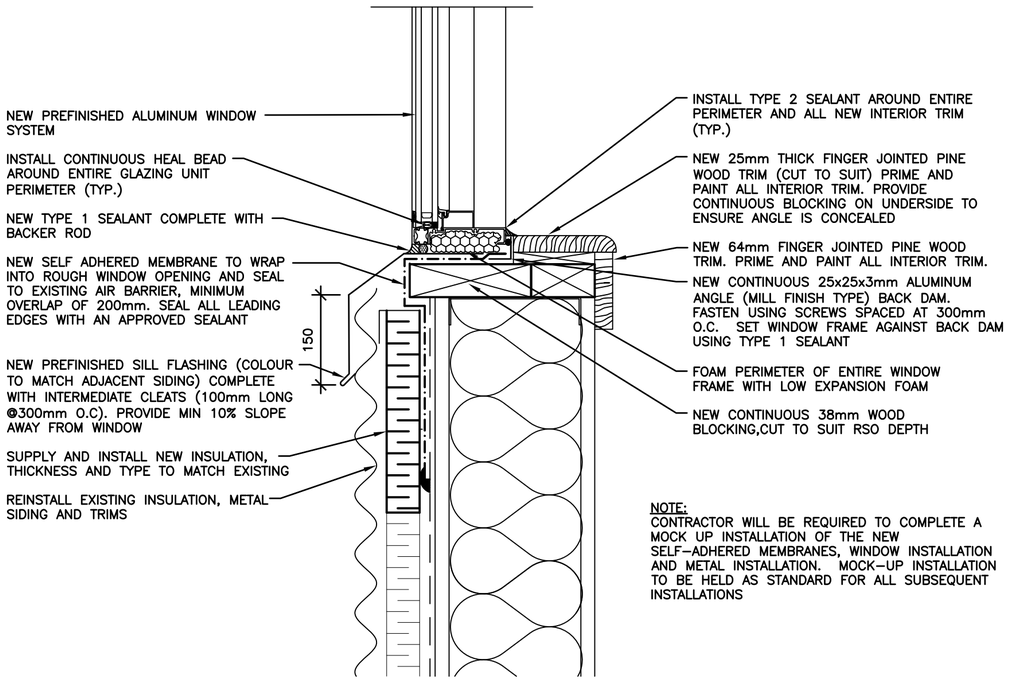
PROJECT NAME:

BATTERY FACILITY WINDOW REPLACEMENT

DRAWING TITLE:

RESIDENCE TOWER NEW WINDOW ELEVATION AND DETAILS

REVIEWED:	DRAWN:
M.F.	G.F.
SCALE:	DATE:
AS SHOWN	APRIL 2024
MUN PROJECT No.	DRAWING No.
B-508-22	**A-5.0**

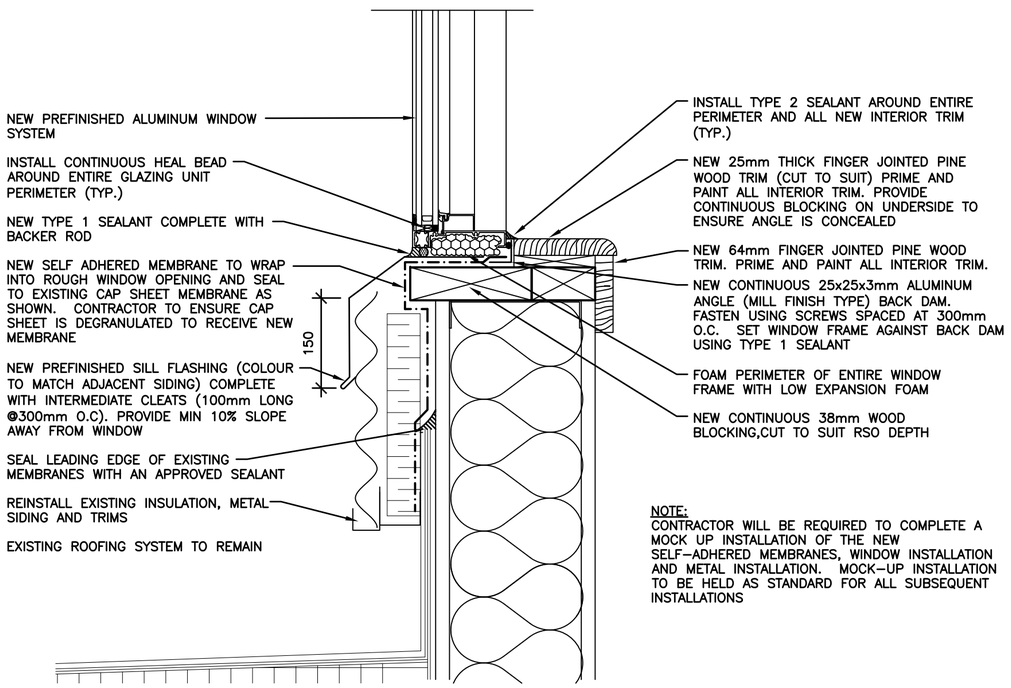


NOTE:
CONTRACTOR WILL BE REQUIRED TO COMPLETE A MOCK UP INSTALLATION OF THE NEW SELF-ADHERED MEMBRANES, WINDOW INSTALLATION AND METAL INSTALLATION. MOCK-UP INSTALLATION TO BE HELD AS STANDARD FOR ALL SUBSEQUENT INSTALLATIONS

NEW WINDOW SILL DETAIL

SCALE: 1 : 5

1 / A-5.1

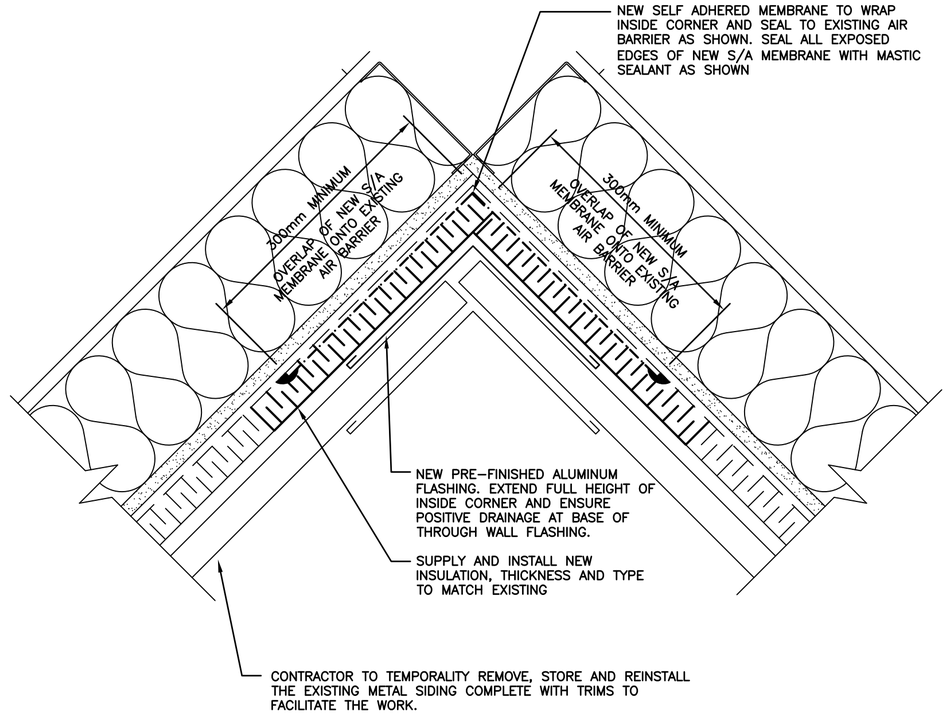


NOTE:
CONTRACTOR WILL BE REQUIRED TO COMPLETE A MOCK UP INSTALLATION OF THE NEW SELF-ADHERED MEMBRANES, WINDOW INSTALLATION AND METAL INSTALLATION. MOCK-UP INSTALLATION TO BE HELD AS STANDARD FOR ALL SUBSEQUENT INSTALLATIONS

NEW WINDOW SILL AT ROOF LOCATION

SCALE: 1 : 5

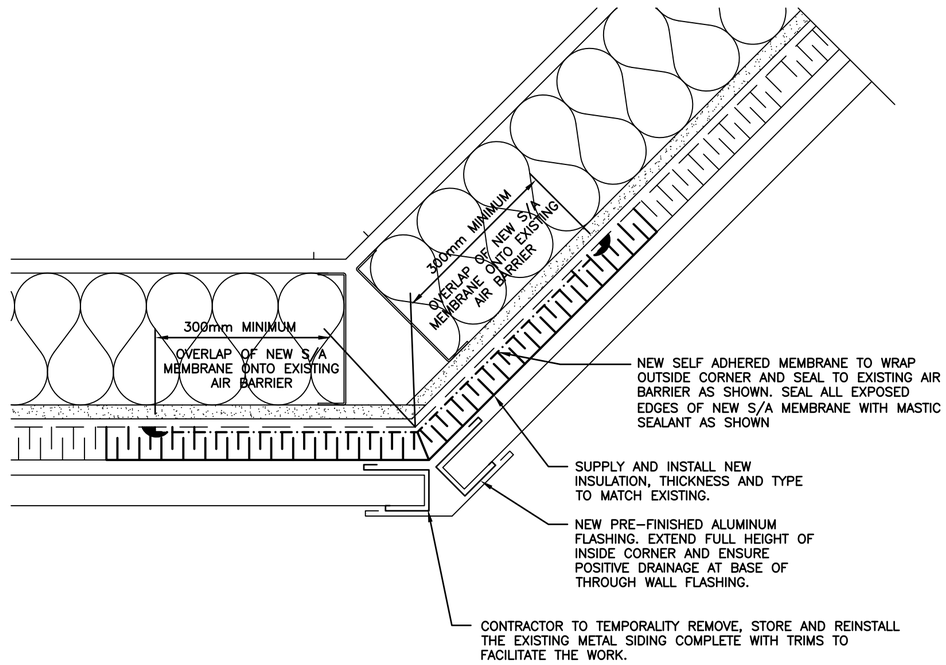
2 / A-5.1



NEW INTERIOR CORNER MEMBRANE DETAIL

SCALE: 1 : 5

3 / A-5.1



NEW OUTSIDE CORNER MEMBRANE DETAIL

SCALE: 1 : 5

4 / A-5.1

No.	REVISION	DATE
R1	ISSUED FOR TENDER	APRIL 25, 2024
R0	ISSUED FOR REVIEW	APRIL 25, 2024

GENERAL NOTES

1. DRAWINGS TO BE READ AS A SET.
2. DO NOT SCALE FROM DRAWINGS.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS. PRIOR TO SUBMISSION OF TENDERS.
4. ALL DISCREPANCIES FOUND IN THESE DRAWINGS TO BE BROUGHT TO THE ATTENTION OF FACILITIES MANAGEMENT PRIOR TO SUBMISSION OF TENDERS.

STAMP:

MEMORIAL UNIVERSITY

Department of Facilities Management

This University was raised by the people of Newfoundland as a memorial to the fallen in the great wars, 1914-1918, 1939-1945, that in freedom of learning, their cause and sacrifice might not be forgotten.

- Dedication plaque, Arts & Administration Building, St. John's Campus

PROJECT NAME:

BATTERY FACILITY WINDOW REPLACEMENT

DRAWING TITLE:

RESIDENCE TOWER NEW WINDOW AND SIDING DETAILS

REVIEWED:	DRAWN:
M.F.	G.F.
SCALE: AS SHOWN	DATE: APRIL 2024
MUN PROJECT No. **B-508-22**	DRAWING No. **A-5.1**