



Tender Specifications

CSC OOHL Roof & Stair Upgrades
Maple Creek, SK

Solicitation No. R.106999



SECTION 00 01 10 Table of Contents.....	1
SECTION 00 01 07 Seals page	1
SECTION 00 01 15 List of drawing sheets	1
SECTION 01 11 00 Summary of work.....	3
SECTION 01 14 00 Work restrictions	3
SECTION 01 31 19 Project meetings	2
SECTION 01 32 16.19 Construction progress schedule - bar (gantt) chart	2
SECTION 01 33 00 Submittal procedures	3
SECTION 01 35 29.06 Health and safety requirements	3
SECTION 01 41 00 Regulatory requirements	2
SECTION 01 45 00 Quality control.....	2
SECTION 01 52 00 Construction facilities	2
SECTION 01 56 00 Temporary barriers and enclosures	1
SECTION 01 61 00 Common product requirements	4
SECTION 01 73 00 Execution	2
SECTION 01 74 00 Cleaning.....	2
SECTION 01 74 19 Waste management and disposal	3
SECTION 01 77 00 Closeout procedures	2
SECTION 01 78 00 Closeout submittals.....	5
SECTION 01 79 00 Demonstration and training.....	2
SECTION 02 41 19.13 Selective demolition	5
SECTION 02 42 00 Removal and salvage of construction materials	2
SECTION 06 08 99 Rough carpentry for minor works.....	2
SECTION 07 13 52 Modified bituminous sheet waterproofing	4
SECTION 07 52 00 Modified bituminous membrane roofing	8
SECTION 07 61 00 Sheet metal roofing	3
SECTION 07 62 00 Sheet metal flashing and trim.....	3
SECTION 07 92 00 Joint sealants	4
SECTION 26 41 13 Lightning protection for structures	2
SECTION 32 14 10 Unit paving on sand bed	2
Appendix A - CSC OOHL Entry Guidelines	
Appendix B - Annex 4 -Typical Security Restrictions	
Appendix C - Temporary Construction Fences	

Part 1 General

1.1 Seals

.1



SK PERMIT TO PRACTICE No. C852

Part 2 Products

2.1 Not used

.1 Not Used

Part 3 Execution

3.1 Not used

.1 Not Used

Ω End of Section

Part 1 General

1.1 Drawing Sheets

- .1 C101: Site Layout Plan
- .2 S101: Main Lodge Roof Plan
- .3 S102: Living Lodges (Block #1, #2, #3) Roof Plan
- .4 S103: Living Lodges (Block #4) & Elders Lodge Roof Plan
- .5 S201: Roof Details
- .6 S202: Roof Details
- .7 S301: Stair Plans, Sections, & Details

Part 2 Products

2.1 Not used

- .1 Not Used

Part 3 Execution

3.1 Not used

- .1 Not Used

Ω End of Section

Part 1 General

1.1 Work covered by contract documents

- .1 Work of this Contract comprises renovation of roof and paving stone stair replacement, located at the Okimaw Ohci Healing Lodge in Maple Creek, SK
- .2 Work of this Contract comprises renovation of, but not limited to:
 - .1 Main Lodge, Building B08 – Roof Replacement
 - .1 Remove and store all roof top equipment including satellite dishes and lightning rod grounding system. Remove and store Eagle Insignia from main Lodge roof. Provide as-built layout and inventory list.
 - .2 Remove and dispose of existing asphalt shingles and any associated underlayment to expose wood roof deck. Only remove shingles from that portion of roof area which can be waterproofed by end of work day. Contractor must be prepared to protect all exposed roof areas against inclement weather at all times.
 - .3 Remove and replace any damaged or deteriorating roof decking subject to approval by Departmental Representative.
 - .4 Install new metal flashings, low-eave, high-eave, gable, rake, headwall, chimney, and all associated components and hardware. Cut back stucco to 150mm above roof deck to allow rake and headwall flashing installation.
 - .5 Remove all debris from roof surface.
 - .6 Install fully adhered mod-bit base membrane over entire prepared roof area. Install primers as per project and manufacturers specifications.
 - .7 Install fully adhered mod-bit cap membrane over base layer.
 - .8 Re-install all roof top equipment. Provide shop drawings for all mounting details
 - .9 Install eagle insignia with new composite pavers. Pavers are not to be mechanically fastened to roof system, rather held in place by gravity.
 - .10 Clean all eave troughs
 - .2 Living Lodges, B01-B04, B06 – Roof Replacement
 - .1 Remove and store all roof top equipment. Provide as built layout and inventory list
 - .2 Remove and dispose of existing asphalt shingles. Only remove shingles from that portion of roof area which can be waterproofed by end of work day. Contractor must be prepared to protect all exposed roof areas against inclement weather at all times.
 - .3 Remove and replace any damaged or deteriorating roof decking subject to approval by Department Representative.
 - .4 Install new metal flashings, low-eave, gable, rake, chimney, and all associated components and hardware. Provide reglet in stucco to suit flashing installation.
 - .5 Remove all debris from roof surface.
 - .6 Install fully adhered waterproofing membrane over entire prepared roof area. Install primers as per project and manufacturers specifications.
 - .7 Install valley flashing.

- .8 Install standing seam metal roof.
- .9 Re-install all roof top equipment. Provide shop drawings for all mounting details
- .10 Clean all eave troughs
- .3 North and East exterior stairway repairs
 - .1 Remove and store existing paving stones.
 - .2 Infill exposed areas with bedding sand as required to suit re-installation of stored paving stones level with top of timber stair framing.
 - .3 Reinstall paving stones flush with top of the timber tread framing.
 - .4 Compact paving stones and install polymeric jointing sand.

1.2 Work by others

- .1 Co-operate with other Contractors in carrying out their respective works and carry out instructions from Consultant.
- .2 Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Consultant, in writing, any defects which may interfere with proper execution of Work.

1.3 Work sequence

- .1 Construct Work in stages to accommodate Owner's continued use of premises during construction.
- .2 Co-ordinate Progress Schedule and co-ordinate with Owner Occupancy during construction.
- .3 Construct Work in stages to provide for continuous public usage. Do not close off public usage of facilities until use of one stage of Work will provide alternate usage.
- .4 Maintain fire access/control.

1.4 Contractor use of premises

- .1 Co-ordinate use of premises under direction of Departmental Representative.
- .2 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .3 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .4 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.
- .5 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

1.5 Alterations, additions or repairs to existing building

- .1 Execute work with least possible interference or disturbance to building operations, public and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.6 Documents required

- .1 Maintain at job site, one copy each document as follows:
-

- .1 Contract Drawings.
- .2 Specifications.
- .3 Addenda.
- .4 Reviewed Shop Drawings.
- .5 List of Outstanding Shop Drawings.
- .6 Change Orders.
- .7 Other Modifications to Contract.
- .8 Field Test Reports.
- .9 Copy of Approved Work Schedule.
- .10 Health and Safety Plan and Other Safety Related Documents.
- .11 Other documents as specified.

1.7 Measurement of Payment

- .1 The measurement for payment will be provided in lump sum, with the exception of the work listed below. These items will be paid on the actual quantities measured on site and the unit prices stated in the Bid and Acceptance Form.

Class of Labour, Plant or Material	Unit of Measurment	Estimated Quantity	Specification Reference
Remove and Dispose of Damaged Sheathing	Square Metres	368	06 08 99
Supply and Install New OSB Roof Sheathing	Square Metres	368	06 08 99

- .2 Include all the following in the unit price submitted :
 - .1 Cost of Material
 - .2 Delivery and unloading at site
 - .3 Provincial sales taxes
 - .4 Installation, supervision, overhead, and profit
 - .5 Remove and disposal of all waste

Part 2 Products

2.1 Not used

- .1 Not used.

Part 3 Execution

3.1 Not used

- .1 Not used.

Ω End of Section

DN
21 07 20

Part 1 General

1.1 Access and egress

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

1.2 Use of site and facilities

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Departmental Representative will review and approve any requested use of site facilities for use by Contractor's personnel. Keep all areas and facilities clean.
- .5 Closures: protect work temporarily until permanent enclosures are completed.
 - .1 All unfinished work must be protected and secured so inmates and staff cannot access the area. In cases where temporary fencing needs to be used the latest version of the CSC Tech Criteria for Type 1 temporary fencing
- .6 Work will be carried out during normal working hours when Institution is fully staffed and in operation

1.3 Alterations, additions or repairs to existing building

- .1 Execute work with least possible interference or disturbance to building operations and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.4 Existing services

- .1 Notify, Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.5 Preliminary Proceedings

- .1 Prior to the commencement of work, the Contractor will meet with Departmental Representative and CSC representatives to:
 - .1 Discuss the nature and extent of all activities involved in the Work.
 - .2 Establish mutually acceptable security procedures in accordance with this instruction and the Institution's particular requirements.
 - .2 The Contractor will:
 - .1 Ensure that all construction employees are aware of the security requirements.
 - .2 Ensure that a copy of the security requirements is always prominently on display at the job site.
-

- .3 Co-operate with Institutional personnel in ensuring that security requirements are observed by all construction employees.

1.6 Security

- .1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.
- .2 Each CSC Institution has their own particular security level and subsequently unique security regulations. The Contractor must become familiar with these regulations, particularly where tool control is concerned.
- .3 Contractor to follow security restrictions of CSC Institution as per Appendix - Typical Security Restrictions
- .4 All site visits must be arranged through the Departmental Representative.
- .5 Security clearances:
 - .1 The Contractor is required to obtain security clearances for all of the companies' personnel as well as any sub-Contractors visiting the Work site for any reason.
 - .1 Contractor to comply with CSC OOHL Institutional Entry Requirement Guidelines
 - .2 Personnel employed on this project will be subject to security check. Obtain clearance, as instructed, for each individual who will require to enter site and premises.
 - .3 Obtain requisite clearance, as instructed, for each individual required to enter site and premises.
 - .4 Personnel will be checked daily at start of work shift and provided with pass which must be worn at all times. Pass must be returned at end of work shift and personnel checked out.

1.7 Building smoking environment

- .1 Comply with smoking restrictions. Smoking is not permitted.

1.8 Construction Employees

- .1 Submit to the Institution and Departmental Representative documentation as per OOHL Site Entry Guidelines
 - .2 Allow one (1) weeks for processing of security clearances. Employees will not be admitted to the Institution without a valid security clearance in place and recent picture identification such as a provincial driver's license. Security clearances obtained from other CSC Institutions are not valid at this Institution.
 - .3 Contractor to submit copy of Valid Government ID of each individual on site and either kept (locked) in their vehicle or brought into the main lodge to be kept in a secure lockbox.
 - .4 Entry to Institutional Property will be refused to any person there may be reason to believe may be a security risk.
 - .5 Any person employed on the construction site will be subject to immediate removal from Institutional Property if they:
 - 1. Appear to be under the influence of alcohol, drugs or narcotics.
 - 2. Behave in an unusual or disorderly manner.
 - 3. Are in possession of contraband.
-

1.9 Vehicles

- .1 All unattended vehicles on CSC property shall have windows closed; doors and trunks to be locked. All Vehicles brought into the institution (beyond the parking lot) will require locking gas caps.
- .2 Departmental Representative may limit at any time the number and type of vehicles allowed within the Institution
- .3 Drivers of delivery vehicles for material required by the Work will not require security clearances but will be escorted by commissionaire
 - .1 A Principal Entrance (PE) Memo will need to be made for delivery companies.
 - .2 Contractor to submit list of names and when they plan to arrive on site
- .4 If the Departmental Representative permits trailers to be left inside the secure perimeter of the Institution, these trailers will be locked at all times

1.10 Parking

- .1 The parking area to be used by construction employees will designated by Departmental Representative

1.11 Shipments

- .1 All shipments of Work material, equipment, and tools shall be addressed in the Contractors name to avoid confusion with the Institutions own shipments. The contractor must have his own employees on site to receive any deliveries or shipments

1.12 Storage

- .1 Refer to Section 01 52 00 Construction Facilities for direction on daily removal off site of tools, equipment, material, and waste

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Administrative

- .1 Schedule and administer project meetings throughout the progress of the work
- .2 Prepare agenda for meetings.
- .3 Distribute written notice of each meeting two days in advance of meeting date to Departmental Representative.
- .4 Provide physical space and make arrangements for meetings.
- .5 Preside at meetings.
- .6 Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
- .7 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.2 Preconstruction meeting

- .1 Within 15 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Departmental Representative, CSC-RHQ Representative, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3 Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Agenda to include:
 - .1 Appointment of official representative of participants in the Work.
 - .2 Schedule of submission of shop drawings, samples, colour chips. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .3 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.
 - .4 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
 - .5 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
 - .6 Owner provided products.
 - .7 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.
 - .8 Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.
 - .9 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00 - Closeout Submittals.
 - .10 Monthly progress claims, administrative procedures, photographs, hold backs.
 - .11 Appointment of inspection and testing agencies or firms.
 - .12 Insurances, transcript of policies.

1.3 Progress meetings

- .1 During course of Work and 2 weeks prior to project completion, schedule progress meetings bi-weekly.
- .2 Contractor, major Subcontractors involved in Work, CSC-RHQ Representative, Departmental Representative are to be in attendance.
- .3 Notify parties minimum 2 days prior to meetings.
- .4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 2 days after meeting.
- .5 Departmental Representative to record minutes of meetings and circulate to attending parties and affected parties not in attendance within 2 days after meeting.
- .6 Agenda to include the following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Maintenance of quality standards.
 - .11 Review proposed changes for affect on construction schedule and on completion date.
 - .12 Other business.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Definitions

- .1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.
- .3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
- .4 Construction Work Week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
- .5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.
- .6 Master Plan: summary-level schedule that identifies major activities and key milestones.
- .7 Milestone: significant event in project, usually completion of major deliverable.
- .8 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

1.2 Requirements

- .1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.
- .3 Limit activity durations to maximum of approximately 10 working days, to allow for progress reporting.
- .4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.3 Action and informational submittals

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative within 10 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.
- .3 Submit Project Schedule to Departmental Representative within 5 working days of receipt of acceptance of Master Plan.

1.4 Project schedule

- .1 Develop detailed Project Schedule derived from Master Plan.
-

1.5 Project schedule reporting

- .1 Update Project Schedule on bi-weekly basis reflecting activity changes and completions, as well as activities in progress.
- .2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.6 Project meetings

- .1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.
- .2 Weather related delays with their remedial measures will be discussed and negotiated.

Part 2 Products

2.1 Not used

- .1 Not used.

Part 3 Execution

3.1 Not used

- .1 Not used.

Ω End of Section

Part 1 General

1.1 Administrative

- .1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10 Keep one reviewed copy of each submission on site.

1.2 Shop drawings and product data

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit drawings stamped and signed by professional engineer registered or licensed in Province , Canada where sealed shop drawings are required
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow 3 days for Departmental Representative review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.

- .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
 - .8 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Relationship to adjacent work.
 - .9 After Departmental Representative review, distribute copies.
 - .10 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
 - .11 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
 - .12 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within 3 years of date of contract award for project.
 - .13 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
 - .14 Submit electronic copies of manufacturers instructions for requirements requested in specification Sections and as requested by Departmental Representative.
-

- .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
- .16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .17 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .18 Delete information not applicable to project.
- .19 Supplement standard information to provide details applicable to project.
- .20 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .21 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.
 - .1 This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.

1.3 Certificates and transcripts

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Province of Saskatchewan
 - .1 Occupational Health and Safety Act, 1993, S.S. - Updated 2012.

1.2 Action and informational submittals

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
 - .3 The health and safety plan to address the current Covid-19 Pandemic protocols
- .3 Submit 1 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS Safety Data Sheets (SDS) in accordance with Section 01 47 15 - Sustainable Requirements: Construction and Section 02 81 01 - Hazardous Materials.
- .6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 5 days after receipt of comments from Departmental Representative.
- .7 Departmental Representative review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.3 Safety assessment

- .1 Perform site specific safety hazard assessment related to project.

1.4 Meetings

- .1 Schedule and administer Health and Safety meeting with Departmental Representative and CSC-RHQ Representative prior to commencement of Work.

1.5 Regulatory requirements

- .1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.6 General requirements

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
 - .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.
-

1.7 Responsibility

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.8 Compliance requirements

- .1 Comply with the Occupational Health and Safety Acts and Regulations of the Province Having Jurisdiction
- .2 Comply with Occupational Health and Safety Regulations, 1996.
- .3 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.9 Unforeseen hazards

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur 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 and advise Departmental Representative verbally and in writing.
- .2 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise Health and Safety co-ordinator and follow procedures in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.10 Health and safety co-ordinator

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have working knowledge of occupational safety and health regulations.
 - .2 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.
 - .3 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
 - .4 Be on site during execution of Work and report directly to the Departmental Representative.

1.11 Correction of non-compliance

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.12 Work stoppage

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

Part 2 Products

2.1 Not used

.1 Not used.

Part 3 Execution

3.1 Not used

.1 Not used.

Ω End of Section

Part 1 General

1.1 References to regulatory requirements

- .1 Perform Work in accordance with National Building Code of Canada (NBC) including amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Specific design and performance requirements listed in specifications or indicated on Drawings may exceed minimum requirements established by referenced Building Code; these requirements will govern over the minimum requirements listed in Building Code
 - .1 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

1.2 Hazardous material discovery

- .1 Asbestos: demolition of spray or trowel-applied asbestos is hazardous to health. Stop work immediately when material resembling spray or trowel-applied asbestos is encountered during demolition work.
- .2 Mould: stop work immediately when material resembling mould is encountered during demolition work.

1.3 Building smoking environment

- .1 Comply with smoking restrictions and municipal by-laws.

1.4 Quality assurance

- .1 Regulatory Requirements: Except as otherwise specified, Constructor shall apply for, obtain, and pay fees associated with, permits, licenses, certificates, and approvals required by regulatory requirements and Contract Documents, based on General Conditions of Contract and the following:
 - .1 Regulatory requirements and fees in force on date of Bid submission, and
 - .2 A change in regulatory requirements or fees scheduled to become effective after date of tender submission and of which public notice has been given before date of tender submission

Part 2 Products

2.1 Not used

- .1 Not Used.

2.2 Permits

- .1 Permits:
 - .1 Constructor shall apply for, obtain, and pay for occupancy permits, including partial occupancy permits where required by authority having jurisdiction.
 - .2 Departmental Representative will issue appropriate instructions to Constructor for correction to Work where Contract Document deficiencies are required to be corrected
-

- .3 Constructor shall correct deficiencies in accordance with Departmental instructions. Where deficiency is not corrected, Owner reserves the right to make correction and charge Constructor for costs incurred.
- .4 Constructor shall turn occupancy permits over to Owner.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Inspection

- .1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

1.2 Independent inspection agencies

- .1 Provide equipment required for executing inspection and testing by appointed agencies.
- .2 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .3 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Owner. Pay costs for retesting and reinspection.

1.3 Access to work

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.4 Procedures

- .1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.5 Rejected work

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
 - .2 Make good other Contractor's work damaged by such removals or replacements promptly.
 - .3 If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative.
-

1.6 Reports

- .1 Submit 2 copies of inspection and test reports to Departmental Representative.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Action and informational submittals

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.2 Installation and removal

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
 - .1 See Appendix SP-6 Site- Temporary Construction Fences for specifications for Type 1 fencing
- .2 Identify areas which have to be gravelled to prevent tracking of mud.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

1.3 Scaffolding

- .1 Scaffolding in accordance with CAN/CSA-S269.2.

1.4 Hoisting

- .1 Provide, operate and maintain hoists cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2 Hoists cranes to be operated by qualified operator.

1.5 Site storage/loading

- .1 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.6 Construction parking

- .1 Parking will be permitted on site under the direction of the Departmental Representative
- .2 Provide and maintain adequate access to project site.

1.7 Equipment, tool and materials storage

- .1 All tools, equipment and material are able to be removed from site daily. No tools are to remain on site in lock boxes
- .2 Approval by Departmental Representative is required in event that Tools, equipment and material is left on site overnight . These items must be stored in a lockable trailer in a location designated by Departmental Representative

1.8 Sanitary facilities

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
 - .1 All sanitary facilities must be locked and secured at the end of each work day
 - .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.
-

1.9 Clean-up

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Remove salvageable materials resulting from demolition activities to an offsite storage location
- .3 Salvaged materials, and construction waste that cannot be removed offsite are to be approved by Departmental Representative. If Approved, these items are to be secured in a locked storage bin at the end of each work day.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution - Not Used

Ω End of Section

Part 1 General

1.1 Installation and removal

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

1.2 Access to site

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.3 Fire routes

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

1.4 Protection for off-site and public property

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.5 Protection of building finishes

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Confirm with Departmental Representative locations and installation schedule 5 days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

1.6 Waste management and disposal

- .1 Separate waste materials in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .2 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .3 Cost for such testing will be born by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.

1.2 Quality

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 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.
- .4 Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .5 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .6 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.3 Availability

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

1.4 Storage, handling and protection

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
 - .2 All stored material/tools, salvaged materials, and construction waste to be secured in a locked storage bin or SeaCan at the end of each work day. Construction waste can also be moved off site daily if no locking storage bins are available.
-

- .3 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .4 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.5 Transportation

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Transportation cost of products supplied by Owner will be paid for by Owner. Unload, handle and store such products.

1.6 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 Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative can establish a course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

1.7 Quality of work

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

1.8 Co-ordination

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

1.9 Remedial work

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.10 Location of fixtures

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
-

1.11 Fastenings

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.12 Fastenings - equipment

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

1.13 Protection of work in progress

- .1 Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of Departmental Representative.

1.14 Existing utilities

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or building occupants.
- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Action and informational submittals

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit written request in advance of cutting or alteration which affects:
 - .1 Structural integrity of elements of project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of operational elements.
 - .4 Visual qualities of sight-exposed elements.
 - .5 Work of Owner or separate contractor.
- .3 Include in request:
 - .1 Identification of project.
 - .2 Location and description of affected Work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed Work, and products to be used.
 - .5 Alternatives to cutting and patching.
 - .6 Effect on Work of Owner or separate contractor.
 - .7 Written permission of affected separate contractor.
 - .8 Date and time work will be executed.

1.2 Materials

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.

1.3 Preparation

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

1.4 Execution

- .1 Execute cutting, fitting, and patching including excavation and fill, to complete Work.
 - .2 Fit several parts together, to integrate with other Work.
 - .3 Uncover Work to install ill-timed Work.
 - .4 Remove and replace defective and non-conforming Work.
 - .5 Remove samples of installed Work for testing.
 - .6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
-

- .7 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .8 Restore work with new products in accordance with requirements of Contract Documents.
- .9 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .10 Provide firestopping in accordance with Section 07 84 00 - Firestopping to maintain the integrity of fire separations, including:
 - .1 Protecting penetrations at fire-resistance rated wall, ceiling or floor construction.
 - .2 Using construction joint fire stops and building perimeter fire stops to protect gaps at fire separations and between fire separations and other construction assemblies.
- .11 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.

1.5 Waste management and disposal

- .1 Separate waste materials in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Project cleanliness

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide and use marked separate bins for recycling. Refer to Section 01 74 19 - Waste Management and Disposal.
- .5 Dispose of waste materials and debris off site.
- .6 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .7 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .8 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .9 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .10 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.2 Final cleaning

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste products and debris other than that caused by Owner or other Contractors.
- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Clean and sweep roofs, gutters, areaways, and sunken wells.

Part 2 Products

2.1 Not used

- .1 Not Used.
-

Part 3 Execution

3.1 Not used

.1 Not Used.

Ω End of Section

Part 1 General

1.1 Definitions

- .1 Clean Waste: Untreated and unpainted; not contaminated with oils, solvents, sealants or similar materials.
 - .2 Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, re modeling operations, repair and demolition.
 - .3 Hazardous: Exhibiting the characteristics of hazardous substances including properties such as ignitability, corrosiveness, toxicity or reactivity.
 - .4 Non hazardous: Exhibiting none of the characteristics of hazardous substances, including properties such as ignitability, corrosiveness, toxicity, or reactivity.
 - .5 Non toxic: Not poisonous to humans either immediately or after a long period of exposure.
 - .6 Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
 - .7 Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
 - .8 Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form; recycling does not include burning, incinerating, or thermally destroying waste.
 - .9 Return: To give back reusable items or unused products to vendors for credit.
 - .10 Reuse: To reuse a construction waste material in some manner on the project site.
 - .11 Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
 - .12 Sediment: Soil and other debris that has been eroded and transported by storm or well production run off water.
 - .13 Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
 - .14 Toxic: Poisonous to humans either immediately or after a long period of exposure.
 - .15 Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
 - .16 Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products over time through outgassing:
 - .1 Solvents in paints and other coatings;
 - .2 Wood preservatives; strippers and household cleaners;
 - .3 Adhesives in particleboard, fiberboard, and some plywood; and foam insulation.
 - .4 When released, VOC's can contribute to the formation of smog and can cause respiratory tract problems, headaches, eye irritations, nausea, damage to the liver, kidneys, and central nervous system, and possibly cancer.
 - .17 Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.
 - .18 Construction Waste Management Plan: A project related plan for the collection, transportation, and disposal of the waste generated at the construction site; the purpose of the plan is to ultimately reduce the amount of material being landfilled.
-

1.2 Administrative requirements

- .1 Coordination: Coordinate waste management requirements with all Divisions of the Work for the project, and ensure that requirements of the Construction Waste Management Plan are followed.
- .2 Preconstruction Meeting: Arrange a pre-construction meeting in accordance with Section 01 31 19 – Project Meetings before starting any Work of the Contract attended by the Owner, Contractor, affected Subcontractor 's and Departmental Representative to discuss the Contractor 's Construction Waste Management Plan and to develop mutual understanding of the requirements for a consistent policy towards waste reduction and recycling.

1.3 Submittals

- .1 Provide required information in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Action Submittals: Provide the following submittals before starting any work of this Section:
 - .1 Draft Construction Waste Management Plan (Draft CWM Plan): Submit to Departmental Representative a preliminary analysis of anticipated site generated waste by listing a minimum of five (5) construction or demolition waste streams that have potential to generate the most volume of material indicating methods that will be used to divert construction waste from landfill and source reduction strategies; Departmental Representative will provide commentary before development of Contractor 's Construction Waste Management Plan.
 - .2 Construction Waste Management Plan (CWM Plan): Submit a CWM Plan for this project prior to any waste removal from site and that includes the following information:
 - .1 Applicable regulations.
 - .2 Specific goals for waste reduction, identify existing barriers and develop strategies to overcome them.
 - .3 Destination of materials identified.
 - .4 Deconstruction/disassembly techniques and schedules.
 - .5 Methods to collect, separate, and reduce generated wastes.
 - .6 Location of waste bins on-site.
 - .7 Security of on-site stock piles and waste bins.
 - .8 Protection of personnel, sub-contractors.
 - .9 Clear labelling of storage areas.
 - .10 Training plan for contractor and sub-contractors.
 - .11 Methods to track and report results reliably (Schedule D).
 - .12 Details on materials handling and removal procedures.

.13 Recycler and reclaimer requirements.

.14 Quantities of materials to be salvaged for reuse or recycled and materials sent to landfill.

.15 Requirements for monitoring on-site wastes management activities.

1.4 Delivery, storage and handling

- .1 All construction waste materials must be removed from site daily.
- .2 Storage Requirements: Implement a recycling/reuse program that includes separate collection of waste materials as appropriate to the project waste and the available recycling and reuse programs in the project area.
- .3 Handling Requirements: Clean materials that are contaminated before placing in collection containers and ensure that waste destined for landfill does not get mixed in with recycled materials:
 - .1 Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling process.
 - .2 Arrange for collection by or delivery to the appropriate recycling or reuse facility.
- .4 Hazardous Waste and Hazardous Materials: Handle in accordance with applicable regulations.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 (CWM plan) implementation

- .1 Manager: Contractor is responsible for designating an on site party or parties responsible for instructing workers and overseeing and documenting results of the CWM Plan for the project.
- .2 Distribution: Distribute copies of the CWM Plan to the job site foreman, each Subcontractor, the Owner, the Departmental Representative and other site personnel as required to maintain CWM Plan.
- .3 Instruction: Provide on site instruction of appropriate separation, handling, and recycling, salvage, reuse, composting and return methods being used for the project to Subcontractor 's at appropriate stages of the project.

Ω End of Section

Part 1 General

1.1 Administrative requirements

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .2 Departmental Representative and CSC-RHQ Representative Inspection:
 - .1 Departmental Representative, CSC RHQ Representative, and Contractor to inspect Work and identify defects and deficiencies.
 - .2 Contractor to correct Work as directed.
 - .3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:
 - .1 Work: completed and inspected for compliance with Contract Documents.
 - .2 Defects: corrected and deficiencies completed.
 - .3 Work: complete and ready for final inspection.
 - .4 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Departmental Representative, and Contractor.
 - .2 When Work incomplete according to Departmental Representative, complete outstanding items and request re-inspection.
 - .5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
 - .6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
 - .7 Final Payment:
 - .1 When Departmental Representative considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .8 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.2 Final cleaning

- .1 Clean in accordance with Section 01 74 00 - Cleaning.
 - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.
-

Part 2 Products

2.1 Not used

.1 Not Used.

Part 3 Execution

3.1 Not used

.1 Not Used.

Ω End of Section

Part 1 General

1.1 Administrative requirements

- .1 Pre-warranty Meeting:
 - .1 Departmental Representative to establish communication procedures for:
 - .1 Notifying construction warranty defects.
 - .2 Determine priorities for type of defects.
 - .3 Determine reasonable response time.
 - .2 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.
 - .3 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.2 Action and informational submittals

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Two weeks prior to Substantial Performance of the Work, submit to the Departmental Representative, two final copies of operating and maintenance manuals in English.
- .3 Provide spare parts, maintenance materials and special tools of same quality and manufacture as products provided in Work.
- .4 Provide evidence, if requested, for type, source and quality of products supplied.

1.3 Format

- .1 Organize data as instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3 When multiple binders are used correlate data into related consistent groupings.
 - .1 Identify contents of each binder on spine.
- .4 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Arrange content by systems, under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab.
 - .1 Bind in with text; fold larger drawings to size of text pages.

1.4 Contents - project record documents

- .1 Table of Contents for Each Volume: provide title of project;
 - .1 Date of submission; names.
 - .2 Addresses, and telephone numbers of Consultant and Contractor with name of responsible parties.
 - .3 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:

- .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Typewritten Text: as required to supplement product data.

1.5 As -built documents and samples

- .1 Maintain, in addition to requirements in General Conditions, one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction.
 - .1 Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
 - .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.
 - .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.

1.6 Recording information on project record documents

- .1 Record information concurrently with construction progress.
 - .1 Do not conceal Work until required information is recorded.
 - .2 Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - .1 Field changes of dimension and detail.
 - .2 Changes made by change orders.
 - .3 Details not on original Contract Drawings.
 - .4 Referenced Standards to related shop drawings and modifications.
 - .3 Specifications: mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
 - .4 Provide digital photos, if requested, for site records.
-

1.7 Materials and finishes

- .1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
 - .1 Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional requirements: as specified in individual specifications sections.

1.8 Delivery, storage and handling

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and for review by Departmental Representative.

1.9 Warranties and bonds

- .1 Develop warranty management plan to contain information relevant to Warranties.
 - .2 Submit warranty management plan, 30 days before planned pre-warranty conference, to Departmental Representative approval.
 - .3 Warranty management plan to include required actions and documents to assure that Departmental Representative receives warranties to which it is entitled.
 - .4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
 - .5 Submit, warranty information made available during construction phase, to Departmental Representative for approval prior to each monthly pay estimate.
 - .6 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
 - .4 Verify that documents are in proper form, contain full information, and are notarized.
 - .5 Co-execute submittals when required.
 - .6 Retain warranties and bonds until time specified for submittal.
 - .7 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
-

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

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.
-

Ω End of Section

Part 1 General

1.1 Administrative requirements

- .1 Demonstrate scheduled operation and maintenance of equipment and systems to Owner's personnel two weeks prior to date of final inspection.
- .2 Owner: provide list of personnel to receive instructions, and co-ordinate their attendance at agreed-upon times.
- .3 Preparation:
 - .1 Verify conditions for demonstration and instructions comply with requirements.
 - .2 Verify designated personnel are present.
- .4 Demonstration and Instructions:
 - .1 Instruct personnel in phases of operation and maintenance using operation and maintenance manuals as basis of instruction.
 - .2 Review contents of manual in detail to explain aspects of operation and maintenance.
 - .3 Prepare and insert additional data in operations and maintenance manuals when needed during instructions.

1.2 Action and informational submittals

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit schedule of time and date for demonstration of each item of equipment and each system two weeks prior to designated dates, for Departmental Representative approval.
- .3 Submit reports within one week after completion of demonstration, that demonstration and instructions have been satisfactorily completed.
- .4 Give time and date of each demonstration, with list of persons present.
- .5 Provide copies of completed operation and maintenance manuals for use in demonstrations and instructions.

1.3 Quality assurance

- .1 When specified in individual Sections requiring manufacturer to provide authorized representative to demonstrate operation of equipment and systems:
 - .1 Instruct Owner's personnel.
 - .2 Provide written report that demonstration and instructions have been completed.

Part 2 Products

2.1 Not used

- .1 Not Used.

Part 3 Execution

3.1 Not used

- .1 Not Used.

Ω End of Section

Part 1 General

1.1 Summary

- .1 This Section includes the following:
 - .1 Demolition and removal of selected portions of exterior building components or structural elements.
 - .2 Repair procedures for selective demolition operations.
- .2 This section does not include the following:
 - .1 Removal of hazardous materials or asbestos abatement.
 - .2 Demolition of interior building components and finishes.

1.2 Reference standards

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A10.8 2011, Safety Requirements for Scaffolding
- .2 CSA Group:
 - .1 CSA S350 M1980 (R2003), Code of Practice for Safety in Demolition of Structures
- .3 National Research Council Canada (NRC)
 - .1 National Building Code of Canada 2015 (NBC).
- .4 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Assessment Act (CEAA), 2012
 - .2 Canadian Environmental Protection Act (CEPA), 2012
 - .1 SOR/2003-2, On-Road Vehicle and Engine Emission Regulations
 - .2 SOR/2006-268, Regulations Amending the On-Road Vehicle and Engine Emission Regulations
 - .3 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34
 - .4 Motor Vehicle Safety Act (MVSA), 1995
 - .5 Hazardous Materials Information Review Act, 1985
- .5 National Fire Protection Association (NFPA)
 - .1 NFPA 241 13, Standard for Safeguarding Construction, Alteration, and Demolition Operations

1.3 Definitions

- .1 Demolish: 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 Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
 - .3 Existing to Remain: Existing items of construction that are not removed and that are not otherwise indicated as being removed, removed and salvaged, or removed and reinstalled.
 - .4 Hazardous Substances: Dangerous substances, dangerous goods, hazardous commodities and hazardous products may include asbestos, mercury and lead, PCB's, poisons, corrosive agents, flammable substances, radioactive substances, or other material that can endanger human health or wellbeing or environment if handled
-

improperly as defined by the Federal Hazardous Products Act (RSC 1985) including latest amendments.

1.4 Administrative requirements

- .1 Coordination: Coordinate selective demolition work so that work of this Section adheres to aesthetic criteria established by the Drawings and specified dimensions with all elements in planes as drawn, maintaining their relationships with all other building elements.
- .2 Coordination: Coordinate with Departmental Representative for the material ownership as follows:
 - .1 Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner 's property, demolished materials shall become Contractor 's property and shall be removed from Project site.
- .3 Pre Demolition Meeting: Conduct a pre demolition meeting at Project site in accordance with requirements listed in Section 01 31 19– Project Meetings to confirm extent of salvaged and demolished materials; and to review Contractor 's demolition plan prepared by a professional engineer.

1.5 Action and information submittals

- .1 Action Submittals: Provide the following submittals before starting any work of this Section:
 - .1 Schedule of Selective Demolition Activities: Coordinate with Section 01 32 16.16– Construction Progress Schedule - Critical Path Method (CPM), and indicate the following:
 - .1 Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
 - .2 Coordinate with Departmental Representative 's building manager ongoing site operations, and limit the number of interruptions during regular business hours.
 - .3 Interruption of utility services.
 - .4 Locations of temporary partitions and means of egress, including for others affected by selective demolition operations.
 - .2 Demolition Plan: Submit a plan of demolition area indicating extent of temporary facilities and supports, methods of removal and demolition prepared by a professional engineer in accordance with requirements of Authority Having Jurisdiction, and as follows:
 - .1 Inventory: Submit a list of items that have been removed and salvaged after selective demolition is complete.
 - .2 Pre demolition Photographs: Submit photographs indicating existing conditions of adjoining construction and site improvements prior to starting Work. Include finish surfaces that may be misconstrued as damage caused by selective demolition operations.
- .2 Informational Submittals: Provide the following submittals when requested by the Departmental Representative :
 - .1 Qualification Data: Submit information for companies and personnel indicating their capabilities and experience to perform work of this Section including; but not limited to, lists of completed projects with project names and addresses, names and addresses of architects and owners, for work of similar complexity and extent.

1.6 Site conditions

- .1 Owner will occupy portions of building immediately adjacent to selective demolition area:
 - .1 Conduct selective demolition so that Owner 's operations will not be disrupted.
 - .2 Provide not less than 72 hours notice to Departmental Representative of activities that will affect Owner 's operations.
- .2 Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities and as follows:
 - .1 Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.
- .3 Departmental Representative assumes no responsibility for condition of areas to be selectively demolished:
 - .1 Conditions existing at time of Pre Bid Site Review will be maintained by Owner as far as practical.

Part 2 Products

2.1 Materials

- .1 Repair Materials: Use repair materials identical to existing materials:
 - .1 If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - .2 Use materials whose installed performance equal or surpasses that of existing materials.
 - .3 Comply with material and installation requirements specified in individual technical specification Sections.
 - .4 Retain original installer or fabricator to patch the exposed Work listed below that is damaged during selective demolition, if possible. Engage another recognized experienced and specialized firm where it is not possible to retain original installer:
 - .1 Preformed metal panels.
 - .2 Window wall system.
 - .3 Stucco and ornamental plaster.
- .2 Retained Materials: Retain items in accordance with Section 02 42 00.

Part 3 Execution

3.1 Examination

- .1 Verify that utilities have been disconnected and capped.
 - .2 Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
 - .3 Notify the Departmental Representative where existing mechanical, electrical, or structural elements conflict with intended function or design:
 - .1 Investigate and measure the nature and extent of conflict and submit a written report to Departmental Representative.
 - .2 Departmental Representative will issue additional instructions or revise drawings as required to correct conflict.
-

3.2 Preparation

- .1 Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain in accordance with Section 01 51 00, and as follows:
 - .1 Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.

3.3 Pollution controls

- .1 Remove and transport debris to prevent spillage on adjacent surfaces and areas.
- .2 Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- .3 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.

3.4 Selective demolition

- .1 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 Remove decayed, vermin infested, or otherwise dangerous or unsuitable materials and promptly dispose of off site.
 - .4 Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - .5 Dispose of demolished items and materials promptly.
 - .6 Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
 - .2 Removed and Reinstalled Items:
 - .1 Clean removed items
 - .2 Palletize cleaned items and store on site in a location specified by the Departmental Representative
 - .3 Protect items from damage during transport and storage
 - .4 Reinstall items in locations indicated
 - .5 Comply with installation requirements for new materials and equipment
 - .3 Existing Items to Remain:
 - .1 Protect construction indicated to remain against damage and soiling during selective demolition
 - .2 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
-

- .4 Roofing: Remove no more existing roofing than can be covered in one day by new roofing. Refer to Section Applicable Division 7 Section for new roofing requirements.

3.5 Closeout activities

- .1 Patching and Repairs: Promptly repair damage to adjacent construction caused by selective demolition operations and as follows:
 - .1 Patch to produce surfaces suitable for new materials where repairs to existing surfaces are required,
- .2 Demolition Waste Disposal: Arrange for legal disposal and remove demolished materials to accredited provincial landfill site or alternative disposal site (recycle centre) except where explicitly noted otherwise for materials being salvaged for re use in new construction in accordance with Section 02 42 00 and as follows:
 - .1 Promptly dispose of demolished materials.
 - .2 Do not allow demolished materials to accumulate onsite.
 - .3 Do not burn demolished materials.

Ω End of Section

Part 1 General

1.1 Summary

- .1 This Section includes requirements for careful removal and salvage, and reconditioning of building components identified ready for re use at a later date.

1.2 Related requirements

- .1 Section 02 41 19.13– Selective Building Demolition

1.3 Definitions

- .1 Remove and Salvage: Detach items from existing construction and deliver them to Departmental Representative.

1.4 Administrative requirements

- .1 Coordination Existing Salvaged Work: Coordinate with Departmental Representative for confirmation of materials, components, and items of equipment identified for removal and salvage from their present existing locations and as follows:
 - .1 Items that are turned over to Departmental Representative.
 - .2 On-site storage locations.
 - .3 Confirmation of items that Departmental Representative will not re use, but will retain as follows:
 - .1 Constructor is responsible for loading and handling identified salvaged items using their own forces and equipment and transport to on site storage location specified by the Department Representative.

Part 2 Products

2.1 Salvaged items

- .1 Items salvaged by Constructor and retained by Departmental Representative include, but are not limited to:
 - .1 Land scaping pavers on Main Lodge roof (Eagle Insignia).
- .2 Confirm with Departmental Representative additional items that appear salvageable prior to disposal.

Part 3 Execution

3.1 Salvage

- .1 Remove and handle salvageable items from site to minimize damage and to ensure that usability is maintained.
 - .2 Clean, decontaminate, or remediate hazardous substances (lead based paint, asbestos dust, PCB residue, and similar substances) from salvaged materials so they are safe for reuse or resale.
 - .3 Place materials on pallets or wrap in protective film to ensure that loose pieces and projections do not cause injury to personnel, and that salvaged items remain as complete units.
-

- .4 Clean items of construction or building debris, or materials that are not a part of salvaged work before delivering to Departmental Representative.

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 CSA Group (CSA)
 - .1 CSA B111-1974 (R2003), Wire Nails, Spikes and Staples.
 - .2 CSA O121-08, Douglas Fir Plywood.
 - .3 CSA O151-09, Canadian Softwood Plywood.
 - .4 CAN/CSA-O325.0-07, Construction Sheathing.
- .2 National Research Council Canada (NRC)
 - .1 National Building Code of Canada 2015 (NBC).
- .3 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2010.

1.2 Action and informational submittals

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for rough carpentry work and include product characteristics, performance criteria, physical size, finish and limitations.

1.3 Quality assurance

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood identification: by grade mark in accordance with applicable CSA standards.
- .3 Plywood, OSB and wood based composite panel construction sheathing identification: by grademark in accordance with applicable CSA standards.
- .4 Sustainable Standards Certification:
 - .1 Certified Wood: submit listing of wood products and materials used in accordance with CAN/CSA-Z809 or FSC or SFI.

1.4 Delivery, storage and handling

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2 Storage and Handling Requirements:
 - .1 Store and protect wood from nicks, scratches, and blemishes.
 - .2 Replace defective or damaged materials with new.

1.5 Unit Prices

- .1 The work for this section will be paid based on the actual quantities measured on site and the unit prices stated in the Bid and Acceptance Form
 - .2 See Article 1.7 - Measurement for Payment in Specification Section 01 11 00 Summary of Work
-

Part 2 Products

2.1 Materials

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

2.2 Accessories

- .1 Nails, spikes and staples: to CSA B111.

Part 3 Execution

3.1 Installation

- .1 Comply with requirements of National Building Code of Canada (NBC).
- .2 After removal of the roof cladding, inspect the underlying roof sheathing for signs of moisture damage and rotting
- .3 Document all damaged areas of sheathing and review with the Departmental Representative and Consultant for approval of the areas and quantities of sheathing to be replaced
- .4 Remove and dispose of all damaged sheathing as directed by the Departmental Representative and Consultant
- .5 Install new 13mm OSB sheathing

3.2 Cleaning

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00 - Cleaning.

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 ASTM International Inc.
 - .1 ASTM D2178-04, Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
 - .2 ASTM D6162-00a, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fibre Reinforcements.
- .2 Canadian General Standards Board (CGSB)
 - .1 CGSB 37-GP-56M-80b(A1985), Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing.
- .3 Canadian Roofing Contractors Association (CRCA)
 - .1 CRCA Roofing Specifications Manual-1997.
- .4 Saskatchewan Roofing Contractors Association
- .5 CSA Group (CSA)
 - .1 CSA A123.21-14, Standard test method for the dynamic wind uplift resistance of membrane-roofing systems.
 - .2 CSA A123.23, Product specification for polymer-modified bitumen sheet, prefabricated and reinforced.

1.2 Administrative requirements

- .1 Convene pre-installation meeting one week prior to beginning waterproofing Work, with Departmental Representative in accordance with Section 01 31 19 - Project meetings to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review manufacturer's installation instructions and warranty requirements.

1.3 Action and informational submittals

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Provide two copies of most recent technical waterproofing components data sheets describing materials' physical properties and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Provide two copies of WHMIS SDS in accordance with Section 01 35 29.06 - Health and Safety Requirements, and indicate VOC content for:
 - .1 Primers.
 - .3 Manufacturer's Certificate: certify that products meet or exceed specified requirements.
 - .4 Test and Evaluation Reports: submit laboratory test reports certifying compliance of membrane with specification requirements.
 - .5 Manufacturer's Installation Instructions: indicate special precautions required for seaming the membrane.
-

1.4 Quality assurance

- .1 The manufacturer of elastomeric bitumen products will provide proof of ISO 9001 and ISO 14001 Certifications.

1.5 Contractor Qualification

- .1 Roofing contractors and sub-contractors must, when tendering and during works, possess a roofing contractor operating license.

1.6 Delivery, storage, and handling

- .1 All materials will be delivered and stored in their original packaging, in conformance with the requirements described in the manufacturer's technical documentation.
- .2 At all times, materials will be adequately protected and stored in a dry and properly ventilated area, away from any welding flame or spark, and sheltered from the elements and any harmful substances.
- .3 Store adhesives and solvent-based mastics at a minimum of 5 °C (41 °F).
- .4 Materials delivered in rolls will be carefully stored upright; flashings will be stored to avoid wrinkling, buckling, scratches or any other possible damage.
- .5 Avoid gathering construction materials on the roof, which may affect the structural integrity by imposing loads exceeding what is admissible.
- .6 Remove only in quantities required for same day use.
- .7 Handle waterproofing materials in accordance with manufacturer's written directives, to prevent damage or loss of performance.

1.7 Site conditions

- .1 Install waterproofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into waterproofing system.

1.8 Warranty

- .1 For Work of this Section 07 13 52 - Modified Bituminous Sheet Waterproofing, 12 months warranty period is extended to 24 months.
- .2 Material warranty as per manufacturer's specification.

Part 2 Products

2.1 Performance criteria

- .1 Waterproofing System: capable of resisting moisture/water head of 71000 mm, and preventing moisture migration to interior.
- .2 Compatibility between components of waterproofing system is essential. Provide written declaration to Departmental Representative stating that materials and components, as assembled in system, meet this requirement.

2.2 Deck primer

- .1 Primers as per manufacturers specifications
 - .2 Primer composed of SBS synthetic rubber, adhesive resins and volatile solvents. Used as primer to improve the adhesion of self-adhesive membranes.
-

2.3 Waterproofing Membrane

- .1 Self Adhesive Roof Underlayment and Eave Protection composed of SBS modified Bitumen with glass mat reinforcement. The surface is slip resistant tri-laminate woven polyethylene.
 - .1 Thickness 1.0mm
 - .2 Breaking Strength: 11/12 kN/m
 - .3 Tear Resistance MD/XD: 375/400N
 - .4 Water Vapour Permeance: <2.1ng/Pa x s x m²

Part 3 Execution

3.1 Quality of work

- .1 Do examination, preparation and waterproofing Work in accordance with Roofing Manufacturer's Specification Manual

3.2 Examination of roof decks

- .1 Verification of Conditions:
 - .1 Inspect with Departmental Representative deck conditions including parapets, construction joints, roof drains, plumbing vents and ventilation outlets to determine readiness to proceed.
- .2 Evaluation and Assessment: prior to beginning of work ensure:
 - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.
 - .2 Curbs have been built.
 - .3 Plywood and lumber nailer plates have been installed to deck, walls and parapets as indicated.
- .3 Do not install waterproofing materials during rain or snowfall.

3.3 Protection of in-place conditions

- .1 Cover walls, walks, sloped roofs and adjacent work where materials hoisted or used.
- .2 Use warning signs and barriers. Maintain in good order until completion of Work.
- .3 Clean off drips and smears of bituminous material immediately.
- .4 Protect roof from traffic and damage. Comply with precautions deemed necessary by Departmental Representative.
- .5 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.

3.4 Application of Primer

- .1 Wooden, metallic, concrete, and masonry surfaces or gypsum insulation substrate will receive a coat of primer at a rate of 0.3 to 0.5 L/m² (no primer is required for factory-painted metals). All surfaces to be primed must be free of rust, dust or any residue that may hinder adherence. Primed surfaces must be covered with the roofing membrane as soon as possible (on the same day for self-adhesive membranes).

3.5 Installation of waterproofing membrane

- .1 Primer must be dry prior to the installation of the vapour barrier membrane.
-

- .2 Starting at the bottom of the slope, without adhering the membrane, unroll it onto the substrate for alignment. Do not immediately remove the silicone release film.
- .3 Align the roll parallel to the roof eave.
- .4 Remove one end of the silicone release film and adhere this part of the membrane to the substrate. Remove the remaining release film at a 45° angle to avoid wrinkles in the membrane.
- .5 Overlap adjacent rolls of 75 mm (3 in) and 100 mm (4 in). End laps must be 150 mm (6 in). Space end laps by at least 300 mm (12 in).

3.6 Cleaning

- .1 Remove bituminous markings from finished surfaces.
- .2 In areas where finished surfaces are soiled caused by work of this section, consult manufacturer of surfaces for cleaning advice and complying with their documented instructions.
- .3 Repair or replace defaced or disfigured finishes caused by work of this section.
- .4 Waste Management: separate waste materials for recycling in accordance with Section 01 74 19 - Waste Management and Disposal.
 - .1 Place materials defined as hazardous or toxic in designated containers.
 - .2 Unused adhesive, sealant and asphalt materials must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
 - .3 Dispose of unused adhesive material at official hazardous material collections site approved by Departmental Representative.

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 ASTM International Inc.
 - .1 ASTM D6162-00a, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fibre Reinforcements.
- .2 Canadian General Standards Board (CGSB)
 - .1 CGSB 37-GP-56M-80b(A1985), Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing.
 - .2 CAN/CGSB-51.33-M89, Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction.
- .3 Canadian Roofing Contractors Association (CRCA)
 - .1 CRCA Roofing Specifications Manual-1997.
- .4 Saskatchewan Roofing Contractors Association.
- .5 CSA Group (CSA)
 - .1 CAN/CSA A123.21-14 Standard test method for the dynamic wind uplift resistance of membrane roofing systems
 - .2 CSA O151-04, Canadian Softwood Plywood.
- .6 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (SDS).

1.2 Compatibility

- .1 All waterproofing materials will be provided by the same manufacturer.

1.3 Manufacturer's Representative

- .1 The roofing product manufacturer can delegate a representative to visit the work site at the start of roofing installation. The contractor must at all times enable and facilitate access to the work site by said representative.

1.4 Administrative requirements

- .1 Convene pre-installation meeting one week prior to beginning waterproofing Work, with Departmental Representative in accordance with Section 01 31 19 - Project meetings to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review manufacturer's installation instructions and warranty requirements.

1.5 Action and informational submittals

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
-

- .1 Provide two copies of most recent technical roofing components data sheets describing materials' physical properties and include product characteristics, performance criteria, physical size, finish and limitations.
- .2 Provide two copies of WHMIS SDS in accordance with Section 01 35 29.06 - Health and Safety Requirements, and indicate VOC content for:
 - .1 Primers.
- .3 Provide shop drawings:
 - .1 Indicate flashing, details.
- .4 Manufacturer's Certificate: certify that products meet or exceed specified requirements.
- .5 Manufacturer's Installation Instructions: indicate special precautions required for seaming the membrane.

1.6 Quality assurance

- .1 Installer qualifications: company or person specializing in application of modified bituminous roofing systems approved by manufacturer.
- .2 Roofing contractors and sub-contractors must, when tendering and during works, possess a roofing contractor operating license.

1.7 Delivery, storage, and handling

- .1 All materials will be delivered and stored in their original packaging, in conformance with the requirements described in the manufacturer's technical documentation.
- .2 At all times, materials will be adequately protected and stored in a dry and properly ventilated area, away from any welding flame or spark, and sheltered from the elements and any harmful substances.
- .3 Store adhesives and solvent-based mastics at a minimum of 5 °C (41 °F).
- .4 Materials delivered in rolls will be carefully stored upright; flashings will be stored to avoid wrinkling, buckling, scratches or any other possible damage.
- .5 Avoid gathering construction materials on the roof, which may affect the structural integrity by imposing loads exceeding what is admissible.

1.8 Site conditions

- .1 Ambient Conditions
- .2 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

1.9 Warranty

- .1 For Work of this Section 07 52 00 - Modified Bituminous Membrane Roofing, 12 months warranty period is extended to 20 years.
 - .2 Manufacturer's standard or customized form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period:
 - .1 Extended warranty includes membrane roofing, base flashings, and other components of roofing system.
-

Part 2 Products

2.1 Performance criteria

- .1 Compatibility between components of roofing system is essential. Provide written declaration to Departmental Representative stating that materials and components, as assembled in system, meet this requirement.
- .2 Roofing System: to CSA A123.21 for wind uplift resistance.

2.2 Deck primer

- .1 Primer composed of SBS synthetic rubber, adhesive resins and volatile solvents. Used as primer to improve the adhesion of self-adhesive membranes.
- .2 Primer as per manufacturer's specification.

2.3 Membrane

- .1 Colour to be selected by Departmental Representative from manufacturers standard colour palette
- .2 Base sheet: to CGSB 37-GP-56M.
 - .1 Styrene-Butadiene-Styrene (SBS) elastomeric polymer prefabricated sheet, composite reinforcement, having nominal weight of 3300 g/m².
 - .2 Type fully adhered.
 - .1 Side lap provided with duo selvedge.
 - .3 Class A - granule surfaced.
 - .4 Grade 1 - standard service.
 - .5 Top and bottom surfaces:
 - .1 Top: Sanded.
 - .2 Bottom: Self-adhesive, covered with a silicone release film
 - .6 Base sheet membrane properties: to CGSB 37-GP-56M.
 - .1 Strain energy (longitudinal/transversal): 8/6.5 kN/m.
 - .2 Breaking strength (longitudinal/transversal): 850/700 N/5 cm.
 - .3 Ultimate elongation (longitudinal/transversal): 65/65 %.
 - .4 Cold bending at -30 degrees C: no cracking.
 - .5 Softening point: ³ 110 degrees C.
 - .6 Dimensional Stability: -0.2 %/0.2
- .3 Cap sheet membrane: to CGSB 37-GP-56M.
 - .1 Styrene-Butadiene-Styrene(SBS) elastomeric polymer, prefabricated sheet, composite reinforcement, having nominal weight of 4800 g/m².
 - .2 Type fully adhered.
 - .3 Class A-granule surfaced.
 - .1 Colour for granular surface: To be selected by Departmental Representative from manufacturers standard colour palette.
 - .4 Grade 1-standard service.
 - .5 Bottom surface Self-adhesive, covered with a silicone release film.
 - .6 Cap sheet membrane properties: to CGSB 37-GP-56M.

- .1 Strain energy (longitudinal/transversal): 8/6.5 kN/m.
- .2 Breaking strength (longitudinal/transversal): 17/14 kN/m.
- .3 Ultimate elongation (longitudinal/transversal): 65/65 %.
- .4 Cold bending at -30 degrees C: No cracking.
- .5 Softening point: ³ 110 degrees C.
- .6 Dimensional Stability: -0.2 % 0.2

2.4 Accessories

- .1 Plumbing stack flashing
 - .1 Prefabricated aluminum plumbing stack flashing with minimum 150 mm deck flange as per manufacturer's specification.
- .2 Whirly bird flashing
 - .1 Preformed metal flashing with minimum 150 mm deck flange. Minimum material thickness 0.61 mm.
- .3 Chimney flashing
 - .1 Preformed metal chimney flashing with minimum 150 mm deck flange. Minimum material thickness 0.61 mm.
- .4 Sealer
 - .1 Bitumen/polyurethane waterproofing mono-component resin and polyester reinforcement.

Part 3 Execution

3.1 Quality of work

- .1 Do priming in accordance with manufacturers written recommendations.
- .2 Assembly, component and material connections will be made in consideration of appropriate design loads, with reversible mechanical attachments.

3.2 Examination of roof decks

- .1 Verification of Conditions:
 - .1 Inspect with Departmental Representative deck conditions including parapets, construction joints, roof drains, plumbing vents and ventilation outlets to determine readiness to proceed.
 - .2 Surface examination and preparation must be completed in conformance with instructions in the membrane manufacturer's technical documentation.
- .2 Evaluation and Assessment:
 - .1 Prior to beginning of work ensure:
 - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.
 - .2 Curbs have been built.
 - .3 Plywood and lumber nailer plates have been installed to deck, walls and parapets as indicated.
- .3 Do not install roofing materials during rain or snowfall.

3.3 Protection of in-place conditions

- .1 Cover walls, walks, sloped roofs and adjacent work where materials hoisted or used.
- .2 Use warning signs and barriers. Maintain in good order until completion of Work.
- .3 Clean off drips and smears of bituminous material immediately.
- .4 Dispose of rain water off roof and away from face of building until roof drains or hoppers installed and connected.
- .5 Protect roof from traffic and damage. Comply with precautions deemed necessary by Departmental Representative.
- .6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.
- .7 Metal connectors and decking will be treated with rust proofing or galvanization.

3.4 Method of Execution

- .1 Perform demolition as approved by the Consultant and in the sequence identified in the approved work plan.
- .2 Prepare surfaces and complete waterproofing work in conformance with Membrane Manufacturer's requirements and installation guide.
- .3 Seal all joints that are not covered by a cap sheet membrane the same day. A second cap sheet cannot be installed if any moisture is present in joints.
- .4 Install roofing elements on clean and dry surfaces, in conformance with manufacturer's instructions and recommendations.
- .5 Roofing work must be completed in a continuous fashion as surfaces are readied and weather conditions permit.
- .6 Seal all seams that are not covered by a cap sheet membrane in the same day. The cap sheet cannot be installed if any moisture is present at/in the base sheet seams.
- .7 Ensure waterproofing conditions for roofs at all times, including protection during installation work by other trades and progressive protection as work is completed (e.g., vents, drains, etc.).
- .8 Complete all work (temporary supports for equipment and bases, disconnection and connection of equipment as needed, moving and lifting of bases, etc.) required for waterproofing beneath equipment and bases as shown on drawings; use qualified trade persons as required. Temporary covers beneath ventilator units must be designed prevent fumes and vapours from entering the building.

3.5 Application of Primer

- .1 Wooden, metallic, concrete, and masonry surfaces or gypsum insulation substrate will receive a coat of primer at a rate of 0.3 to 0.5 L/m² (no primer is required for factory-painted metals). All surfaces to be primed must be free of rust, dust or any residue that may hinder adherence. Primed surfaces must be covered with the roofing membrane as soon as possible (on the same day for self-adhesive membranes).

3.6 Modified bitumen base sheet membrane

- .1 Primer must be dry prior to the installation of the vapour barrier membrane.
 - .2 Unroll base sheet onto substrate, taking care to align the edge of the first selvage parallel to roof eave edge.
-

- .3 Remove the silicone release film to adhere the membrane to the substrate. Remove the protective film from the side lap strip.
- .4 Each selvedge will overlap the previous one along lines provided for this purpose, and overlap by 150 mm (6 in) at the ends. Space end laps by a minimum of 300 mm (12 in).
- .5 Apply even pressure with a membrane roller to ensure good adherence and waterproofing of overlaps.

3.7 Modified bitumen base sheet membrane on flashings and parapets

- .1 Before applying membranes, always burn the plastic film from the section to be covered if there is an overlap (inside and outside corners and field surface). For sanded base sheet membranes, apply primer for self-adhesive membrane on the area to be covered at the foot of the parapets.
- .2 Apply base sheet flashing only after primer coat is dry.
- .3 Install base sheet by 1m (3.25 ft) wide strips
- .4 Each selvedge will overlap the previous one along lines provided for this purpose, and by 150 mm (6 in) at the ends. Membranes for flashings must be spaced at least 100 mm (4 in) with respect to the cap sheet membranes on the field surface, to avoid areas of excessive membrane thickness.
- .5 .Cut off corners at end laps of areas to be covered by the next roll.
- .6 Position the pre-cut membrane. Remove 150 mm (6 in) of the silicone release film to hold the membrane in place at the top of the parapet/flashing.
- .7 Then, gradually peel off the remaining silicone release film, pressing down on the membrane with an aluminum applicator to ensure good adhesion. Use the aluminum applicator to ensure a perfect transition between the flashing and the field surface. Smooth the entire membrane surface with membrane roller for full adhesion.
- .8 Install a reinforcing gusset at all inside and outside corners.
- .9 Always seal overlaps at the end of the workday.
- .10 Avoid the formation of wrinkles, swellings or fishmouths.

3.8 Reinforced Gussets

- .1 Install reinforcing gussets at all inside and outside corners.
- .2 Heat-weld the gussets in place after installing base sheet membrane.

3.9 Vent Stacks

- .1 Burn the plastic film of the section to be covered by the roof drain.
 - .2 Insert the aluminum vent sleeve over the main plumbing system.
 - .3 Peel off the release protection film and adhere the flexible deck flange to the base sheet membrane of the field surface.
 - .4 Apply pressure over the whole surface using a membrane roller.
 - .5 Seal the perimeter of the of the flexible deck flange with a torch and a round nosed-trowel.
 - .6 Insulate the space between the main plumbing vent system and the aluminum vent sleeve.
 - .7 Insert and position the adjustable flashing into the aluminum vent sleeve. The adjustable flashing must sit on the main plumbing vent system.
 - .8 Heat-weld the cap sheet membrane on the flexible deck flange.
-

- .9 Install and affix the aluminum rain cap on the aluminum vent sleeve.

3.10 Modified bitumen cap sheet membrane

- .1 Apply self-adhesive membrane primer to the area to be covered.
- .2 Unroll the cap sheet membrane on the base sheet, taking care to align the edge of the first selvedge with the edge of the roof.
- .3 Cut off corners at end laps at areas to be covered by the next roll.
- .4 Each selvedge will overlap the previous one laterally along lines provided for this purpose and will overlap by 150 mm (6 in) at the ends. Space end laps a minimum of 300 mm (12 in).
- .5 Remove the silicone release film, pressing down the membrane using a membrane roller to ensure good adhesion.
- .6 Adhere the first part of the self-adhesive side laps using a membrane roller, then heat weld the last part (self-adhesive, heat-welded side laps).
- .7 Apply adhesive for the first 100 to 125 mm (4 to 5 in) of the end laps using a 4.8 mm (3/16 in) or a 6.0 mm (1/4 in) notched trowel.
- .8 Complete the application by welding the last 25 to 50 mm (1 to 2 in) of the overlap to the field surface, using an electric hot-air welder and a membrane roller.
- .9 Apply pressure on the whole surface with a membrane roller to ensure complete and uniform adherence.
- .10 Repeat these steps to install the other membranes.
- .11 Avoid the formation of wrinkles, swellings or fishmouths.

3.11 Modified bitumen cap sheet membrane on flashings and parapets

- .1 This cap sheet must be installed in one-metre-wide strips (3.25 ft).
 - .2 Each selvedge will overlap the previous one laterally along lines provided for this purpose and will overlap by 150 mm (6 in) the field surface. Cap sheet membranes for flashings must be spaced at least 100 mm (4 in) with respect to the cap sheet membranes on the field surface, to avoid areas of excessive membrane thickness.
 - .3 Cut off corners at end laps of areas to be covered by the next roll.
 - .4 Use a chalk line to draw a straight line on the field surface 150 mm (6 in) from the flashings and parapets.
 - .5 Apply a coat of self-adhesive membrane primer on the field surface and allow to dry.
 - .6 Position the pre-cut membrane. Remove 150 mm (6 in) of the silicone release film to hold the membrane in place at the top of the flashing.
 - .7 Then, gradually peel off the remaining silicone release film, pressing down on the membrane with an aluminum applicator to ensure good adhesion. Use the aluminum applicator to ensure a perfect transition between the flashing and the field surface. Smooth the entire membrane surface with a membrane roller for full adhesion.
 - .8 Adhere the first part of the self-adhesive side laps using a membrane roller, then heat weld the last part (self-adhesive, heat-welded side laps).
 - .9 Apply adhesive for the first 100 to 125 mm (4 to 5 in) of the end lap using a 4.8 mm (3/16 in) or a 6.0 mm (1/4 in) notched trowel.
 - .10 Complete the application by welding the last 25 to 50 mm (1 to 2 in) of the overlap to the field surface, using an electric hot-air welder and a membrane roller.
 - .11 Apply pressure on the whole surface with a membrane roller to ensure complete and uniform adherence
-

3.12 Cleaning

- .1 Remove bituminous markings from finished surfaces.
- .2 In areas where finished surfaces are soiled caused by work of this section, consult manufacturer of surfaces for cleaning advice and complying with their documented instructions.
- .3 Repair or replace defaced or disfigured finishes caused by work of this section.

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 ASTM International
 - .1 ASTM A653/A653M-10, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .2 ASTM A792/A792M-10, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot Dip Process.
 - .3 ASTM A 980 - Standard Specification for Steel, Sheet, Carbon, Ultra High Strength Cold Rolled.
 - .4 ASTM C 645 - Specification for Nonstructural Steel Framing Members.
 - .5 ASTM C 920 - Specification for Elastomeric Joint Sealants.
- .2 Canadian General Standards Board (CGSB)
- .3 Canadian Sheet Steel Building Institute (CSSBI)
 - .1 S8 - Quality and Performance Specification for Prefinished Sheet Steel Used for Building Products
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (SDS).

1.2 Action and informational submittals

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for sheet metal roofing and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Proof of manufacturer's CCMC listing and listing number.

1.3 Quality assurance

- .1 Provide metal roof panel assembly and accessories from a single manufacturer.
- .2 Experienced Installer certified by metal panel manufacturer with minimum of five years experience with successfully completed projects of a similar nature and scope.

1.4 Delivery, storage and handling

- .1 Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
 - .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .3 Storage and Handling Requirements:
 - .1 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect sheet metal roofing from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
-

Part 2 Products

2.1 Prefinished standing seam metal panels

- .1 Colour to be selected by Departmental Representative from manufacturers standard colour palette
- .2 Zinc coated sheet steel shall conform to ASTM Standard Specification A653/A653M Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process, minimum Grade 230, minimum zinc coating designation Z275. The base steel design thickness shall be 0.61 mm or greater.
- .3 55% aluminum-zinc alloy coated sheet steel shall conform to ASTM Standard Specification A792/A792M, Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process, minimum Grade 230, minimum 55% aluminum-zinc alloy coating designation AZM150. The base steel design thickness shall be 0.61 mm or greater.
- .4 Prefinished sheet steel, in addition to meeting the requirements of 2.1.1 or 2.1.2, as applicable, shall be coated in coil form with colours of proven durability for exterior exposure that will meet the performance standards of CSSBI S8 Quality and Performance Specification for Prefinished Sheet Steel Used for Building Products.
- .5 Fasteners for attaching cladding to structural framing or other structural supports, for attaching flashing to cladding, and for joining cladding components together shall be as recommended by the manufacturer.
- .6 The minimum base steel thickness of sheet used for cladding and flashing shall be at least 0.61 mm, but not be less than 95% of the specified design thickness as permitted by CAN/CSA-S136.
- .7 Standing seams to be maximum 400 on center with a minimum height of 38 mm.

2.2 Accessories

- .1 All flashings to be by the same manufacturer as the standing seam panel manufacturer unless custom fabrication required to suit site conditions.
 - .2 Isolation coating: alkali resistant bituminous paint.
 - .3 Underlay: See 07 13 52 Modified bituminous sheet waterproofing .
 - .4 Sealant: See 07 92 00 Joint Sealants.
 - .5 Fasteners: Concealed fasteners with steel clips as per manufacturer's specifications, clip system to allow full thermal expansion and contraction of roof sheet. Provide clips with minimum Z275 zinc coating..
 - .6 Zee closure bars: 18 gauge Z275 galvanized "Z" bars to suit installation depth.
 - .7 Touch-up paint: as recommended by sheet metal roofing manufacturer.
 - .8 Ridge vent: Preformed steel cap to match standard roof panel material and thickness. Comes with closures, sealant and perforated vent drip as per manufacturer's specification.
 - .9 Chimney Flashing: As per written recommendations by roofing manufacturer.
 - .10 Plumbing vent flashing: Flexible EDPM vent sleeve with integrated base.
-

Part 3 Execution

3.1 Examination

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for sheet metal roofing installation in accordance with manufacturer's written instructions.
 - .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

3.2 Installation

- .1 Use concealed fastenings except where approved in writing by Departmental Representative before installation.
- .2 Include underlay under sheet metal roofing.
 - .1 Underlayment: See 07 13 52 Modified bituminous sheet waterproofing membrane.
- .3 Flash roof penetrations with material matching roof panels, and make watertight.
- .4 Align transverse seams in adjacent panels.
 - .1 Sheet lengths to be full length of roof section. Transverse panel seams in field area are not acceptable except where required to suit roof penetration flashing.
- .5 Install concealed panel clips using fasteners of type and size recommended by the manufacturer to resist uplift forces.
- .6 Install starters and other parts needed for proper roof installation as per manufacturer's specifications.
- .7 Install exterior roof panels using hidden seam fasteners, with folded bottom edge hooked to the starter trim, with accordance to the manufacturer's installation procedure.
- .8 Install outer roof panels with folded sides and hook them to starter trim or use gable-end flashing, according to manufacturer's installation procedure.
- .9 Install ridge cap and metal closures in accordance with manufacturer's specifications.
- .10 Touch-up minor paint abrasions with touch-up paint and clean the roof by dry wiping.

3.3 Cleaning

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00 - Cleaning.

3.4 Protection

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

Ω End of Section

Part 1 General

1.1 Related requirements

- .1 Section 07 46 13 Preformed Metal Siding: Siding system trim.
- .2 Section 07 61 00 Sheet Metal Roofing: Roof system trim.

1.2 Reference standards

- .1 ASTM International
 - .1 ASTM A606/A606M-15, Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.
 - .2 ASTM A 653/A 653M-15e1, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .3 ASTM A755/A755M-16e1 Standard Specification for Steel Sheet, Metallic coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.
 - .4 ASTM D 523-14, Standard Test Method for Specular Gloss.
 - .5 ASTM F1667-15 Standard Specification for Driven Fasteners: Nails, Spikes and Staples.
- .2 Canadian Roofing Contractors Association (CRCA)
 - .1 Roofing Specifications Manual 2012.
- .3 Canadian Sheet Steel Building Institute (CSSBI)
 - .1 CSSBI S8-2008 Quality and Performance Specification for Prefinished Sheet Steel Used for Building Products.
 - .2 CSSBI B17-2002 Barrier Series Prefinished Steel Sheet: Product Performance & Applications.
 - .3 CSSBI Sheet Steel Facts #12 2003 Fastener Guide for Sheet Steel Building Products.
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (SDS).

1.3 Action and informational submittals

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Submit manufacturer's printed product literature including product specifications and technical data sheets for sheet metal flashing fasteners and accessory materials. Include product characteristics, performance criteria, physical size, finish and limitations.
 - .3 Shop Drawings:
 - .1 Submit shop drawings of profiles for all metal flashing for review and approval by the Consultant.
 - .2 Indicate sheet thickness, flashing dimensions and fastenings. Include anchorage, expansion joints and other provisions for thermal movement.
 - .3 Submit manufacturer's catalogue cut sheets for manufactured items.
-

1.4 Delivery, storage and handling

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Handle and store flashing materials to prevent creasing, buckling, scratching, or other damage.
- .3 Waste Management and Disposal:
 - .1 Separate waste materials for recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products

2.1 Prefinished steel sheet

- .1 24 ga prefinished steel with factory applied enamel.
 - .1 Colour selected by Departmental Representative from manufacturer's standard range.
 - .2 Coating thickness: not less than 25 micrometres.
 - .3 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20 % to ASTM D822 as follows:
 - .1 Outdoor exposure period 1,000 hours.
 - .2 Humidity resistance exposure period 1,000 hours.

2.2 Accessories

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Plastic cement: to CAN/CGSB 37.5.
- .3 Pourable sealer: proprietary two-part polyurethane pourable sealer designed for sealing penetration pockets.
- .4 Sealants: To be in accordance with Section 07 92 00, in colour to match flashing finish colour.
- .5 Cleats and hook strips: of same material, and temper as sheet metal, minimum 50 mm. Thickness same as sheet metal being secured.
- .6 Nails: of same material as sheet metal, ring thread flat head roofing nails of length and thickness suitable for metal flashing application.
- .7 Screws: of same material as sheet metal, Suitable for substrate and material being fastened, galvanized head, neoprene washer.
- .8 Touch-up paint: as recommended by prefinished material manufacturer.

2.3 Fabrication

- .1 Fabricate sheet steel flashings and other sheet steel work as indicated.
 - .2 Form pieces in 2400 mm maximum lengths.
 - .1 Make allowance for expansion at joints.
 - .3 Hem exposed edges on underside 12 mm.
 - .1 Mitre and seal corners with sealant.
 - .4 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
 - .5 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.
-

2.4 Metal flashings

- .1 Form flashings, copings and fascias to profiles indicated of 0.61 mm thick prefinished steel.
- .2 Flashing as indicated on plans.

2.5 Reglets and cap flashings

- .1 Form recessed reglets with pre-finished sheet metal to be built-in masonry work for flashings as detailed on the drawings.

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 Installation

- .1 Use concealed fastenings except where approved before installation.
- .2 Provide underlay under sheet metal.
 - .1 Secure in place and lap joints 100 mm.
 - .2 Provide self-adhesive membrane to tie into adjacent assemblies.
- .3 Counterflash bituminous flashings at intersections of roof with vertical surfaces and curbs.
 - .1 Flash joints using S-lock forming tight fit over hook strips, as per manufacturer's written recommendation.
- .4 Lock end joints and caulk with sealant.
- .5 Install surface mounted reglets true and level, and caulk top of reglet with sealant.
- .6 Insert metal flashing into reglets to form weather tight junction.
- .7 Caulk flashing at reglet with sealant.
- .8 Where flashing installed with mechanical fasteners, install fasteners in slots or oversize holes to allow expansion and contraction of flashings.
- .9 Provide isolation coating or impervious self-adhesive membrane to separate aluminum items from concrete and masonry.

3.3 Cleaning

- .1 Proceed in accordance with Section 01 74 00 - Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.
- .3 Leave work areas clean, free from grease, finger marks and stains.

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 ASTM International
 - .1 ASTM C919-18, Standard Practice for Use of Sealants in Acoustical Applications.
- .2 Canadian General Standards Board (CGSB)
 - .1 CGSB 19-GP-5M-1984, Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1).
 - .2 CAN/CGSB-19.13-M87, Sealing Compound, One-component, Elastomeric, Chemical Curing.
 - .3 CGSB 19-GP-14M-1984, Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).
 - .4 CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.
 - .5 CAN/CGSB-19.24-M90, Multi-component, Chemical Curing Sealing Compound.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Safety Data Sheets (SDS).

1.2 Action and informational submittals

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for joint sealants and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Manufacturer's product to describe:
 - .1 Caulking compound.
 - .2 Primers.
 - .3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.
 - .3 Submit 2 copies of WHMIS SDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Manufacturer's Instructions:
 - .1 Submit instructions to include installation instructions for each product used.

1.3 Closeout submittals

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual.

1.4 Delivery, storage and handling

- .1 Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
-

- .2 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .3 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .4 Storage and Handling Requirements:
 - .1 Store materials in dry location indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect joint sealants from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

1.5 Site conditions

- .1 Ambient Conditions:
 - .1 Proceed with installation of joint sealants only when:
 - .1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 4.4 degrees C.
 - .2 Joint substrates are dry.
 - .3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .2 Joint-Width Conditions:
 - .1 Proceed with installation of joint sealants only where joint widths are more than those allowed by joint sealant manufacturer for applications indicated.
- .3 Joint-Substrate Conditions:
 - .1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

Part 2 Products

2.1 Sealant materials

- .1 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.
- .2 When low toxicity caulks are not possible, confine usage to areas which off gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off gas time.
- .3 Where sealants are qualified with primers use only these primers.
- .4 Sealant colour to match adjacent finish material or as selected by Departmental Representative from manufacturer's standard line.

2.2 Sealant material designations

- .1 Cutback Asphalt Plastic Cement: to CAN/CGSB-37.5-M89
 - .2 Urethanes one part:
 - .1 Non-sag: to CAN/CGSB-19.13, Type 2, MCG-2-40, colour See 2.1.4.
 - .3 Silicones one part: to CAN/CGSB-19.13.
 - .4 Acrylics one part: to CGSB 19-GP-5M.
 - .5 Acrylic latex one part: to CAN/CGSB-19.17.
-

- .6 Acoustical sealant: to ASTM C919.
- .7 Butyl: to CGSB 19-GP-14M.
- .8 Preformed compressible and non-compressible back-up materials:
 - .1 Polyethylene, urethane, neoprene or vinyl foam:
 - .1 Extruded open closed cell foam backer rod.
 - .2 Size: oversize 30 to 50 %.
 - .2 Neoprene or butyl rubber:
 - .1 Round solid rod, Shore A hardness 70.
 - .3 Bond breaker tape:
 - .1 Polyethylene bond breaker tape which will not bond to sealant.

2.3 Sealant selection

- .1 Rooftop Sealant for Metal Panel penetrations: sealant type: one part silicone sealant Install as per manufacturer's written recommendation.
- .2 Rooftop Sealant for Mod Bit penetrations: sealant type: asphalt cutback. Install as per manufacturer's written recommendation.

2.4 Joint cleaner

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant in accordance with sealant manufacturer's written recommendations.
- .2 Primer: in accordance with sealant manufacturer's written recommendations.

Part 3 Execution

3.1 Surface preparation

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.
- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .4 Ensure joint surfaces are dry and frost free.
- .5 Prepare surfaces in accordance with manufacturer's directions.

3.2 Priming

- .1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.3 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.
-

3.4 Mixing

- .1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.5 Application

- .1 Sealant:
 - .1 Apply sealant in accordance with manufacturer's written instructions.
 - .2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
 - .3 Apply sealant in continuous beads.
 - .4 Apply sealant using gun with proper size nozzle.
 - .5 Use sufficient pressure to fill voids and joints solid.
 - .6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
 - .7 Tool exposed surfaces before skinning begins to give slightly concave shape.
 - .8 Remove excess compound promptly as work progresses and upon completion.
- .2 Curing:
 - .1 Cure sealants in accordance with sealant manufacturer's instructions.
 - .2 Do not cover up sealants until proper curing has taken place.

3.6 Cleaning

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Clean adjacent surfaces immediately.
 - .3 Remove excess and droppings, using recommended cleaners as work progresses.
 - .4 Remove masking tape after initial set of sealant.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00 - Cleaning.

3.7 Protection

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

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 Institute of Electrical and Electronics Engineers, Inc. (IEEE)
 - .1 IEEE 837-2002, Standard for Qualifying Permanent Connections Used in Substation Grounding.
- .2 CSA Group (CSA)
 - .1 CAN/CSA-B72-M87 (R2008), Installation Code for Lightning Protection Systems.

1.2 Delivery, storage and handling

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect lighting protection from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 Materials

- .1 Reuse existing lightning protection material. Provide additional material as required to install reused system on roof fascia.
- .2 Conductor: stranded, matching existing gauge.
- .3 Fastenings and attachment straps: aluminum clip angles fastened to roof fascia.
 - .1 Installation of grounding rods through roof system is not acceptable.
 - .2 Conductors to be face mounted on roof fascia with fatteners at 900 mm centers.
- .4 Connections: Submit shop drawings for all fastening systems.

2.2 Description

- .1 System to consist of metallic air terminals, lightning conductors connecting air terminals to ground and interconnected ground electrodes, and/or ground cables.
- .2 Sky wire cone, where sky line elevated at height to protected structure beneath, but having no direct connection to sky line which is connected to system of ground electrodes.

Part 3 Execution

3.1 Examination

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for lightning protection installation in accordance with manufacturer's written instructions.
-

- .1 Visually inspect substrate in presence of Departmental Representative.
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

3.2 Installation

- .1 Install lightning protection to CAN/CSA-B72.
- .2 Bond discharge conductors to service mast or other non-current-carrying electrical parts.

3.3 Inspection

- .1 Obtain inspection certificate from Departmental Representative for discharge conductor passing through any fire supporting membrane.

3.4 Cleaning

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00 - Cleaning.

3.5 Protection

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

Ω End of Section

Part 1 General

1.1 Reference standards

- .1 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM C117-95, Standard Test Method for Material Finer Than 75- μ m (No.200) Sieve in Mineral Aggregates by Washing.
 - .2 ASTM C136-01, Standard Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .3 ASTM C902-02, Standard Specification for Pedestrian and Light Traffic Paving Brick.
- .2 Canadian Standards Association (CSA Group).

1.2 Action and informational submittals

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate layout, pattern and relationship of paving joints to fixtures and project formed details.
- .3 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .4 Submit full size sample of each type paving unit.

1.3 Waste management and disposal

- .1 Separate waste materials for reuse in accordance with Section 01 74 19 - Waste Management and Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Divert unused aggregate materials from landfill to facility for reuse as approved by Departmental Representative.

Part 2 Products

2.1 Materials

- .1 Reuse existing Unit Pavers
- .2 Unit pavers: uniform in material, colour, size and from one manufacturer.
- .3 Manufactured sand for bedding: hard, durable, crushed stone particles, conforming to gradation of concrete sand as specified in CSA A23.1. Sand: free from clay lumps, cementation, organic material, frozen material and other deleterious materials. Do not use limestone screenings or stone dust.
- .4 Joint sand: to CSA A179, hard, durable, angular particles, free from clay lumps, cementation, organic material, frozen material and other deleterious materials.

Part 3 Execution

3.1 Protection

- .1 Prevent damage to sidewalks, and adjacent property. Make good any damage.
 - .2 Provide access to building at all times. Coordinate paving schedule to minimize interference with normal use of premises.
-

3.2 Bedding sand

- .1 Place and spread bedding sand.
- .2 Maximum thickness: 40 mm.
- .3 Do not use joint sand for bedding sand.

3.3 Surface course

- .1 Ensure bedding sand and granular base are not saturated prior to placement of unit pavers.
- .2 Install unit paving true to grade on the bedding sand matching the existing paver layout and pattern.
- .3 Where required, cut units accurately without damaging edges.
- .4 Paving stones.
 - .1 Install bricks with maximum 5 mm wide joints.
 - .2 Compact and level brick with min. 22 kN force mechanical plate vibrator until units are true to grade and free of movement.
 - .3 Fill spaces between pavers by sweeping in sand.
 - .4 Pass mechanical plate vibrator over unit paving to achieve compaction of sand in joints. Ensure joints are full at completion of compaction.
 - .5 Fill any spaces between pavers by sweeping in additional sand.
 - .6 Surface of finished pavement: free from depressions exceeding 3 mm as measured with 3 m straight edge.
 - .7 Sweep surface clean and check final elevations for conformance to drawings.

Ω End of Section



Your file Votre référence

2021-03-26

Our file Notre référence

CSC Institutional Entry Requirement Guidelines

Okimaw Ohci Healing Lodge

Principal Entrance (PE) Requests:

A Principal Entrance Requests must be submitted for any visitor, consultant, or contractor coming to site. The required information and the format it should be submitted in is shown below.

Please be aware that when working at the Okimaw Ohci Healing Lodge (OOHL) you are working in a Federal Reserve and therefore OOHL is not responsible for any damages that may occur to your personal or work vehicles. Also, please be aware that your vehicle is subject to search and seizure.

Principal Entrance Request	
1. The Official Company Name:	
2. Date of Entry:	
3. Date of Departure:	
4. Monday to Friday Workday Hours Start Time:	
5. Monday to Friday Workday Hours Finish Time:	
6. List of All Staff Attending Site:	
7. Location Each Person is Travelling From:	
8. Electronic Item Registry Completed:	
9. Description of work and location:	

Work Start Time and Finish Time:

- Regular working hours for the institution for consultants and contractors is 08:00 to 16:00.

Listing Staff Attending Site:

- Please list names as shown on a piece of valid government ID. No nicknames or hyphenated names. ID may be requested on site to confirm the information provided is accurate.

Location Each Person is Travelling From (Covid-19 Related):

- The institution will require the location of where each individual is travelling from during the Covid-19 Pandemic. The institution has the right to deny any contractors coming from a Covid-19 hotspot or designated RED Zone.
- A Covid-19 Screening Questionnaire form is provided by CSC and is required to be completed by each individual visiting the institution. This form must be completed and submitted to the institution before starting work each day. Furthermore, details on how to enter the site during the pandemic is listed at the end of this document.

Electronic Registration Form (CSC-1467 Doc) & Portable Electronic Device Use:

- An Electronic Item Registry form or CSC 1467 form is required to bring in any portable electronics (laptop, tablet, cellular phone, etc...) that are essential to the individuals site visit or scope of work. If the requested electronics do not pertain to your work at hand, for example an extra laptop, etc... they will not be approved.
- Mobile electronics brought onto the property will either be accompanied by an approved 1467 form, or be secured in the visitor's vehicle in the main parking lot while on site.
 - Please ensure the company name is listed beside each individuals name on 1467 forms.

Description of Work and Location:

- Provide the scope of work and location of said work in as much detail as possible. This allows the institution to review the proposal in a timely manner.
- If there are any security, administrative, or operational disturbances due to any type of work, planned, or otherwise or if access/egress to the site, or specific areas of the site is affected in any way, the contractor will have to give the institution seven business days notice to see if arrangements can be made to accommodate the contractor. Please inform the project lead as soon as possible to ensure the seven-day waiting period does not affect any planned or ongoing work.

Escort/Commissionaire Requirements:

- One commissionaire will be required for every individual, or group of individuals working on site in a specified, pre-determined location. The specified locations are the locations submitted by the consultant/contractor in the Principal Entrance Request. Groups or crews working together must stay together at all times. This is to ensure the group is visible to the Commissionaires, and to ensure the safety of the consultant/contractor. Please ensure the amount of crews planned to be on site are communicated to the CSC Project Officer or the PSPC Project Manager to ensure we can make the appropriate arrangements for escorts.

Tool List:

- A tool list is provided by CSC. This list must be filled out and submitted to the institution for review with the PE request. Also, the list must be printed and brought to the institution for review daily prior to any work being carried out.

- Because the tool list is specific to an individual site visit, it must be brought with them to site every time tools are required to complete their scope of work. The assigned Commissionaire will look over the tool list to ensure all tools listed on the form correspond to what is being brought into the institution, as well as check the list again once the consultant/contractor leaves to ensure nothing was lost on site.
 - **If a tool fails and needs to be replaced this will have to be reflected on the tool list as soon as possible, and submitted to the Commissionaire for inspection.**
 - **If a tool is lost on site it is required that it be reported immediately to either a Commissionaire or site staff. This is very important as any tools left on site pose a security risk.**

Equipment List:

- A formal equipment list is not provided by CSC but all heavy equipment and vehicles that are working on site will need to be reported to CSC through a simple email, or the company can use an in house formal equipment list. The make and model of all equipment brought to site is required and will need to be submitted to the institution for review no later than three working days prior to the commencement of work or with the Principal Entrance Request submission.

Safety Policy:

- A copy of a company's Corporate Safety Policy as well as a Site Specific Health and Safety Plan (SSHASP) from each contractor working on site is required for review by the institution prior to the commencement of work.
 - **This can take up to seven business days to be reviewed so it is encouraged that both forms be submitted as soon as possible.**

Site Entry Protocol During the Covid-19 Pandemic:

- CSC Covid-19 Protocols are in effect. Please ensure that all Covid-19 rules are followed while on site including making sure all appropriate PPE (Personal Protective Equipment) is worn. Covid-19 rules and mandatory PPE are listed below:
 - **A Covid-19 Screening Form is provided by CSC that must be filled out and submitted daily before work can begin. Please ensure the form is completed in full upon arrival and submitted to your assigned escort.**
 - **Visitors must follow all of the applicable regulatory and health and safety requirements relating to COVID-19 including the frequent washing of hands (when possible) and also ensuring a minimum social distance of 2 meters (6 feet) is followed (when possible) while on site.**
 - **Contractors and Consultants must follow all applicable measures from the Canadian Construction Association – COVID-19 – Standardized Protocols for All Canadian Construction Sites, 26 May 2020 (or latest edition).**
 - **Each visitor must bring their own PPE (masks, gloves, safety glasses or face shields) and will be wearing medical style safety masks (home made and/or cloth masks are not approved.) while on site. Gloves and face shields/safety glasses are not mandatory but may be required to be worn at the institutions request. If a visitor is asked to wear any of the mentioned PPE and it is not**

available, none will be provided for them from CSC, and the visitor will be asked to leave the site until the appropriate PPE is procured.

1. Ensure that the CSC Covid-19 Screening Form is filled out upon arriving at the institution.
2. Once your company has arrived at OOHL, park and gather outside the main lodge (Block 8).
3. Ensure all Covid-19 rules are followed while on site including making sure all appropriate PPE (Personal Protective Equipment) is worn.
4. Enter the main lodge one person at a time to sign in. A sign in sheet is provided at the front desk. Please ensure the Covid-19 Screening Form is submitted to the institution upon entry to the main lodge. Only one person is permitted to enter the main lodge at a time to ensure we comply with the current 2-meter social distancing rule.
5. Once inside, enter the foyer and wait. Do not walk through the metal detector until directed to do so.
6. Your temperature will be taken and recorded before you start work daily. If any consultant or contractor has a fever, they will be asked to leave the site immediately and will not be permitted to return until after 14 days of self isolation and all Covid-19 symptoms have disappeared, or a Covid-19 test is taken and the results come back negative for that particular individual.
7. If approved to work, exit the main lodge and send in the next co-worker to be evaluated. Then make your way to your designated work area.

Official Visitor Name (print) Nom du visiteur officiel (en lettres moulées)		Date (YYAA-MM-DJ)	
Name of Institution – Nom de l'établissement	Period of Authorization : Durée de l'autorisation :	<input type="checkbox"/> One time only – Une fois seulement	
		<input type="checkbox"/> From – De	To – À

TYPE OF ELECTRONIC DEVICE – TYPE D'APPAREIL ÉLECTRONIQUE		
Cell Phone Téléphone cellulaire	Make – Marque :	
	Cell phone # – N° de téléphone cellulaire :	()
	Device serial number – N° de série de l'appareil :	
	Other – Autre :	
BlackBerry Appareil BlackBerry	Make – Marque :	
	Cell phone # – N° de téléphone cellulaire :	()
	Device serial number – N° de série de l'appareil :	
	Other – Autre :	
Tablet Tablette électronique	Make – Marque :	
	Cell phone # – N° de téléphone cellulaire :	()
	Device serial number – N° de série de l'appareil :	
	Other – Autre :	
E-Reader Lecteur de livres numériques	Make – Marque :	
	Cell phone # – N° de téléphone cellulaire :	()
	Device serial number – N° de série de l'appareil :	
	Other – Autre :	
Laptop Ordinateur portable	Make – Marque :	
	Cell phone # – N° de téléphone cellulaire :	()
	Device serial number – N° de série de l'appareil :	
	Other – Autre :	
Other Device Autre appareil	Make – Marque :	
	Cell phone # – N° de téléphone cellulaire :	()
	Device serial number – N° de série de l'appareil :	
	Other – Autre :	

I understand that the use of electronic item(s) is related to official duties, i.e. medical purposes/other use as authorized by the Institutional Head or delegate and that inmates are **not** to have access to it.
Je comprends que l'utilisation de ces appareils électroniques est liée à mes fonctions officielles, c.-à-d. à des fins médicales/autres utilisations autorisées par le directeur de l'établissement ou son délégué et que les détenus ne peuvent **pas** y avoir accès.

I, _____, hereby agree to abide by the above and understand that immediate notification is required
Official Visitor's Signature
in the event that the device goes missing.

Je, _____, par la présente, m'engage à respecter ce qui est énoncé précédemment et à signaler
Signature du visiteur officiel
immédiatement la disparition de ces appareils, s'il y a lieu.

AUTHORIZATION – AUTORISATION		
Institutional Head Name (print) Nom du Directeur de l'établissement (en lettres moulées)		Date (YYAA-MM-DJ)
CSC/SCC 1467 (R-2014-05) (Word Version – Version Word)	Information may be accessible or protected as required under the provisions of the <i>Access to Information Act</i> and the <i>Privacy Act</i> . Les renseignements peuvent être accessibles ou protégés selon ce que prescrit la <i>Loi sur l'accès à l'information</i> et la <i>Loi sur la protection des renseignements personnels</i> .	DISTRIBUTION Copy – Copie 1 = RHQ Security – Sécurité à l'AR Copy – Copie 2 = SIO – ARS Copy – Copie 3 = AWO – DAO Copy – Copie 4 = Infopoint



COVID-19: Screening Questions

To help us prevent the spread of COVID-19, we ask you to read this carefully and answer the questions below. Please act accordingly following the screening questions. For questions about symptoms, please refer to the list of symptoms in the box to the right.

If 'yes' is answered to any of questions 1-4, do not enter the site, contact your manager (employees only) and the local public health authority.

1. Are you currently experiencing any symptoms?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Has anyone in your household experienced any symptoms in the past 14 days? (Note: if the symptomatic person in your household has received a negative COVID-19 test result, please answer 'no')	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. In the past 14 days, have you been identified as a close contact of someone with suspected or confirmed COVID-19?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4. Have you travelled outside Canada in the past 14 days or been in contact with anyone who has travelled outside Canada in the past 14 days?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

If **NO** to all of the above:

5. Have you experienced any symptoms since you were last in the site?	<input type="checkbox"/> Yes See questions below.	<input type="checkbox"/> No You may enter the site.
--	---	---

ONLY COMPLETE THIS SECTION IF YOU ANSWERED YES TO QUESTION 5.

5a. When was your symptom onset date?	(yyyy-mm-dd)	
5b. Has it been at least 10 days since your symptoms started?	<input type="checkbox"/> Yes Continue to 5c.	<input type="checkbox"/> No Do not enter the site, contact your manager (employees only) and the local public health authority.
5c. Have you been symptom free for at least 48 hours?	<input type="checkbox"/> Yes You may enter the site.	<input type="checkbox"/> No Do not enter the site, contact your manager (employees only) and the local public health authority.

Name (Print)

Signature

Date (YYYY-MM-DD)

Examples of symptoms include the new onset of:

- A new or worsening cough
- Shortness of breath or difficulty breathing
- Temperature equal to or over 38°C
- Feeling feverish
- Chills
- Fatigue or weakness
- Muscle or body aches
- Headache
- New loss of smell or taste
- Gastrointestinal symptoms (abdominal pain, diarrhea, vomiting)
- Feeling very unwell

TOOL REGISTER

REGISTRE DES OUTILS

PUT AWAY ON FILE - CLASSER AU DOSSIER

DATE			NAME	COMPANY	TOOLS	TIME IN	TIME OUT
Y-A	M	D-J	NOM	COMPAGNIE	OUTILS	HEURE D'ARRIVÉE	HEURE DE DÉPART

4 ANNEX

4.1 TYPICAL SECURITY RESTRICTIONS

4.1.1 GENERAL

.1 PURPOSE

- .1 To ensure that both the Work and the Institutional operations may proceed without undue disruption or hindrance and that the security of the Institution is maintained at all times.

4.1.2 DEFINITIONS

.1 "Contraband" means:

- .1 An intoxicant, including alcoholic beverages, drugs and narcotics,
- .2 A weapon or a component thereof, ammunition for a weapon, and anything that is designed to kill, injure or disable a person, or that is altered so as to be capable of killing, injuring or disabling a person, when possessed without prior authorization,
- .3 An explosive, or a bomb, or a component thereof,
- .4 Currency over any applicable prescribed limit \$50.00, and
- .5 Any item not described in articles (1) to (4) that could jeopardize the security of a Penitentiary or the safety of persons, when that item is possessed without prior authorization

.2 "Unauthorized Smoking and related Items" means all smoking items including, but not limited to, cigarettes, cigars, tobacco, chewing tobacco, cigarette making machines, matches and lighters.

.3 "Commercial Vehicle" means any motor vehicle used for the shipment of material, equipment and tools required for the construction Work.

.4 "CSC" means Correctional Service Canada.

.5 "Director" means Director, Warden or Superintendent of the CSC Institution, as applicable.

.6 "Construction employees" mean persons working for the general Contractor, the sub-Contractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies.

.7 "Perimeter" means the fenced or walled area of the Institution that restrains the movement of the inmates.

.8 "Construction limits" means the area as shown on the contract drawings that the Contractor will be allowed to work. This area may or may not be isolated from the security area of the Institution. These are the immediate areas in and around the construction Work

4.1.3 PRELIMINARY PROCEEDINGS

.1 Prior to the commencement of work, the Contractor will meet with Client Representative and CSC representatives to:

- .1 Discuss the nature and extent of all activities involved in the Work.
- .2 Establish mutually acceptable security procedures in accordance with this instruction and the Institution's particular requirements.

.2 The Contractor will:

- .1 Ensure that all construction employees are aware of the security requirements.
- .2 Ensure that a copy of the security requirements is always prominently on display at the job site.

- .3 Co-operate with Institutional personnel in ensuring that security requirements are observed by all construction employees.

4.1.4 CONSTRUCTION EMPLOYEES

- .1 Submit to the Institution a list of the names with date of birth of all construction employees to be employed on the construction site and a security clearance form for each employee. The Client Representative will provide contact information within the Institution to the Contractor.
- .2 Allow two (2) weeks for processing of security clearances. Employees will not be admitted to the Institution without a valid security clearance in place and recent picture identification such as a provincial driver's license. Security clearances obtained from other CSC Institutions are not valid at this Institution.
- .3 The Client Representative may require that facial photographs may be taken of construction employees and these photographs may be displayed at appropriate locations in the Institution or in an electronic database for identification purposes. The Client Representative may require that Photo ID cards be provided for all construction workers. ID cards will then be left at the designated entrance to be picked upon arrival at the Institution and shall be displayed prominently on the construction employees clothing at all time while employees are in the Institution. Verify this requirement with the Client Representative
- .4 Entry to Institutional Property will be refused to any person there may be reason to believe may be a security risk.
- .5 Any person employed on the construction site will be subject to immediate removal from Institutional Property if they:
 - .1 Appear to be under the influence of alcohol, drugs or narcotics.
 - .2 Behave in an unusual or disorderly manner.
 - .3 Are in possession of contraband.

4.1.5 VEHICLES

- .1 All unattended vehicles on CSC property shall have windows closed; doors and trunks shall be locked and keys removed. The keys shall be securely in the possession of the owner or an employee of the company that owns the vehicle. The Institution requires lockable gas caps on all vehicles and motorized equipment used in the construction area.
- .2 The Client Representative may limit at any time the number and type of vehicles allowed within the Institution
- .3 Drivers of delivery vehicles for material required by the Work will not require security clearances but must remain with their vehicle the entire time that the vehicle is in the Institution. The Client Representative may require that these vehicles be escorted by Institutional staff or Commissionaires while in the Institution.
- .4 If the Client Representative permits trailers to be left inside the secure perimeter of the Institution, these trailer doors will be locked at all times. All windows will be securely locked when left unoccupied. All trailer windows shall be covered with expanded metal mesh. All storage trailers inside and outside the perimeter must be locked when not in use.

4.1.6 PARKING

- .1 The parking area(s) to be used by construction employees will be designated by the Client Representative. Parking in other locations will be prohibited and vehicles may be subject to removal.

4.1.7 SHIPMENTS

- .1 All shipments of Work material, equipment and tools shall be addressed in the Contractor's name to avoid confusion with the Institution's own shipments. The Contractor must have his own employees on site to receive any deliveries or shipments. CSC staff will NOT accept receipt of deliveries or shipments of any material equipment or tools.

4.1.8 TELEPHONES

- .1 There will be no installation of telephones, Facsimile machines and computers with Internet connections permitted within the perimeter of the Institution unless prior approval of the Client Representative is received.
- .2 The Client Representative will ensure that approved telephones, facsimile machine and computers with Internet connections are located where they are not accessible to inmates. All computers will have an approved password protection that will stop an Internet connection to unauthorized personnel.
- .3 Wireless cellular and digital telephones, including but not limited to devices for telephone messaging, pagers, BlackBerries, telephone used as 2-way radios, are not permitted within the perimeter of the Institution unless approved by the Client Representative. If wireless cellular telephones are permitted, the user will not permit their use by any inmate.
- .4 The Client Representative may approve but limit the use of two way radios.

4.1.9 WORK HOURS

- .1 Work hours within the Institution are: Monday to Friday 8:00 a.m. (0800hrs.) to 4:00 p.m. (1600 hrs).
- .2 Work will not be permitted during weekends and statutory holidays without the permission of the Client Representative. A minimum of seven days advance notice will be required to obtain the required permission. In case of emergencies or other special circumstances, this advance notice may be waived or period shortened by the Client Representative.

4.1.10 OVERTIME WORK

- .1 No overtime work will be allowed without permission of the Client Representative. A minimum forty-eight (48) hours advance notice is required when overtime work on the construction Work is necessary after formally approved by the Client Representative. If overtime work is required because of an emergency, such as the completion of a concrete pour or work to make the construction safe and secure, the Contractor will advise the Client Representative as soon as this condition is known and follow the directions given by the Client Representative.
- .2 When overtime work, weekend statutory holiday work is required and approved by the Client Representative, extra staff members may be posted by the Client Representative or his designate, to maintain the security surveillance. The Client Representative may post extra staff to monitor construction activities.

4.1.11 TOOLS AND EQUIPMENT

- .1 Maintain a complete list of all tools and equipment to be used during the construction Work. This inventory must be available for inspection when required. Tool lists are to include the following as well as any screw &/or drill bits and any disposable tool items such as disposable blades etc.
 - .1 Restricted tools (tools requiring special permission to carry on to site):
 - .1 Explosive tools (Hilti-gun, etc.)
 - .2 Bolt cutters

-
- .3 Acids
 - .4 Bottle jacks (hydraulic)
 - .5 Knives (other than approved hobby knives and cutlery)
 - .6 Scissors, tailors;
 - .7 Adjustable wrenches, 240mm long or more;
 - .8 Tin snips
 - .9 Linesmen pliers
 - .10 Metal cutting devices
 - .11 Hacksaw blades, wrecking or cross bars
 - .12 Files
 - .13 Vice grip pliers with cutters in jaws
 - .14 Picks
 - .15 Portable, electrically driven power tools capable of cutting or drilling (skill saws, jigsaws and drill motors)
 - .16 Welding equipment (accessories locked up)
 - .17 Ropes, heavy cord
 - .18 Axes
 - .19 Ladders
 - .20 Gasolines
 - .21 Coal oil, turpentine
 - .22 Lacquers and sealers
 - .23 Pure ammonia
 - .24 Pneumatic guns and staplers
 - .25 Propane cylinders
 - .2 Non-restricted tools:
 - .1 Includes tools which are used daily and are not usually expected to be used to effect an escape.
 - .2 Throughout the Work maintain up-to-date the list of tools and equipment specified above.
 - .3 Keep all tools and equipment under constant supervision, particularly power driven and cartridge-driven tools, cartridges, files, saw blades, rod saws, wire, rope, ladders and any sort of jacking device.
 - .4 Store all tools and equipment in approved secure locations.
 - .5 Lock all tool boxes when not in use. Keys are to remain in the possession of the employees of the Contractor.
 - .6 Scaffolding shall be secured and locked when not erected and when erected, will be secured in a manner agreed upon with the Institutional designate.
 - .7 All missing or lost tools or equipment shall be reported immediately to the Client Representative.
 - .8 The CSC Director will ensure that the security staff members carry out checks of the Contractor's tools and equipment against the list provided by the Contractor. These checks may be carried out at the following intervals:
 - .1 At the beginning and conclusion of every construction Work
 - .2 Weekly, when the construction Work extends longer than a one week period.
 - .3 The Contractor may be subject to random checks by security staff to ensure proper storage and security of tools throughout the Work.

- .9 Certain tools/equipment such as cartridges and hacksaw blades are highly controlled items. The Contractor will be given at the beginning of the day, a quantity that will permit one day's work. Used blades/cartridges will be returned to the Designated Representative (or delegated alternate) at the end of each day.
- .10 If propane or natural gas is used for heating the construction, the Institution will require that an employee of the Contractor supervise the construction site during non-working hours.

4.1.12 KEYS

- .1 If the Work involves Security Hardware the direction regarding keying and cylinders will be provided to the Contractor by the Client Representative.
- .2 All keys are to be provided to the Client Representative.

4.1.13 SECURITY HARDWARE

- .1 Turn over all removed security hardware to the Client Representative.

4.1.14 PRESCRIPTION DRUGS

- .1 Employees of the Contractor who are required to take prescription drugs during the workday shall obtain approval of the Client Representative to bring a maximum of one day supply into the Institution.

4.1.15 SMOKING RESTRICTIONS

- .1 Contractors and construction employees are not permitted to smoke nor possess unauthorized smoking items within the perimeter of a correctional facility.
- .2 Contractors and construction employees who are in violation of this policy will be requested to immediately cease smoking or dispose of any unauthorized smoking items and, if they persist, will be directed to leave the Institution.
- .3 Smoking is only permitted outside the perimeter of a correctional facility in an area designated by the Client Representative.

4.1.16 CONTRABAND

- .1 Weapons, ammunition, explosives, alcoholic beverages, drugs and narcotics are prohibited on Institutional property.
- .2 The discovery of contraband on the construction site and the identification of the person(s) responsible for the contraband shall be reported immediately to the Client Representative.
- .3 Contractors must be vigilant with both their staff and the staff of their sub-Contractors and suppliers. The discovery of contraband may result in cancellation of the security clearance of the affected employee. Serious infractions may result in the removal of the company from the Institution for the duration of the construction.
- .4 Presence of arms and ammunition in vehicles of Contractors, sub-Contractors and suppliers or employees of these will result in the immediate cancellation of security clearances for the driver of the vehicle.

4.1.17 SEARCHES

- .1 All vehicles and persons entering Institutional property may be subject to search.
- .2 When the Director suspects, on reasonable grounds, that an employee of the Contractor is in possession of contraband or unauthorized items, he may order that person to be searched.
- .3 All employees entering the Institution may be subject to screening of personal effects for traces of contraband drug residue.

4.1.18 ACCESS TO AND FROM INSTITUTIONAL PROPERTY

- .1 Construction personnel and commercial vehicles will not be admitted to the Institution after normal working hours, unless approved by the Client Representative.

4.1.19 MOVEMENT OF VEHICLES

- .1 Escorted commercial vehicles will be allowed to enter or leave the Institution through the vehicle access gate during the following hours:
 - .1 08:00 a.m. to 3:30 p.m. (or within hours of work approved by the Client Representative)
- .2 The Contractor shall advise the Client Representative twenty four (24) hours in advance of the arrival on the site of heavy equipment such as concrete trucks, cranes, etc.
- .3 Vehicles being loaded with soil or other debris, or any vehicle considered impossible to search must be under continuous supervision by CSC staff or Commissionaires working under the authority of the Client Representative.
- .4 Commercial vehicles will only be allowed access to Institutional property when their contents are certified by the Contractor or his representative as being strictly necessary to the execution of the construction Work.
- .5 Vehicles shall be refused access to Institutional property if, in the opinion of the Client Representative, they contain any article that may jeopardize the security of the Institution.
- .6 Private vehicles of construction employees will not be allowed within the security wall or fence of medium or maximum security Institutions.
- .7 With prior approval of the Client Representative, a vehicle may be used in the morning and evening to transport a group of employees to/from the work site. This vehicle will not remain within the Institution the remainder of the day.
- .8 With the approval of the Client Representative, equipment may be permitted to remain on the construction site overnight or over the weekend. This equipment must be securely locked, with the battery removed. The Client Representative may require that the equipment be secured with a chain and padlock to another solid object. Final procedures will be determined with the approval.

4.1.20 MOVEMENT OF CONSTRUCTION EMPLOYEES ON INSTITUTIONAL PROPERTY

- .1 Subject to the requirements of good security, the Client Representative will permit the Contractor and his employees as much freedom of action and movement as is possible.
- .2 However, notwithstanding paragraph above, the Client Representative may:
 - .1 Prohibit or restrict access to any part of the Institution.
 - .2 Require that in certain areas of the Institution, either during the entire construction Work or at certain intervals, construction employees only be allowed access when accompanied by a member of the CSC security staff.
- .3 During the lunch and coffee/health breaks, all employees will remain within the construction site. Employees are not permitted to eat in the officer's lounge and dining room.

4.1.21 SURVEILLANCE AND INSPECTION

- .1 Construction activities and all related movement of personnel and vehicles will be subject to surveillance and inspection by CSC security staff members to ensure that established security requirements are met.

-
- .2 CSC staff members will ensure that an understanding of the need to carry out surveillance and inspections, as specified above, is established among construction employees and maintained throughout the construction Work.

4.1.22 STOPPAGE OF WORK

- .1 The CSC Director may request at any time that the Contractor, his employees, sub-Contractors and their employees not enter or leave the work site immediately due to a security situation occurring within the Institution. The Contractor's site supervisor shall note the name of the staff member making the request and the time of the request and obey the order as quickly as possible. The Contractor shall advise the Client Representative within 24 hours of this delay to the progress of the work.

4.1.23 CONTACTS WITH INMATES

- .1 Unless specifically authorized, it is forbidden to come into contact with inmates, to talk with them, to receive objects from them or to give them objects. Any employee doing any of the above will be removed from the site and his security clearance revoked.
- .2 It is forbidden to take pictures of inmates, of CSC staff members or of any part of the Institution other than those required as part of this contract.

4.1.24 COMPLETION OF CONSTRUCTION WORK

- .1 Upon completion of the construction Work or, when applicable, the takeover of a facility, the Contractor shall remove all remaining construction material, tools and equipment that are not specified to remain in the Institution as part of the construction.

SP-6 SITE – TEMPORARY CONSTRUCTION FENCES

1. SCOPE AND DEFINITIONS

This section provides performance criteria and relevant specifications for all temporary construction fences for minimum, medium, maximum and multi-level Institutions.

Several options for temporary fences are available. Their selection must weigh the following factors: location of construction, the risk of breach, and the duration of construction. Fence types include:

Type 1 Minimum institution construction fence is used primarily as a physical barrier to prevent unauthorized persons access to the site for reasons of safety and to protect the contractor's assets. This fence is no different from that used in the community.

Type 2 Fence is used in restricted and highly controlled inmate areas such as where routine vehicle movement takes place for deliveries at medium and higher level institutions and therefore where breach concerns should not be elevated. This fence therefore serves to prevent unauthorized access for similar reasons as above and as such the fence type is also as above. Construction truck traffic is via the main entrance vehicle Sally Port where it is inspected for contraband. Type 2 Fence shall also be used where construction duration is short term as for a repair or replacement of existing systems or where the work site shifts by phase from building to building. The institution in this case will schedule inmate movement and activities so as to mitigate risk of breach. Truck traffic to the site will be escorted from the main entrance. Type 2 fence may be used as an alternative to Type 3 assuring adequate security where required by being topped with BTC.

Type 3 Fences is used in inmate movement and activity areas at medium and higher level institutions and where breach is possible. Construction truck traffic is via the main entrance vehicle Sally Port where it is inspected for contraband. Trucks are escorted to the construction site. This fence is used for long term projects which have a substantial scope and cost. Fences here must assure appropriate security based on assessed risk.

Type 4 Fence is used for long term projects which are in proximity to the perimeter fence, a secured fence compound shall be constructed which is integrated with the perimeter, effectively forming an extension of the inner perimeter fence. This fence will be fitted with a Fence detection system and covered by camera and lighting integrated with the PIDS. A dedicated Sally Port will be constructed on the perimeter fence line for construction truck traffic to be controlled by contracted commissionaires.

2. RELATED SECTIONS

2.1 *Technical Criteria Document sections:*

SP-1 - Site Development

SP-2 - Fences

SP-3 - Gates/Sally Ports

SP-4 - Exterior Lighting

SP-5 - Traffic Circulation and Parking

2.2 *Other CSC document*

Statement of Technical Requirements – Temporary Construction Fences at Medium and Maximum Security Institutions, Correctional Service Canada, Technical Services Branch – Electronic Systems, Issue 5, April 8, 2011.

2.3 National Master Specification section:

01 35 13 – Security Requirements (prior to 2004: 01003 – Security Requirements)

01 56 26 – Temporary Fencing

01 56 36 – Temporary Security Enclosures

3. PERFORMANCE CRITERIA**3.1 Type 1 Fence**

This fence type shall be a self supporting welded mesh sectional fence typically available by rental ('Modu-loc' or similar). The height of the fence shall be no less than 1800 mm high but may be higher depending on local availability. The fence must be stable and self supporting. Welded wire mesh is considered to be non-climbable due to its mesh size which inhibits the insertion of foot to aid climbing. The top of the fence also has its vertical wire projecting over the top rail to discourage breach. Matching vehicle gates are padlocked after work hours. The temporary construction fence shall be removed from the institution by the contractor after construction is completed.

3.2 Type 2 Fence

This fence type shall be similar to the above but with a height of 2400 mm. This fence must not come in contact with the perimeter fence nor be closer than 12m to the perimeter fence so as not to interfere with PIDS camera viewing on the interior side of the institution. The temporary construction fence shall be removed from the institution by the contractor after construction is completed. Type 2 fence security can be enhanced by topping it with BTC rendering it an alternative to Type 3 fence which shall be considered as a measure to reduce project cost.

3.3 Type 3 Fence

This fence type shall be similar to a standard woven mesh interior fence, be 3.6m high, and be topped with BTC where required. This fence shall be installed on site with all posts set in concrete and with the ground surfaced with compacted gravel. Matching swing type vehicle gates shall be padlocked after hours. As for type 2 fence, this fence must not come in contact with the perimeter fence nor be closer than 12m. Truck access to this compound shall be via the Main entrance with all vehicles escorted. The temporary construction fence shall be dismantled by the contractor after construction is completed but parts such as the fabric may be left at the institution in accordance with the contract documents.

3.4 Type 4 Fence

This type of fence forms part of the perimeter and as such requires special provisions as follows:

- 3.4.1 This is a single fence of the same design as an Inner Perimeter Fence (see Plate SP-6-6) and conforms to Chapter SP-2 - Fences, performance criteria 4.1 except for anti-tunnelling which is achieved by compacted gravel surface for 1m distance on each side of the fence.
- 3.4.2 A Fence Detection System (FDS) is required and connected to the Main Communication Control Post (MCCP).
- 3.4.3 Cameras are required to monitor the fence line and connected to the MCCP and lighting may be required to enhance viewing.
- 3.4.4 A dedicated vehicular entrance is required similar to the main entrance Sally Port comprising three (3) gates (see Plate Sp-6-7, Detail 1):
 - a) Gate 1: Temporary gate for the outer perimeter fence,

- b) Gate 2: Temporary gate for the inner perimeter fence,
- c) Gate 3: Temporary gate in a temporary fence to form a vehicle Sally Port.

At any time, at least two gates of the temporary vehicular Sally Port are secured, with padlocks and keys under the control of a Commissionaire. A commissionaire's temporary hut is required within the Sally Port.

- 3.4.5 The fence must be clear of any building by 12 m but a shorter clearance may be considered since the compound is always protected by a double fence between it and the exterior of the institution.
- 3.4.6 The fence and systems must be dismantled and handed to the institution in accordance with the contract documents after the construction is completed. All systems must be reinstated to the original state and function.

4 RELEVANT SPECIFICATIONS

4.1 *Type 1 Fence*

Rental construction protection fence comes with welded wire mesh and components conforming to ASTM F2919 Welded Mesh Fence specification. Mesh is galvanized steel no larger than 50X150mm (vertically long rectangle) with vertical wire projecting and exposed at top. Fence must be at least 1800mm high and secured with pins inserted in the ground through the 'T' base support. Sections of fence must be securely clamped together to ensure that the each fence run acts as a continuous barrier which will resist lateral forces and separation. Sloped runs must be protected by mesh panels to ensure continuity of barrier from ground up.

4.2 *Type 2 Fence*

This fence is similar to Type 1 above but shall be 2400mm high. Ground along the fence run shall be surfaced with compacted gravel. 'Barbed tape concertina' (BTC) where required and used as an alternative to Type 3 fence shall be as per SP-2-4.2 except that it could be directly attached with galvanized twist ties or clips to the top rail or wire resting against the mesh on the threat side. Use of steel arms fastened to the posts may also be considered for the support of 2 barbed wires and BTC.

4.3 *Type 3 Fence*

This fence conforms to the criteria set out in SP-2 for perimeter fences. It shall be topped by steel arms supporting 2 strands of barbed wire and BTC. The arms shall have 2 strands of barbed wire with the BTC cradled between. Steel arms lean towards the threat side.

4.4 *Type 4 Fence*

The following pertains to a single fence extension of the inner perimeter fence:

- 4.4.1 This fence is continuous connected to the inner perimeter fence at each end. It shall conform to the specification for an interior fence as in "Chapter SP-2 – Fence, Conforming Specifications 4.1.8 and 4.2." and relevant plates; only exception being that the BTC needs to be installed only on the threat side at the first intersecting panel.
- 4.4.2 The three temporary construction gates must conform to "Chapter SP-3 - Gates and Sally Port, 5. – Fence Gates, 5.2 Vehicle Swing gates". Gate 2 (the gate on the Inner Perimeter Fence) requires FDS that can be masked during construction hours and unmasked for all other times. The gate FDS must connect to the MCCP.

- 4.4.3 Motion Detection System (MDS) cable exists within the No Man Zone between the fences. This cable has to be protected from heavy trucks and machinery at the crossing by installing an asphalt pad of 150 mm thick without disturbing the gravel surface over the MDS cables (see Plate SP-6-7). This material can be removed following construction. It is also important to limit the use of salt during winter months. Excess salt will drain to the sides and seep into the surrounding surface adversely affecting the MDS cable's RF field.
- 4.4.4 A temporary microwave system covers the vehicle crossing area within the No Man Zone.
- 4.4.5 Temporary gates may be installed between the perimeter fences at the Sally Port crossing to allow maintenance vehicles to circulate, these gates must be designed to not interfere with both the MDS and the temporary microwave systems.

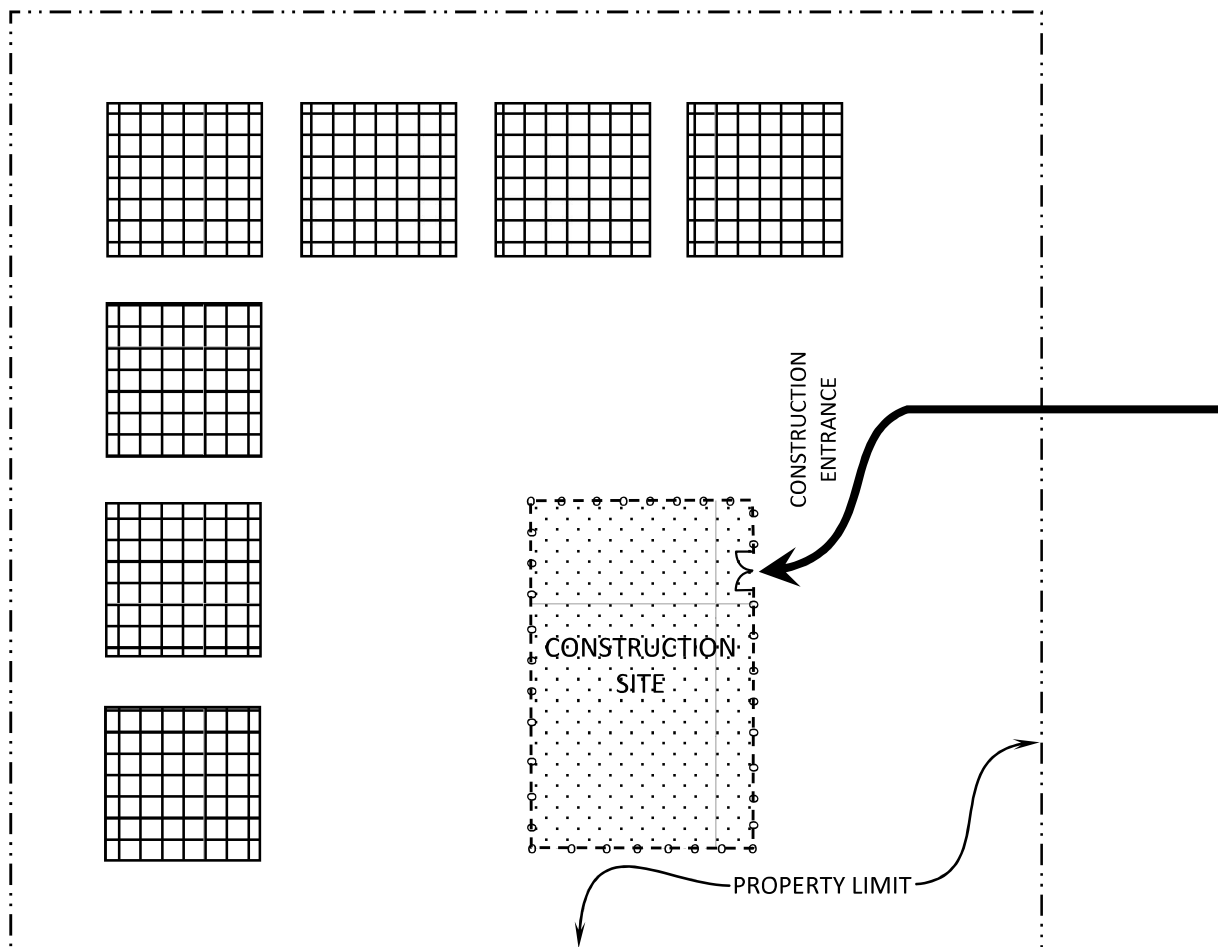


PLATE SP-6-1 – TYPE 1 FENCE

