PROJECT TITLE

Correctional Services Canada (CSC)
Exterior Façade Replacement
Henry Traill Community Correctional Centre
1455 Bath Road Kingston, Ontario.

PROJECT NUMBER

R.21850.003

PROJECT DATE

2020-02-21

Drawing	Title
Architectural	
A-000	COVER SHEET
A-001	PHASING AND GENERAL NOTES
A-002	EXISTING CONDITIONS
A-101	GENERAL FLOOR PLAN AND DEMOLITION ELEVATIONS
A-102	DEMOLITION ELEVATIONS
A-103	EXISTING CONDITIONS AND REMOVALS SCOPE
A-104	ELEVATIONS NEW SCOPE OF VINYL SIDING INSTALLATION
A-105	ELEVATIONS NEW SCOPE OF VINYL SIDING INSTALLATION
A-106	TYPICAL NEW WALL DETAILS
A-107	MISCELLAEOUS NEW WALL PENETRATION DETAILS
A-108	MISCELLANEOUS WALL PENETRATION DETAILS – CCTV
A-109	TYPICAL NEW WALL DETAILS

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Title and description of Work.

.2 Contract Method.

.3 Work sequence.

.4 Contractor use of premises.

.5 Owner occupancy.

.6 Alterations to existing building.

1.2 PRECEDENCE

.1 For Federal Government projects, Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

.1 Work of this Contract comprises replacement of exterior cladding at the CSC Henry Traill Community Corrections Centre, located at Kingston, Ontario; and further identified as Henry Traill.

1.4 CONTRACT METHOD

.1 Construct work under lump sum contract.

1.5 COST BREAKDOWN

.1 Within 48 hours of notification of acceptance of bid furnish a cost breakdown by Section aggregating contract amount.

.2 Submit a list of subcontractors with bid.

1.6 WORK SEQUENCE

.1 Construct Work in stages to accommodate Owner's continued use of premises during construction.

.2 Coordinate Progress Schedule, and coordinate with Owner Occupancy during construction as described on the Site Plan for 4 sequential phases of work.

.3 Required stages:

.1 Phase 1 – southwest wing
.2 Phase 2 – southeast wing
.3 Phase 3 – east wing
.4 Phase 4 – north wing

.4 Maintain fire access/control.

1.7 CONTRACTOR USE OF PREMISES

.1 Contractor shall limit use of premises for Work, for storage, and for access, to allow;
  .1 Owner occupancy.

.2 Coordinate use of premises under direction of Departmental Representative.

1.8 OWNER OCCUPANCY

.1 Owner will occupy premises during entire construction period for execution of normal operations.

.2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not used.

PART 1 - GENERAL

1.1 MINIMUM STANDARDS

.1 Execute work to meet or exceed:

.1 National Building Code of Canada 2015, National Fire Code of Canada 2015, Ontario Building Code 2012 and any other code of provincial or local application, including all amendments up to project date, provided that in any case of conflict or discrepancy, the more stringent requirements shall apply as directed by the Departmental Representative.

.2 Rules and regulations of authorities having jurisdiction.

.3 Treasury Board of Canada Secretariat, Fire Protection Standard, April 1, 2010.

.4 Observe and enforce construction safety measures required by National Building Code 2015, Part 8 Safety Measures at Construction and Demolition Sites, Occupational Health and Safety Act and Regulations for Construction Projects, Revised Statutes of Ontario 1990, Chapter O.1 as amended, O. Reg. 213/91 as amended by O. Reg. 631/94, O. Reg. 143/99, O. Reg. 571/99, O. Reg. 145/00, O. Reg. 527/00, R.R.O. 1990, Reg. 834, O. Reg. 278/05 (Asbestos), Workplace Safety and Insurance Board and municipal statutes and authorities.

.5 Environmental Protection Act, O. Reg. 102/94 and O. Reg. 103/94.

1.2 AUTHORITIES HAVING JURISDICTION

.1 Fire Testing requirements are for ULC or WHI listed and labelled products.

.2 Substitution of ULI or other Fire testing reports for required ULC and WHI testing is acceptable to the Departmental Representative only if the issuing organization is accredited and listed in the "Directory of Accredited Certification Organizations (CAN-P-1505C), 1993" published by the Standards Council of Canada, 1-800-267-8220. Testing shall be to the Canadian standards and the tested products shall bear the appropriate label.

.3 Submit 3 copies of test reports under the letterhead of the accredited organization to the Departmental Representative.

1.3 SAFETY PLANS FOR WORK ORDERS

.1 Provide a Fire Safety Plan, specific to the work location, in accordance with NBC 2015, Division B, Part 8, Article 8.1.1.1.3 and NFC 2015, Division B, Part 2, subsection 2.8.2 prior to commencement of work. The plan shall be coordinated with, and integrated into, the existing Facility Emergency Procedures and Evacuation Plan in place at the site. Departmental Representative will provide Facility Emergency Procedures and Evacuation Plan. Deliver two copies of the Fire Safety Plan to the Departmental Representative not later than 14 days before commencing work.

.2 On award of Contract, submit to Departmental Representative, two copies of Contractor's and sub-contractors':

.1 Site Specific Safety Plan.
.2 Safety Communication Plan.
.3 Emergency Procedures Plan.
.4 WSIB - Workplace Safety and Insurance Board Experience report.

1.4 TAXES

.1 Pay applicable Federal, Provincial and Municipal taxes.

1.5 FEES, PERMITS, CERTIFICATES AND LETTERS

.1 Provide authorities having jurisdiction with information requested.

.2 Pay fees and obtain certificates, permits and letters required.

.3 Furnish certificates, permits and letters when requested.

1.6 EXAMINATION

.1 Mandatory site visit will be arranged through the Tender process.

.2 After award, Contractor to examine the site for existing conditions and verify requirements in contract documents.

1.7 DOCUMENTS

.1 Keep one copy of contract documents and shop drawings on the site.

1.8 ELECTRONIC SUBMITTALS

.1 Submit number of hard copies specified for each type and format of submittal and also submit in electronic format as pdf files. Forward pdf, NMSEdit Professional spp, MS Word docx, MS Excel XISX, and Autocad dwg files; on USB compatible with PSPC encryption requirements or through email or alternate electronic file sharing service such as Oproma, as directed by Departmental Representative.

1.9 CONTRACTOR'S AS-BUILT DRAWINGS AND SPECIFICATIONS

.1 As work progresses, neatly record significant deviations from the Contract drawings and specifications using fine, red marker on full size white prints and specifications. Make the same changes on the electronic files.

.2 Neatly print lettering and numbers in size to match original. Lines may be drawn free-hand but shall be neat and accurate. Add at each title block note: "AS BUILT". Also circle on List of Drawings each title and number of drawing marked with "AS-BUILT" information. Circle on Table of Contents each specification section number and title of specification sections marked with "AS-BUILT" information.

.3 Departmental Representative will provide one electronic set of drawings, schedules and specifications for as-built drawing and specification purposes.
.1 Drawings are in Autocad.
.2 Specifications are in [NMSEdit Professional] [MS Word].

.3 Amendments and addenda are in MS Word.

.4 Record following significant deviations:
- .1 Depths of various elements of foundation.
- .2 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvement.
- .3 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
- .4 Field changes of dimension.
- .5 Other significant deviations which are concealed in construction and cannot be identified by visual inspection.
- .6 Alternative materials and systems installed replacing original materials and systems specified by trade name.

.5 Turn one set, paper copy and electronic copy, of AS-BUILT drawings and specifications over to Departmental Representative on completion of work. Submit pdf files on USB compatible with PSPC encryption requirements, through email or alternate electronic file sharing service such as ftp.

.6 If project is completed without significant deviations from Contract drawings and specifications submit to Departmental Representative one set of drawings and specifications marked "AS-BUILT".

1.10 OPERATIONS AND MAINTENANCE DATA

.1 On completion of project submit to Departmental Representative 4 copies of Operations and Maintenance Data assembled in four 255 x 295 mm vinyl-covered, 3-ring, loose-leaf binders with title sheet labelled "Operations Data and Maintenance Manual", project title, date and list of contents. Organize content into applicable sections between hard paper dividers with labelled tabs.

.2 Include in each binder maintenance instructions for finished surfaces, warranties and guarantees in form approved by Departmental Representative and complete set of final shop drawings (bound separately), names, addresses and phone numbers of sub-contractors and suppliers, list of materials with names of manufacturer and source of supply. Neatly type lists and rates. Use clear drawings, diagrams or manufacturer's literature.

1.11 SHOP DRAWINGS AND PRODUCT DATA SHEETS

.1 Prior to submission check and certify as correct, shop drawings and product data sheets. Issue to Departmental Representative each submission at least 14 [fourteen] days before dates reviewed submission will be needed.

.2 Where technical sections specify that shop drawings bear the stamp of a Registered Professional Engineer, the Engineer must be registered in the Province of Ontario.

.3 Submit 3 prints and 1 electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.

.4 Submit 3 prints and 1 electronic copy 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.

.5 The review of shop drawings by Public Service and Procurement Canada is for sole purpose of ascertaining conformance with general concept. This review shall not mean that PSPC 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 all requirements of construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of all sub-trades.

.6 Submit 3 prints and 1 electronic of product data sheets for standard manufactured items. Indicate VOC's in g/l for adhesives, primers, sealants, paints, curing and sealing compounds, sealers, particleboard, plywood, preserved wood, and any other product that emits more than 25 g/l VOC during application, curing, initial off gassing or end use.

.7 Responsibility for errors, omissions or deviations from requirements of Contract Documents is not relieved by Departmental Representative's review of submittals.

1.12 CONSTRUCTION PHOTOGRAPHS

.1 Submit electronic copy of colour digital photography in standard resolution.

.2 Identification: name and number of project and date of exposure indicated.

.3 Number of viewpoints: Viewpoints and location of viewpoints determined by Departmental Representative.

.4 Frequency: monthly with progress statement

1.13 DESIGN DATA, TEST REPORTS, CERTIFICATES, MANUFACTURER'S INSTRUCTIONS, MANUFACTURER'S FIELD REPORTS

.1 Prior to submission check and certify as correct each submission. Issue to Departmental Representative each submission at least 14 days before reviewed submission will be needed.

.2 Submit 3 white print copies of each item requested.

.3 For products bearing the 'Ecologo' of the Environmental Choice Program, Environment and Climate Change Canada, Canadian Environmental Protection Act, Environmental Choice Product Guidelines:

.1 Submit two copies of the licensing criteria statements and the verification of compliance with Sections 3(a) and 3(b) of the ECP to the Departmental Representative. For adhesives, paints, primers and sealants, cleaners and degreasers, floor polishes, water borne surface coatings, indicate VOC in g/l.

.2 Alternatively, material in original containers bearing the 'Ecologo' or products bearing the 'Ecologo' will satisfy this requirement.

.4 Responsibility for errors, omissions or deviations from requirements of Contract Documents is not relieved by Departmental Representative's review of submittals.

1.14 SAMPLES

.1 Submit duplicate samples.

.2 Identify manufacturer's name, product and colour.

.3 Installed work shall match reviewed sample.

1.15 ADDITIONAL DRAWINGS

.1 Departmental Representative may furnish additional drawings to clarify work.

.2 Such drawings become part of Contract Documents.

1.16 PROTECTION

.1 Protect existing work from damage.

.2 Replace damaged existing work with material and finish to match original.

.3 Protect existing trees and plants on site and adjacent properties.

.4 Where there is grass or gravel in work area, contractor to re-instate after construction

1.17 EXISTING SERVICES

.1 Establish location, protect and maintain existing utility lines.

.2 Maintain existing services.

.3 Do not use existing sanitary facilities. Portable toilet facilities shall be provided by the Contractor.

.4 Use existing water at no cost.

.5 Contractor shall provide own power for the Work.

1.18 TEMPORARY FACILITIES AND SERVICES

.1 Provide and maintain temporary facilities and services required to carry out work.

.2 Remove temporary facilities and services on completion of work.

.3 Provide and maintain temperature and enclosure required to prevent frost damage to work.

1.19 METRIC SIZED MATERIALS

.1 SI metric units of measurement are used exclusively on the drawings and in the specifications for this project.

.2 The Contractor is required to provide metric products in the sizes called for in the Contract Documents except where a valid claim can be made that a particular product is not available on the Canadian market.

.3 Claims for exemptions from use of metric sized products shall be in writing and fully substantiated with supportive documentation. Promptly submit application to Departmental Representative for consideration and ruling. Non-metric sized products may not be used unless Contractor's application has been approved in writing by the Departmental Representative.

.4 Difficulties caused by the Contractor's lack of planning and effort to obtain modular metric sized products which are available on the Canadian market will not be considered sufficient reasons for claiming that they cannot be provided.

.5 Claims for additional costs due to provision of specified modular metric sized products will not be considered.

1.20 MATERIAL AND EQUIPMENT

.1 Use new products unless otherwise specified.

.2 Deliver and store material and equipment to manufacturer's instructions with manufacturer's labels and seals intact.

.3 When material or equipment is specified by standard or performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.

1.21 CONCEALMENT

.1 Conceal pipes, ducts, conduits and wiring in finished areas.

1.22 CUTTING AND REMEDIAL WORK

.1 Co-ordinate work to keep cutting and remedial work to a minimum.

.2 Execute cutting and remedial work required. Notify Departmental Representative before cutting, boring or sleeving structural members.

.3 Prior to cutting or drilling horizontal or vertical surfaces including concrete, concrete block or other structural substrate, determine location of reinforcing, service lines, pipes, conduits or other items by x-ray, ground penetrating radar or other appropriate method. Submit findings to Departmental Representative prior to cutting or drilling.

.4 Do not cut, puncture or drill any member of a system which forms part of an integrated assembly with mechanical or electrical components.

.5 Use specialists in affected material to execute cutting and remedial work.

.6 Match work to adjoining construction and finishes.

.7 Fit components tight to adjoining surfaces.

.8 Make good surfaces exposed or disturbed by work with material and finish to match existing adjoining surfaces.

1.23 FASTENINGS

.1 Provide fastenings of type, size and spacing required to assure secure anchorage.

.2 No explosive actuated fasteners may be used on site.

1.24 CO-ORDINATION AND CO-OPERATION

.1 Site will be occupied during execution of work.

.2 Building will be occupied during execution of work.

.3 Work area will be occupied during execution of work.

.4 Execute work with minimum disturbance to occupants and normal use of site building and work area.

1.25 ALTERATIONS TO EXISTING BUILDING

.1 Remove and recycle or dispose of:
- .1 Fibre cement cladding
- .2 Attachment channels
- .3 Weather barrier membrane

.2 Remove, temporarily store in a locked area, clean, alter to suit and reinstall:
- .1 Solar shading and bolts
- .2 Vent grilles
- .3 Hose bibs

.3 No signage permitted.

1.26 INSPECTION AND TESTING

.1 When initial tests and inspections reveal work not to contract requirements, pay for tests and inspections required by Departmental Representative on corrected work.

1.27 COST BREAKDOWN

.1 Within 48 hours of notification of acceptance of bid furnish a cost breakdown by Section aggregating contract amount.

.2 Submit a list of subcontractors with bid.

1.28 SCHEDULING

.1 On award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion. When schedule has been reviewed by the Departmental Representative take necessary measures to complete work within scheduled time. Do not change schedule without notifying Departmental Representative.

1.29 CLEANING

.1 Maintain project free of accumulated waste and rubbish.

.2 Final cleaning:
- .1 Remove temporary protection.
- .2 Remove dust, dirt and foreign matter from surfaces.
- .3 Broom clean paved exterior surfaces, rake clean other exterior surfaces.
- .4 Remove snow and ice from access to building and parking lots.

1.30 CONSTRUCTION & DEMOLITION WASTE

.1 Carefully deconstruct and source separate materials/equipment and divert from D&C waste destined for landfill to maximum extent possible. Reuse, recycle or sell material off site for reuse except where indicated otherwise. On site sales are not permitted.

.2 For construction and demolition projects, even for those not over 2,000 m² total floor area, source separate waste and maintain waste audits in accordance with the Environmental Protection Act, Ontario Regulation 102/94 and Ontario Regulation 103/94.

- .1 Provide facilities for collection, handling and storage of source separated wastes.
- .2 Source separate the following waste:
  - .1 Corrugated cardboard.
  - .2 Wood, not including painted or treated wood or laminated wood.
  - .3 Gypsum board, unpainted.
  - .4 Steel.

.3 Submit proof that all waste is being disposed of at a licensed land fill site or waste transfer site. A copy of the disposal/waste transfer site's license and a letter verifying that said landfill site will accept the waste must be supplied to Departmental Representative prior to removal of waste from the demolition site.

1.31 ASBESTOS DISCOVERY

.1 If during alteration work existing asbestos material is discovered (e.g. fireproofing, acoustic or thermal insulation, pipe or tank covering) stop work and immediately notify Departmental Representative. Do not remove any existing material containing asbestos fibres.

.2 If during alteration work existing asbestos material, do not remove such asbestos-containing material; stop work and immediately notify Departmental Representative.

1.32 DESIGNATED SUBSTANCES

.1 The work area has been surveyed for the presence of designated substances referred to in the Occupational Health and Safety Act and Regulations for Construction Projects, O.Reg. 213/91 as amended.

.2 There are no "designated substances" as defined by the Occupational Health and Safety Act Revised Statutes of Ontario, 1990, Chapter 0.1 as amended, in the work area.

1.33 SPECIAL PROTECTION AND PRECAUTIONS

.1 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and the provision of SDS - safety data sheets acceptable to ESDC - Labour Program.

1.34 POLLUTION CONTROL

.1 Spills of deleterious substances:
- .1 Immediately contain, limit spread and clean up in accordance with provincial regulatory requirements.
- .2 Report immediately to Ontario Spills Action Centre: 1-800-268-6060.
- .3 Further information on dangerous goods emergency cleanup and precautions including a list of companies performing this work can be obtained from the Transport Canada 24-hour number (613) 996-6666 collect.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not used.

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.

1.3 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

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

1.4 EXISTING SERVICES

.1 Provide for personnel and vehicular traffic.

.2 Construct barriers in accordance with Section 01 56 00.

1.5 SPECIAL REQUIREMENTS

.1 Submit schedule in accordance with Section 01 11 01.

.2 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.

.3 Keep within limits of work and avenues of ingress and egress.

.4 Ingress and egress of Contractor vehicles at site is limited to those areas defined on the Site Plan.

.5 Deliver materials unless otherwise approved by Departmental Representative.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not Used.

PART 1 - GENERAL

1.1 ADMINISTRATIVE

.1 Schedule and administer project meetings throughout the progress of the work at the call of Departmental Representative.

.2 Prepare agenda for meetings.

.3 Distribute written notice of each meeting 4 days in advance of meeting date to Departmental Representative.

.4 Make arrangements for meetings.

.5 Preside at meetings.

.6 Unless directed otherwise by Departmental Representative, record minutes of meetings. Minutes shall be circulated to attending parties and affected parties not in attendance within 5 days after meeting.

.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, Contractor, Supervisor, major Subcontractors, and field inspectors 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 Work: in accordance with Section 01 11 01.
- .3 Schedule of submission of shop drawings, samples, mock-ups, colour chips. Submit submittals in accordance with Section 01 11 01.
- .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 11 01.
- .5 Delivery schedule of specified equipment.
- .6 Site security in accordance with Section 01 35 13.
- .7 Health and safety in accordance with Section 01 11 01.
- .8 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
- .9 Record drawings and specifications in accordance with Section 01 11 01.
- .10 Maintenance manuals in accordance with Section 01 11 01.

.11 Take-over procedures, acceptance, warranties in accordance with Section 01 35 13.
.12 Monthly progress claims, administrative procedures, photographs, hold backs.
.13 Appointment of inspection and testing agencies or firms.
.14 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 and Departmental Representative and Owner are to be in attendance.

.3 Notify parties minimum 5 days prior to meetings.

.4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 5 days after meeting.

.5 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.

PART 1 - GENERAL

1.1 PURPOSE

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

1.2 DEFINITIONS

.1 "Contraband" means:
- .1 An intoxicant, including alcoholic beverages, drugs and narcotics.
- .2 Tobacco or associated tobacco products.
- .3 An igniting device, lighter or matches.
- .4 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.
- .5 An explosive or a bomb or a component thereof.
- .6 Currency when possessed by an inmate without prior authorization.
- .7 Any item not described in paragraphs 1.2.1.1 to 1.2.1.6 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 project.

.4 "CSC" means Correctional Service Canada.

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

.6 "Construction Employees" means persons working for the General Contractor, the sub-contractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies.

.7 "Departmental Representative" means the project manager from Public Works and Government Services Canada.

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

.9 "Construction Limits" means the area as shown on the contract drawings that the Contractor will be allowed to work.

1.3 PRELIMINARY PROCEEDINGS

.1 Prior to the commencement of work, the Contractor shall meet with the Director or his/her representative to:
- .1 Discuss the nature and extent of all activities involved in the Project.

.2 Establish mutually acceptable security procedures in accordance with this instruction and the institution's particular requirements.

.2 Contractor shall:
.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.

1.4 CONSTRUCTION EMPLOYEES

.1 The Director 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 Director may require that Photo ID cards be provided for all Construction Employees. 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 Construction Employees are in the institution.

.2 Entry to Institutional Property will be refused to any person there may be reason to believe may be a security risk.

.3 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 Smoking is prohibited anywhere on CSC property.

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.

.2 The Director may limit at any time the number and type of vehicles allowed within the Institution/Reserve.

.3 Drivers of delivery vehicles for material required by the project will not require security clearances but must remain with their vehicle the entire time that the vehicle is in the Institution/Reserve.

.4 No vehicles or trailers will be allowed inside the Institution/Reserve.

1.6 PARKING

.1 Parking area(s) to be used by Construction Employees will be designated by the Director. Parking in other locations will be prohibited and vehicles may be subject to removal.

1.7 SHIPMENTS

.1 All shipments of project 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/her 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.

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 Director is received.

.2 The Director 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 Institution/Reserve unless approved by the Director. If wireless cellular telephones are permitted, the user will not permit their use by any inmate.

.4 The Director may approve but limit the use of two way radios.

1.9 WORK HOURS

.1 Work hours within the Institution are: Monday to Friday 08:00 a.m. [08:00 hrs.] to 4:00 p.m. [16.00 hrs].

.2 Work will not be permitted during weekends and statutory holidays without the permission of the Director. 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 by the Director.

1.10 OVERTIME WORK

.1 No overtime work will be allowed without permission of the Director. Give a minimum forty-eight (48) hours advance notice when overtime work on the construction project is necessary and approved. 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 shall advise the Director as soon as this condition is known and follow the directions given by the Director. Costs to the Crown for such events may be attributed to the Contractor.

.2 When overtime work, weekend, or statutory holiday work is required and approved by the Director, extra staff members may be posted by the Director or his/her designate, to maintain the security surveillance. The Departmental Representative may post extra staff for inspection of construction activities. The actual cost of this extra staff may be subject to reclamation by the Crown.

1.11 TOOLS AND EQUIPMENT

.1 Maintain a complete list of all tools and equipment to be used during the construction project. Make this inventory available for inspection when required.

.2 Throughout the construction project 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 to remain in the possession of the employees of the Contractor. Scaffolding shall be secured and locked when not erected and when erected, will be secured in a manner agreed upon with the Institutional designate.

.6 All missing or lost tools or equipment shall be reported immediately to the Director.

.7 The 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 project.
- .2 Weekly, when the construction project 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 project.
- .4 The Contractor must ensure the removal of tools and equipment daily.

.8 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 Director's representative at the end of each day.

.9 Although construction heating is not anticipated for the project, 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.

.10 If torches or grinders are required tools to perform Work, Contractor must complete a Hot Work Permit as supplied by CSC. Completed original form(s) are copied and posted on the work site in a conspicuous location. Original documents are to remain with the Institutional Fire Chief.

1.12 PRESCRIPTION DRUGS

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

1.13 SMOKING RESTRICTIONS

.1 Contractors and construction employees are not permitted to smoke inside correctional facilities or outdoors within the perimeter of a correctional facility and must not 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 to be designated by the Director.

1.14 CONTRABAND

.1 Weapons, ammunition, explosives, alcoholic beverages, drugs and narcotics are prohibited on Institutional Property.

.2 Discovery of Contraband on the construction site and the identification of the person(s) responsible for the Contraband shall be reported immediately to the Director.

.3 Contractors shall be vigilant with both their staff and the staff of their sub-contractors and suppliers that 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.

1.15 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/she 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.

1.16 ACCESS TO AND REMOVAL FROM INSTITUTION PROPERTY

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

1.17 MOVEMENT OF VEHICLES

.1 Construction vehicles shall not leave the Institution until an inmate count is completed.

.2 The Contractor shall advise the Director twenty four (24) hours in advance

to 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 Director.

.4 Commercial Vehicles will only be allowed access to Institutional Property when their contents are certified by the Contractor or his/her representative as being strictly necessary to the execution of the construction project.

.5 Vehicles shall be refused access to Institutional Property if, in the opinion of the Director, they contain any article which 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 without the permission of the Director.

.7 With prior approval of the Director, a vehicle may be used in the morning and evening to transport a group of employees to the work site. This vehicle will not remain within the Institution the remainder of the day.

.8 With the approval of the Director, certain 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 Director may require that the equipment be secured with a chain and padlock to another solid object.

1.18 MOVEMENT OF CONSTRUCTION EMPLOYEES ON INSTITUTIONAL PROPERTY

.1 Subject to the requirements of good security, the Director will permit the Contractor and his/her employees as much freedom of action and movement as is possible.

.2 However, notwithstanding paragraph above, the Director 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 project 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.

1.19 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 project.

1.20 STOPPAGE OF WORK

.1 The Director may request at any time that the Contractor, his/her 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.

.2 The Contractor shall advise the Departmental Representative within 24 hours of this delay to the progress of the work.

1.21 CONTACT 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/her 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.

1.22 COMPLETION OF CONSTRUCTION PROJECT

.1 Upon completion of the construction project 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 contract.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not used.

PART 1 - GENERAL

1.1 REFERENCES

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

.2 Canadian Standards Association (CSA): Canada
- .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.

.3 National Building Code 2015 (NBC):
- .1 NBC 2015, Division B, Part 8 Safety Measures at Construction and Demolition Sites.

.4 National Fire Code 2015 (NFC):
- .1 NFC 2015, Division B, Part 5 Hazardous Processes and Operations, subsection 5.6.1.3 Fire Safety Plan.

.5 Province of Ontario:
- .1 Occupational Health and Safety Act Revised Statutes of Ontario 1990, Chapter O.1 as amended, and Regulations for Construction Projects, O. Reg. 213/91 as amended.
- .2 Reg. 490/09, Designated Substances.
- .3 Workplace Safety and Insurance Act, 1997.
- .4 Municipal statutes and authorities.

.6 Treasury Board of Canada Secretariat (TBS):
- .1 Treasury Board, Fire Protection Standard April 1, 2010 www.tbs-sct.gc.ca/pol/doc-eng.aspx ?id=17316&section=text.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 11 01.

.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.
- .3 Measures and controls to be implemented to address identified safety hazards and risks.

.3 Contractor's and Sub-contractors' Safety Communication Plan.

.4 Contingency and Emergency Response Plan addressing standard operating procedures specific to the project site to be implemented during emergency situations. Coordinate plan with existing Facility Emergency Response requirements and procedures provided by Departmental Representative.

.5 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.

.6 Departmental Representative's 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.

.7 Submit names of personnel and alternates responsible for site safety and health.

.8 Submit records of Contractor's Health and Safety meetings [when requested].

.9 Submit 3 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative monthly.

.10 Submit copies of orders, directions or reports issued by health and safety inspectors of the authorities having jurisdiction.

.11 Submit copies of incident and accident reports.

.12 Submit Material Safety Data Sheets (MSDS).

.13 Submit Workplace Safety and Insurance Board (WSIB)- Experience Rating Report.

1.3 FILING OF NOTICE

.1 File Notice of Project with Provincial authorities prior to commencement of Work.

1.4 WORK PERMIT

.1 Obtain building permits related to project prior to commencement of Work.

.2 Obtain 'Permit to Work Form' from AFD Contractor.

1.5 SAFETY ASSESSMENT

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

1.6 MEETINGS

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

1.7 REGULATORY REQUIREMENTS

.1 Comply with the Acts and regulations of the Province of Ontario.

.2 Comply with specified standards and regulations to ensure safe operations at site.

1.8 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 either accepting or requesting improvements.

.3 Relief from or substitution for any portion or provision of minimum Health and Safety standards specified herein or reviewed site-specific Health and Safety Plan shall be submitted to Departmental Representative in writing.

1.9 COMPLIANCE REQUIREMENTS

.1 Comply with Ontario Occupational Health and Safety Act, R.S.O. 1990 Chapter 0.1, as amended.

1.10 RESPONSIBILITY

.1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

.2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

.3 Where applicable the Contractor shall be designated "Constructor", as defined by Occupational Health and Safety Act and Regulations for Construction Projects for the Province of Ontario.

1.11 UNFORSEEN HAZARDS

.1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, immediately stop work and advise Departmental Representative verbally and in writing.

.2 Follow procedures in place for Employees Right to Refuse Work as specified in the Occupational Health and Safety Act for the Province of Ontario.

1.12 POSTING OF DOCUMENTS

.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province of Ontario, and in consultation with Departmental Representative.

- .1 Contractor's Safety Policy.
- .2 Constructor's Name.
- .3 Notice of Project.
- .4 Name, trade, and employer of Health and Safety Representative or Joint Health and Safety Committee members (if applicable).
- .5 Ministry of Labour Orders and reports.
- .6 Occupational Health and Safety Act and Regulations for Construction Projects for Province of Ontario.
- .7 Address and phone number of nearest Ministry of Labour office.
- .8 Material Safety Data Sheets.
- .9 Written Emergency Response Plan.
- .10 Site Specific Safety Plan.
- .11 Valid certificate of first aider on duty.
- .12 WSIB "In Case of Injury at Work" poster.

.13 Location of toilet and cleanup facilities.

1.13 CORRECTION OF NON-COMPLIANCE

.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.

.2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.

.3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.14 POWDER ACTUATED DEVICES

.1 Use powder actuated devices only after receipt of written permission from Departmental Representative.

1.15 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.

.2 Assign responsibility and obligation to Competent Supervisor to stop or start Work when, at Competent Supervisor's discretion, it is necessary or advisable for reasons of health or safety. Departmental Representative may also stop Work for health and safety considerations.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not used.

PART 1 - GENERAL

1.1 ABBREVIATIONS AND ACRONYMS

.1 The abbreviations and acronyms are commonly found in the Project Manual and represent the associated organizations or terms.

1.2 MATERIALS, EQUIPMENT AND METHODS

.1 A:
- .1 AB: anchor bolt.
- .2 AC: acoustic.
- .3 AC PAN: acoustic panel.
- .4 ACU: acoustic unit ceiling.
- .5 AFF: above finished floor.
- .6 AC PLAS: acoustic plaster.
- .7 ACT: acoustic tile.
- .8 ACR CU LVR: acrylic cube louvre.
- .9 ADH: adhesive.
- .10 ADJ: adjustable.
- .11 A/C: air conditioner.
- .12 AHU: air handling unit.
- .13 AL: aluminum.
- .14 ANOD: anodized.
- .15 APPROX: approximate.
- .16 ARCH: architecture.
- .17 ARCH BLK: architectural block.
- .18 AVB: air vapour barrier.

.2 B:
- .1 B: base.
- .2 BEAST: benthic assessment of sediment.
- .3 BH: bore hole.
- .4 BHP: brake horse power.
- .5 BL: bottom layer.
- .6 BLK: block.
- .7 BLKD: bulkhead.
- .8 BM: beam.
- .9 BOT: bottom.
- .10 BMP: best management practice.
- .11 B PL: base plate.
- .12 BRG: bearing.
- .13 BRK: brick.
- .14 BSMT: basement.
- .15 BTEX: benzene, toluene, ethylbenzene and xylenes.
- .16 BUR: built-up roof.

.3 C:
- .1 CAL: caliper.
- .2 CANTIL: cantilever.
- .3 CB: catch basin.
- .4 CC: centre to centre.
- .5 CCN: contemplated change notice.

.6 CDF: controlled density fill.
.7 CEC: Canadian Electical Code.
.8 CF: chair fabric.
.9 CHAN: channel.
.10 CHS: Canadian hydrographic service.
.11 CJ: construction joint.
.12 CL: centreline.
.13 CK: cork.
.14 CLG: ceiling.
.15 CLR: clear.
.16 COL: column.
.17 CONC: concrete.
.18 CONC BLK: concrete block.
.19 CONC BRK: concrete brick.
.20 CONT: continuous.
.21 CONT J: control joint.
.22 COMPL: complete.
.23 CM: centimetre. (Nursery stock).
.24 CP: circulating pump.
.25 CPL: cement plaster.
.26 CPM: critical path method.
.27 CPT: carpet.
.28 CPTT: carpet tile.
.29 CT: ceramic tile.
.30 CTE: connect to existing.
.31 CV: control valve.
.32 CVT: conductive vinyl tile.
.33 C/W: complete with.

.4 D:
.1 D: deep.
.2 dB: decibels.
.3 DB: dry-bulb.
.4 DD: dutch door.
.5 DEG: degree.
.6 DF: drinking fountain.
.7 DIA: diameter.
.8 DIM: dimension.
.9 DL: dead load.
.10 DMNT: demountable.
.11 DP: dampproofing.
.12 DR: door.
.13 DRP: drapery.
.14 DWL: dowel.

.5 E:
.1 EA: each.
.2 EC: epoxy coating.
.3 ECF: engineered containment facility.
.4 EE: each end.
.5 EF: each face (architectural/structural).
.6 EF: exhaust fan (mechanical/electrical).
.7 EL: elevation.
.8 ELEC: electric.
.9 ELEV: elevator.

.10 EM: expanded metal.
.11 ENCL: enclosure.
.12 EQ: equal.
.13 ET: expansion tank.
.14 EXH: exhaust.
.15 EXIST: existing.
.16 EXPJ: expansion joint.
.17 EXP STRUCT: exposed structure.
.18 EXT: exterior.
.19 EW: each way.
.20 EWT: entering water temperature.

.6 F:
.1 FC: fuel contributed.
.2 FD: floor drain.
.3 FDN: foundation.
.4 FEAT W: feature wall.
.5 FEXT: fire extinguisher.
.6 FH: fire hose.
.7 FHC: fire hose cabinet.
.8 FHR: fire hose rack.
.9 FIN: finish.
.10 FIP: federal identity program.
.11 FL: floor.
.12 FLD: field.
.13 FLUOR: fluorescent.
.14 FR: frame.
.15 FRR: fire resistance rating.
.16 FTG: footing.

.7 G:
.1 GALV: galvanized steel.
.2 GB: grab bar.
.3 GBD: gypsum board.
.4 GC: General Conditions.
.5 GF: ground floor.
.6 GFCI: ground fault circuit interrupter.
.7 GL: glass or glazing.
.8 GL BLK: glass block.
.9 GPC: gypsum plaster ceiling.
.10 GPW: gypsum plaster wall.
.11 GT: glass tile.

.8 H:
.1 HB: hose bib.
.2 HC: hollow core.
.3 HCWD: hollow core wood door.
.4 HD: hand dryer.
.5 HDW: hardware.
.6 HDWD: hardwood.
.7 HEX: heat exchanger.
.8 HM: hollow metal.
.9 HOR: horizontal.
.10 HOR EF: horizontal each face.
.11 HP: hydro pole.

.12 HPA: Hamilton Port Authority.
.13 HR: hour.
.14 HRV: heat recovery ventilator.
.15 HT: height.
.16 HTR: heater.
.17 HUM: humidifier.
.18 HWT: hot water tank.
.19 HYD: hydrant.
.20 HZ: Hertz frequency, cycles per second.

.9 I:
.1 ICF: insulated concrete formwork.
.2 ID: inside diameter.
.3 INS: insulation.
.4 INTLK: interlock.

.10 J:
.1 JT: joint.

.11 K:
.1 KPL: kick plate.

.12 L:
.1 LAT: leaving air temperature.
.2 LAV: lavatory.
.3 LDG: landing.
.4 LG: long.
.5 LINO: linoleum.
.6 LL: live load.
.7 LT: light.
.8 LWT: leaving water temperature.

.13 M:
.1 MAS: masonry.
.2 MAS FL: masonry flashing.
.3 MAX: maximum.
.4 MBG: metal bar grating.
.5 MCL: metal cube louvre.
.6 MECH: mechanical.
.7 MET: metal.
.8 MET DK: metal deck.
.9 MET FL: metal flashing.
.10 MET GRID CLG: metal grid ceiling.
.11 MET GRTG: metal grating.
.12 MET LIN CLG: metal linear ceiling.
.13 MET T PTN: metal toilet partition.
.14 MH: maintenance hole.
.15 MIN: minimum.
.16 MLP: metal lath and plaster.
.17 MO: masonry opening.
.18 MR: marble.
.19 MT: metal threshold.
.20 MWP: membrane waterproofing.

.14 N:

.1 NBC: national building code.
.2 NC: normally closed.
.3 NF: near face.
.4 NFC: national fire code.
.5 NIC: not in contract.
.6 NO: number.
.7 NRC: noise reduction coefficient.
.8 NRP: non removable pin.
.9 NTS: not to scale.

.15 O:
.1 OA: outside air.
.2 OBC: Ontario building code.
.3 OC: on centre.
.4 OD: outside diameter.
.5 OPNG: opening.
.6 OPR: operator.
.7 OVHD: overhead.
.8 OWSJ: open web steel joist.

.16 P:
.1 P: prefinished.
.2 PAH: polynuclear aromatic hydrocarbons.
.3 PARG: parging.
.4 PCC: precast concrete.
.5 PCT: porcelain ceramic tile.
.6 PED ACS FLG: pedestal access flooring.
.7 PF: panel fabric.
.8 PH: phase.
.9 PL: plate.
.10 PLAM: plastic laminate.
.11 PLAS: plaster.
.12 PLYWD: plywood.
.13 PR: pair.
.14 PREFAB: prefabricated.
.15 PREFIN: prefinished.
.16 PRESS: pressure.
.17 PRFL: profile.
.18 PRV: pressure regulating valve.
.19 PT: paint.
.20 PTD: paper towel dispenser.
.21 PTN: partition.
.22 PVC: polyvinyl cholide.

.17 Q:
.1 QTB: quarry tile base.
.2 QTF: quarry tile floor.
.3 QTR: quarry tile roof.

.18 R:
.1 R: radius.
.2 RA: return air.
.3 RAD: return air damper.
.4 RB: resilient base.
.5 RC: reinforced concrete.

.6 RCPT: receptacle.
.7 RD: roof drain.
.8 REINF: reinforced/reinforcing.
.9 REQD: required.
.10 REQT: requirement.
.11 RFT: rubber floor tile.
.12 RM: room.
.13 RO: rough opening.
.14 RP: radiant panel.
.15 RRS: recycled rubber sheet.
.16 RRT: recycled rubber tile.
.17 RSD: rolling steel door.
.18 RSF: rubber sheet flooring.
.19 RT: rubber tile.
.20 RTU: roof top unit.
.21 RWL: rain water leader.

.19 S:
.1 SA: supply air.
.2 SAN SEW: sanitary sewer.
.3 SCHED: schedule.
.4 SC: solid core.
.5 SCRN: screen.
.6 SCWD: solid core wood door.
.7 SD: smoke developed.
.8 SDT: static dissipative tile.
.9 SECT: section.
.10 SH: sill height.
.11 SIM: similar.
.12 SL: sliding.
.13 SLR: sealer.
.14 SPEC: specification.
.15 SS: stainless steel.
.16 STD: standard.
.17 STL: steel.
.18 STL BM: steel beam.
.19 STC: sound tranmission class.
.20 STL FL DK: steel floor deck.
.21 STL PL: steel plate.
.22 STN: stone.
.23 STR: structure or structural.
.24 ST SEW: storm sewer.
.25 S&U: stain and urethane.
.26 S&V: stain and varnish.
.27 SVT: solid vinyl tile.

.20 T:
.1 T: top.
.2 T&B: top and bottom.
.3 TCB: turbidity control plan.
.4 TEL: telephone.
.5 TER: terrazzo.
.6 TERT: terrazzo tile.
.7 THKNS: thickness.
.8 THR: threshold.

.9 TMPD: tempered.
.10 TOPG: topping.
.11 TRANSV: transverse.
.12 TYP: typical.

.21 U:
.1 U: urethane.
.2 U/C: undercut.
.3 UGRD: underground.
.4 UNO: unless noted otherwise.
.5 UOS: unless otherwise specified.
.6 U/S: underside.
.7 UR: urinal.

.22 V:
.1 V: volt.
.2 VCF: vinyl coated fabric.
.3 VCT: vinyl compositition tile.
.4 VEL: velocity.
.5 VERT: vertical.
.6 VERT B: vertical blinds.
.7 VERT EF: vertical each face.
.8 VSF: vinyl sheet flooring.
.9 VPT: vinyl plank flooring.
.10 VT: vinyl tile.
.11 VWC: vinyl wall covering.

.23 W:
.1 WB: wet-bulb.
.2 WC: water closet.
.3 W-C: wall connectors.
.4 WD: wood.
.5 WDV: wood veneer.
.6 WG: water gauge.
.7 WH: wall hydrant.
.8 WHMIS: workplace hazardous materials information system.
.9 WP: waterproofing.
.10 WR: washroom.
.11 WSIB: workplace safety and insurnace board.
.12 WT: weight.
.13 WTP: water treatment plant.

1.3 STANDARDS ORGANIZATIONS

.1 Standards writing organizations:
.1 AA - Aluminum Association.
.2 ACPA - American Concrete Pipe Association.
.3 ANSI - American National Standards Institute.
.4 ASHRAE - American Society of Heating and Refrigerating and Air-Conditioning Engineers.
.5 ASTM - American Society for Testing and Materials.
.6 AWI/AWMAC - Architectural Woodwork Institute/Architectural Woodwork Manufacturers Association of Canada.
.7 AWPA - American Wood Preservers' Association.
.8 AWWA - American Water Works Association.

.9 BHMA - Builders Hardware Manufacturers Association.
.10 CCDC - Canadian Construction Documents Committee.
.11 CCMPA - Canadian Concrete Masonry Producers Association.
.12 CGSB - Canadian General Standards Board.
.13 CNTA - Canadian Nursery Trades Association.
.14 CPCA - Canadian Painting Contractors Association.
.15 CRCA - Canadian Roofing Contractors Association.
.16 CSA - Canadian Standards Association.
.17 CSC - Construction Specifications Canada.
.18 CSDMA - Canadian Steel Door Manufacturers Association.
.19 CSI - Construction Specifications Institute.
.20 CSSBI - Canadian Sheet Steel Building Institute.
.21 CRCA - Canadian Roofing Contractors Association.
.22 DHI - Door and Hardware Insitute.
.23 EEMAC - Electrical and Electronic Manufacturer's Association of Canada.
.24 ESA - Electrical Safety Authority.
.25 FCC - Fire Commissioner of Canada.
.26 FSC - Forest Stewardship Council.
.27 GANA - Glass Association of North America.
.28 HMMA - Hollow Metal Manufacturers Association.
.29 IEEE - Institute of Electrical and Electronics Engineers Inc.
.30 ISO - International Organization for Standardization.
.31 IWFA - International Window Film Association.
.32 LEED - LEED Canada, Leadership in Energy and Environmental Design.
.33 MPI - Master Painters Insitute.
.34 NAAMM - National Association of Architectural Metal Manufacturers.
.35 NCPI - National Clay Pipe Institute.
.36 NEMA - National Electrical Manufacturers Association.
.37 NFPA - National Fire Protection Association.
.38 OPSD - Ontario Provincial Standard Drawings.
.39 OPSS - Ontario Provincial Standard Specifications.
.40 PPI - Plasctics Pipe Institute.
.41 SDI - Steel Door Intitute.
.42 SCAQMD - South Coast Air Quality Management District.
.43 TIA - Telecommunications Industry Association.
.44 TIAC - Thermal Insulation Association of Canada.
.45 TTMAC - Terrazzo Tile and Marble Association of Canada.
.46 UL - Underwriters Laboratories.
.47 ULC - Underwriters Laboratories of Canada.
.48 US EPA - United States Environmental Protection Agency.
.49 WH - Warnock Hersey.

1.4 FEDERAL GOVERNMENT DEPARTMENTS AND AGENGIES

.1 Departments, agencies and crown corporations.
.1 CEAA - Canadian Environmental Assessment Agency.
.2 CSC - Correctional Service Canada.
.3 CRA - Canada Revenue Agency.
.4 DND - Department of National Defence.
.5 EC - Environment Canada.
.6 FHBRO - Federal Heritage Buildings Review Office.
.7 HC - Health Canada.
.8 HCD - Heritage Conservation Directorate.
.9 LC - Labour Canada.

.10 PC - Parks Canada.
.11 PSPC - Public Service Procurement Canada.
.12 PWGSC - Public Works and Government Services Canada.
.13 RCMP - Royal Canadian Mounted Police.
.14 TBS - Treasury Board Secretariat.
.15 TC - Transport Canada.

1.5 PROVINCIAL GOVERNMENT DEPARTMENTS AND AGENGIES

.1 MOECP - Ontario Ministry of Environment, Conservation and Parks.

.2 MOL - Ontario Ministry of Labour.

.3 MTO and MOT - Ontario Ministry of Transportation.

.4 TSSA - Technical Standards and Safety Authority.

1.6 INTERNATIONAL GOVERNMENT DEPART- MENTS AND AGENCIES

.1 DOHMH - New York City Department of Health and Mental Hygiene, USA.

.2 GSA - Government Services Administration, USA.

1.7 UNITS OF MEASURE METRIC

.1 The following abbreviations of units of measure are commonly found in the Project Manual:
.1 C: Celsius.
.2 cm: centimetre.
.3 kg: kilogram.
.4 kg/m³: kilogram per cubic metre.
.5 kN: kilonewton.
.6 kPa: kilopascals.
.7 kw: kilowatts.
.8 l/s: litre per second.
.9 m: metre.
.10 m³: cubic metre.
.11 mg/kg: milligrams per kilogram.
.12 mg/L: milligrams per litre.
.13 mm: millimetres.
.14 MPa: megapascal.
.15 NTU: nephelometric turbidity unit.
.16 ppm: parts per million.
.17 ug/L: micrograms per litre.
.18 ug/m³: micrograms per cubic metre.

1.8 UNITS OF MEASURE IMPERIAL

.1 The following abbreviations of units of measure are commonly found in the Project Manual:
.1 BTU: British thermal units.
.2 CFM: cubic feet per minute.
.3 F: Fahrenheit.
.4 ft: foot/feet.
.5 FPI: fins per inch.

.6 FPM: feet per minute.
.7 ga: gauge.
.8 gpm: gallons per minute.
.9 in: inches.
.10 lbs: pounds.
.11 NTU: nephelometric turbidity unit.
.12 psi: pounds-force per square inch.
.13 PSIG: PSI gauge.
.14 ppm: parts per million.
.15 RPM: revolutions per minute.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not Used.

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Inspection and testing, administrative and enforcement requirements.

.2 Tests and mix designs.

.3 Mock-ups.

.4 Mill tests.

.5 Equipment and system adjust and balance.

1.2 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.

.4 Departmental Representative may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.3 INDEPENDENT INSPECTION AGENCIES

.1 Independent Inspection/Testing Agencies will be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work, above and beyond those required of the Contractor. [Cost of such services will be borne by Departmental Representative].

.2 Provide equipment required for executing inspection and testing by appointed agencies.

.3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.

.4 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 Departmental Representative. Pay costs for retesting and reinspection.

1.4 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.

1.5 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 an orderly sequence so as not to cause delay in Work.

.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.6 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, Departmental Representative may deduct from Contract Amount difference in value between Work performed and that called for by Contract Documents, amount of which shall be determined by Departmental Representative.

1.7 REPORTS

.1 Submit [4] copies of inspection and test reports to Departmental Representative.

.2 Provide copies to Subcontractor of work being inspected or tested, manufacturer or fabricator of material being inspected or tested.

1.8 TESTS AND MIX DESIGNS

.1 Furnish test results and mix designs as may be requested.

.2 The cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work shall be appraised by Departmental Representative and may be authorized as recoverable.

1.9 MOCK-UPS

.1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of all Sections required to provide mock-ups.

.2 Construct in all locations as specified in specific Section.

.3 Prepare mock-ups for Departmental Representative's review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.

.4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.5 If requested, Departmental Representative will assist in preparing a schedule fixing dates for preparation.

.6 Mock-ups may remain as part of Work.

1.10 MILL TESTS

.1 Submit mill test certificates as required of specification Sections.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not Used.

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Construction aids.

.2 Office and sheds.

.3 Parking.

.4 Project identification.

1.2 SUBMITTALS

.1 Provide submittals in accordance with Section 01 11 01.

1.3 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.

.2 Identify areas which have to be graveled 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.

1.4 SCAFFOLDING

.1 Scaffolding in accordance with CSA Z797.

.2 Provide and maintain scaffolding, ramps, ladders, platforms, and temporary stairs.

1.5 SITE STORAGE/LOADING

.1 Confine work and operations of employees to areas defined by Contract Documents.

.2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

1.6 OFFICES

.1 Provide office heated to 22°C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table.

.2 Provide a clearly marked and fully stocked first-aid case in a readily available location.

1.7 SANITARY FACILITIES

.1 Provide sanitary facilities for work force in accordance with governing

regulations and ordinances.

.2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.8 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.2 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.

.3 Dust control: adequate to ensure safe operation at all times.

.4 Provide snow removal during period of Work.

1.9 CLEAN-UP

.1 Remove construction debris, waste materials, packaging material from work site daily.

.2 Clean dirt or mud tracked onto paved or surfaced roadways.

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

.4 Stack stored new or salvaged material.

PART 2 - PRODUCTS

.1 Not Used.

PART 3 - EXECUTION

.1 Not Used.

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Barriers.

.2 Fire Routes.

1.2 RELATED SECTIONS

.1 Section [01 52 00 - Construction Facilities].

1.3 INSTALLATION AND REMOVAL

.1 Provide temporary controls in order to execute Work expeditiously.

.2 Remove from site all such work after use.

1.4 FENCING

.1 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

.2 Erect temporary site enclosure around each Phase of Work while it is under construction and remove it upon completion of each phase. Use modular freestanding fencing: galvanized, minimum 1.8 m high, chain link or welded steel mesh, pipe rail. Provide one lockable entrance gate and at least one pedestrian door as directed and conforming to applicable restrictions to be described during the Project Meeting. Equip gates with locks and keys. Maintain fence in good repair.

.3 Erect temporary site enclosure using fencing and doors and gates as described by 1.4.2 around Contractors laydown area.

.4 Dumpsters must be lockable.

1.5 GUARD RAILS AND BARRICADES

.1 Provide as required by governing authorities.

1.6 WEATHER ENCLOSURES

.1 Design enclosures to withstand wind pressure and snow loading.

1.7 ACCESS TO SITE

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

1.8 FIRE ROUTES

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

1.9 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

.1 Protect surrounding private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

1.10 PROTECTION OF BUILDING FINISHES

.1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.

.2 Provide necessary screens, covers, and hoardings.

.3 Confirm with Departmental Representative locations and installation schedule [3] days prior to installation.

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

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not Used.

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Product quality, availability, storage, handling, protection, and transportation.

.2 Manufacturer's instructions.

.3 Quality of Work, coordination and fastenings.

.4 Existing facilities.

1.2 RELATED SECTIONS

.1 Section [01 45 00 - Quality Control].

1.3 REFERENCES

.1 Within text of specifications, reference may be made to reference standards.

.2 Conform to these standards, in whole or in part as specifically requested in specifications.

.3 If there is question as to whether any product or system is in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.

.4 The cost for such testing will be borne by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.

.5 Conform to latest date of issue of referenced standards in effect on date of submission of Bids, except where specific date or issue is specifically noted.

.6 OPSS Ontario Provincial Standard Specifications and OPSD Ontario Provincial Standard Drawings quoted in these specifications are available online at http://www.raqsa.mto.gov.on.ca/techpubs/ops.nsf/OPSHomepage.

1.4 QUALITY

.1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of Products provided.

.2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

.3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.

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

.5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.5 AVAILABILITY

.1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify 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.

1.6 METRIC SIZED MATERIALS

.1 SI metric units of measurement are used exclusively on the drawings and in the specifications for this project.

.2 The Contractor is required to provide metric products in the sizes called for in the Contract Documents except where a valid claim can be made that a particular product is not available on the Canadian market.

.3 Claims for exemptions from use of metric sized products shall be in writing and fully substantiated with supportive documentation. Promptly submit application to Departmental Representative for consideration and ruling. Non-metric sized products may not be used unless Contractor's application has been approved in writing by the Departmental Representative.

.4 Difficulties caused by the Contractor's lack of planning and effort to obtain modular metric sized products which are available on the Canadian market will not be considered sufficient reasons for claiming that they cannot be provided.

.5 Claims for additional costs due to provision of specified modular metric sized products will not be considered.

1.7 STORAGE, HANDLING AND PROTECTION

.1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.

.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.

.3 Store products subject to damage from weather in weatherproof enclosures.

.4 Store cementitious products clear of earth or concrete floors, and away from walls.

.5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.

.6 Store sheet materials, lumber and other materials on flat, solid supports and keep clear of ground. Slope to shed moisture.

.7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.

.8 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.

.9 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.8 TRANSPORTATION

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

1.9 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 may establish 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 Amount or Contract Time.

1.10 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.

1.11 CO-ORDINATION

.1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.

.2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.12 CONCEALMENT

.1 In finished areas, conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.

.2 Before installation, inform Departmental Representative if there is interference. Install as directed by Departmental Representative.

1.13 REMEDIAL WORK

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

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

1.14 LOCATION OF FIXTURES

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

.2 Inform Departmental Representative of conflicting installation. Install as directed.

1.15 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.

1.16 PROTECTION OF WORK IN PROGRESS

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

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not Used.

PART 1 - GENERAL

1.1 General

.1 The Demolition Work of this Section shall be executed by a firm who specializes in this type of work, has adequate equipment and skilled tradesmen to perform the work expeditiously and is known to have been responsible for demolition work similar to that specified herein, in the last 5 years.

1.2 Related Work

.1 Include in the Work, construction and temporary facilities including fencing as required by the Contractor, jurisdictional authorities or as otherwise specified. Remove at completion of need and make good adjacent work and property affected by their installation. Locate temporary facilities where shown on drawings or as directed.

.2 Conduct operations minimizing interference with roads, lanes, driveways and passageways.

.3 Construct garbage chutes, weather and dust barriers or partitions as required during the progress of the Work in accordance with governing codes and authorities.

.4 Maintain fire protection as required by jurisdictional authorities.

1.3 Environmental Conditions

.1 Demolition of spray or trowel-applied asbestos can be hazardous to health. Should material resembling spray or trowel-applied asbestos be encountered in the course of demolition work, stop Work and notify jurisdictional authorities immediately. Proceed with the Work in accordance with governing laws and regulations.

1.4 Submittals

.1 Provide Demolition Drawings with diagrams and/or details showing the sequence of disassembly work, scaffolding and/or supporting structures.

1.5 Protection

.1 Prevent movement, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, adjacent grades, parts or existing building to remain. Provide bracing, shoring and underpinning required. Make good damage and be liable for injury caused by demolition.

.2 Take precautions to support structures and, if safety of building being demolished or adjacent structures or services appears to be endangered, cease operations and notify Consultant.

PART 2 - EXECUTION

2.1 Salvage Items

.1 Carefully remove the light fixtures, grilles and vents and other items designated for salvage.

2.2 Preparation

.1 Post warning signs on electrical lines and equipment which must remain energized.

.2 If needed disconnect and cap mechanical services in accordance with requirements of local authority having jurisdiction.

.3 Do not disrupt active or energized utilities traversing premises by erecting temporary structures. Active services include but not limited to:

.1 CCTV Cameras
.2 Speakers
.3 Exterior lights

2.3 Demolition

.1 Demolish and dispose of cladding and its substructure called for removal.

.2 Remove and dispose of the existing weather barrier.

.3 Do not drop debris from more than one storey in height, unless in an enclosed chute. Lower large components under control and fully supported at all times.

.4 Remove existing equipment, services, and obstacles where required and replace same as work progresses.

.5 At end of each day's work, leave work in safe condition so that no part is in danger of toppling or falling.

.6 Demolish in a manner to minimize dusting. Keep dusty materials wetted down during the progress of the Work.

.7 Selling or burning materials on site is not permitted.

.8 All materials shall be removed from the site daily. No debris shall be permitted to accumulate on site.

.9 Remove flammable, contaminated or dangerous materials from site and dispose of in safe manner prior to commencing demolition to minimize danger at site or at any time during demolition.

.10 Employ rodent and vermin exterminators to comply with health regulations.

End of Section 02 41 16

PART 1 - GENERAL

1.1 Description

1.1.1 This section specifies the installation of wood nailers, curbs, built-up dividers, and plywood as defined in the scope of work and drawings.

1.2 ENVIRONMENTAL CONDITIONS

1.2.1 The maximum acceptable wood moisture content is 20%.

PART 2 MATERIALS AND PRODUCTS

2.1 WOOD PRODUCTS

2.1.1 Lumber identification shall be by grade stamp of an agency certified by the Canadian Lumber Standards Accreditation Board.

2.1.2 All lumber shall be Grade #2 or Grade #1.

2.2 FASTENERS

2.2.1 Wall fasteners shall be suitably coated to prevent corrosion with exposure to moisture, and compatible with elements that it contacts, preventing galvanic corrosion between dissimilar metals.

3 EXECUTION

3.1 EXISTING WOOD CONSTRUCTION

3.1.1 Existing blocking may be reused if found to be in sound condition, free of excess moisture or rot. Replace deteriorated wood elements with sections to match existing lines and levels.

3.1.2 Check that fastening of existing elements complies with the specified minimum. Check fasteners for deterioration or loss of connection. Existing plywood sheathing should comply with maximum spacing.

3.1.3 Provide new fasteners to secure areas where deficient.

3.2 CONSTRUCTING NEW WOOD BLOCKING

3.2.1 Discard wood with defects which may impair the quality of the work. Do not use wood lengths shorter than 300mm.

3.2.2 Where layered lumber is employed, offset joints between layers 300mm. Weave corners.

3.2.3 Construct elements to required levels, with lines and members plumb and true.

3.2.4 Leave expansion gaps of 3mm between the ends of adjoining wood members.

3.3 FASTENING & SECUREMENT

3.3.1 Secure non-structural blocking, strapping and nailers with fasteners spaced a maximum 500mm o.c.

3.3.2 Plywood shall be fastened at 450mm maximum spacing in each direction, and secured to every supporting element (joist or stud).

END OF SECTION 06 10 53

PART 1 - GENERAL

1.1 Description

.1 This Section specifies self-adhered water-resistive barriers, air barriers, and accessories.

1.2 REFERENCE STANDARDS

.1 Air Barrier Association of America (ABAA)
ABAA [2011], Installer's Certification Program.

.2 American Association of Textile Chemists and Colorists (AATCC)
AATCC 127 [2008], Water Resistance: Hydrostatic Penetration Test.

.3 American Architectural Manufacturer's Association (AAMA)
AAMA 711-[2007], Voluntary Specification for Self-Adhering Flashing Used for Installation of Exterior Wall Fenestration Products.

.4 ASTM International (ASTM).

.1 ASTM D1204-[2008], Standard Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature.

.2 ASTM D3330-[2010], Standard Test Method for Peel Adhesion of Pressure-Sensitive Tape.

.3 ASTM D5034-09, Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

.4 ASTM E96/96M-[2010], Standard Test Methods for Water Vapor Transmission of Materials.

.5 ASTM E2178-[2003] and CAN/ULC-S741-08, Standard Test Method for Air Permeance of Building Materials.8.

1.3 ADMINISTRATIVE REQUIREMENTS

.1 Co-ordination: Co-ordinate work of this Section with work of other trades for proper time and sequence to avoid construction delays.

.2 Pre-installation Meeting: Convene pre-installation meeting after Award of Contract and one week prior to commencing work of this Section to verify project requirements, substrate conditions and coordination with other building sub-trades, and to review manufacturer's written installation instructions.

.1 Comply with Section 01 31 19 - Project Meetings and co-ordinate with other similar pre-installation meetings.

.2 Notify attendees 2 weeks prior to meeting and ensure meeting attendees include as minimum:

a. Departmental Representative
b. Water-resistive barrier installer;
c. Manufacturer's Technical Representative.

.3 Ensure meeting agenda includes review of methods and procedures related to water-resistive barrier installation including co-ordination with related work.

.4 Record meeting proceedings including corrective measures and other actions required to ensure successful completion of work and distribute to each attendee within 1 week of meeting.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Make submittals in accordance with Contract Conditions and Section 01 11 01.

.2 Product Data: Submit product data including manufacturer's literature for water-resistive barrier membrane and accessories, indicating compliance with specified requirements and material characteristics.

.3 Submit list on water-resistive barrier manufacturer's letterhead of materials, components and accessories to be incorporated into Work.

.4 MSDS report.

.5 Include product names, types and series numbers.

.6 Include contact information for manufacturer and their representative for this Project.

.7 Samples:

.1 Submit duplicate 12 x 12 inches sample of membrane.

.2 Submit duplicate 12 inches long samples of seam tape and each type of flashing materials.

.8 Test Reports:

.1 Submit test reports showing compliance with specified performance characteristics and physical properties including air permeance, water vapour permeance and structural performance.

.9 Installer Qualifications:

.1 Submit letter verifying installer's experience with work similar to work of this Section.

1.5 CLOSEOUT SUBMITTALS

.1 Operation and Maintenance Data: Supply maintenance data for water-resistive barrier materials for incorporation into manual specified in Section 01 11 01.

1.6 QUALITY ASSURANCE

.1 Installer Quality Assurance: 2 years' experience with work similar to work of this Section.

.2 Mock-up: Construct full height mock-up of wall, including 1 window and a corner interface as highlighted in the drawings showing water-resistive barrier using proposed procedures, materials and quality of work where directed by Departmental Representative.

.3 Include examples of window frame, door frame, interior corner, exterior corner and common protrusions or penetrations of barrier membrane.

.4 Purpose: To judge quality of work and material installation.

.5 Allow Departmental Representative 72 hours minimum prior to inspection of mock-up.
.6 Do not proceed with work prior to receipt of written acceptance of mock-up by Departmental Representative.
.7 When accepted, mock-up will demonstrate minimum standard of quality required for work of this Section.
.8 Approved mock-up will remain part of finished work.

1.7 DELIVERY STORAGE AND HANDLING

.1 Delivery and Acceptance Requirements:
.1 Deliver material in accordance with Section 01 61 00 - Common Product Requirements.
.2 Deliver materials and components in manufacture’s original packaging with identification labels intact and in sizes to suit project.

.2 Storage and Handling Requirements: Store materials off ground and protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
.1 Ensure materials are protected from sunlight and UV radiation.

.3 Packaging Waste Management:
.1 Remove waste packaging materials from site and dispose of packaging materials at appropriate recycling facilities.
.2 Collect and separate for disposal paper and plastic material in appropriate on-site storage containers for recycling [in accordance with Waste Management Plan].

1.8 WARRANTY

.1 Project Warranty: Refer to Contract Conditions for project warranty provisions.

.2 Manufacturer’s warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official. Manufacturer’s warranty is in addition to and not intended to limit other rights Owner may have under Contract Conditions.

2 PRODUCTS

2.1 DESCRIPTION

.1 Vapor permeable water-resistive barrier, highly tear-resistant 3-layer membrane, with 2 outer layers of spun-bonded polypropylene fabric, water-tight polymeric middle layer and highly aggressive adhesive coating on the back.
.1 Includes factory applied self-adhesive strip on each front upper longitudinal edge of barrier membrane.
.2 Ensure materials meet requirements of AAMA 711.

2.2 DESIGN CRITERIA

.1 Water Vapor Permeance: To ASTM E96 - 25 perms.

.2 Water Penetration: AATCC 127, Pass.

.3 Air Permeance: To ASTM E2178, <0.0034 cfm/sq ft @ 0.3 inches wg (< 0.02 l/(s x m²) @ 75 Pa).

.4 Air Permeance: To CAN/ULC-S741 <0.0034 cfm/sq ft @ 0.3 inches wg (< 0.02 l/(s x m²) @ 75 Pa).

.5 Air Assembly: To CAN/ULC-S742-11, Class A1

.6 Resistance to Puncture: To ASTM E154, 78.6 lbs.

.7 Breaking Strength: To ASTM D5034, MD 71 lb, CD 65.4 lb minimum.

.8 Elongation at Break: To ASTM D5034, MD 27.8 %, CD 60.1 % minimum.

.9 90° Peel Adhesion: To ASTM D3330, Pass.

.10 Peel Adhesion at Elevated Temperatures (176° F): To ASTM D3330, Pass (Level 3).

.11 Linear Dimensional Change at Elevated Temperature: To ASTM D1204, MD -1.4 %, CD +0.1 %.

.12 Fire Rating Characteristics: To ASTM E84:
1. Rating: NFPA Class A, IBC Class A minimum.
2. Flame Spread: 14 maximum.
3. Smoke Developed: 47 maximum.

2.3 MATERIALS

.1 Water-resistive Barrier for Walls: Self-adhesive vapor permeable water-resistive barrier.

2.4 ACCESSORIES

.1 Seam tape: Acrylic-based adhesive tape in accordance with water-resistive barrier manufacturer’s written recommendations.

.2 Flashings: Self-adhering, butyl-rubber based water-resistive flashing membrane in accordance with water-resistive barrier manufacturer’s written recommendations

.3 Penetration Flashings: Stretchable butyl-rubber based adhesive on non-woven fabric flashing membrane in accordance with water-resistive barrier manufacturer’s written recommendations.

.4 Sealants and Adhesives: Elastomeric sealant and adhesive in accordance with water-resistive barrier manufacturer’s written recommendations
1. Ensure sealants are compatible with adjacent materials.

.5 Window Corner: Prefabricated rubber-compound window corner.

.6 Primers: In accordance water-resistive barrier manufacturer’s written recommendations.

.7 Flexible Membrane Through-wall Flashing: Self-adhering, butyl-rubber based flashing membrane.

2.5 PRODUCT SUBSTITUTIONS

.1 Ensure all accessories such as seam tape, flashing membranes, window corners, and sealants come from same source as water-resistive barrier membrane.

.2 Substitutions: Only permitted if identified by Addendum prior to Contract Award

3 EXECUTION

3.1 INSTALLERS

.1 Use only installers with 2 years minimum experience in similar work.

3.2 EXAMINATION

.1 Verification of Conditions: Verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for water-resistive barrier installation in accordance with manufacturer’s written recommendations.
.1 Visually inspect substrate in presence of Departmental Representative.
.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.3 Preparation

.1 Ensure step flashings and kick-out flashings are installed before beginning installation of water-resistive membrane.

.2 Ensure protrusions that may penetrate water-resistive barrier membrane are removed before beginning installation.

3.4 INSTALLATION

.1 Do installation in accordance with ABAA written recommendations for installation of water-resistive barriers.

.2 Unroll water-resistive barrier with printed side out, wrapping entire building, including rough openings for windows, doors and other protrusions or penetrations.
- .1 Prime substrate before applying water-resistive barrier in accordance with manufacturer’s written recommendations.
  - a. Allow to dry 120 minutes or until tacky (depending on weather conditions) before applying water-resistive barrier.
- .2 Install water-resistive barrier plumb and level to exterior face of structural sheathing board members in accordance with manufacturer written recommendations.
- .3 Ensure water-resistive barrier is installed with printed side facing installer.

.3 Remove release liner from back of membrane and press firmly onto substrate. Roll firmly in place with hand roller.

.4 Start installation of water-resistive barrier at building corner, leaving 6-12 inches of membrane extended beyond corner.

.5 Install horizontally starting at bottom of wall.
- .1 Overlap water-resistive barrier membrane as follows:
  - .1 Exterior Corners: 12 inches minimum.
  - .2 Vertical seams: 6 inches minimum.
  - .3 Horizontal seams: 4 inches minimum. Remove release liner and press firmly together
  - .4 Other seams, joints or at protrusions and penetrations: 6 inches minimum.

.6 Sill Plate Interface: Extend lower edge of water-resistive barrier over sill plate interface 3 - 6 inches.

.7 Adhere to substrate by removing release liner in accordance with water-resistive barrier manufacturer’s written recommendation.

.8 Ensure installed water-resistive barrier is not exposed to UV for longer than 50 days.

3.5 FIELD QUALITY CONTROL

.1 Field Inspection: Coordinate field inspection in accordance with Section 01 45 00 - Quality Control.

.2 Manufacturer’s Services:
- .1 Coordinate manufacturer’s services with Section 01 45 00 - Quality Control.
  - .1 Have manufacturer review work involved in handling, installation, protection, and cleaning of water-resistive barrier and components, and submit written reports in

acceptable format to verify compliance of Work with Contract conditions.

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

.1 Report any inconsistencies from manufacturer's recommendations immediately to Departmental Representative.

.3 Schedule site visits to review work at stages listed:

.1 As required by Departmental Representative.

.2 Obtain reports within three days of review and submit immediately to Departmental Representative.

3.6 CLEANING

.1 Progress Cleaning: Perform cleanup as work progresses

1. Leave work area clean at end of each day.

.2 Final Cleaning: Upon completion, remove surplus materials, rubbish, tools, and equipment.

.3 Waste Management:

.1 Co-ordinate recycling of waste materials

.2 Collect recyclable waste and dispose of or recycle field generated construction waste created during construction or final cleaning related to work of this Section.

.3 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.7 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by water-resistive barrier installation.

END OF SECTION 07 28 00 – Water-Resistive Barriers

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Vinyl siding and accessories.

1.2 RELATED SECTIONS

.1 Section 06 10 53 ROUGH CARPENTRY
.2 Section 07 62 00 SHEET METAL FLASHING AND TRIM

1.3 REFERENCES

.1 CAN/CGSB-41.24-95, "Rigid Vinyl Siding, Soffits and Fascia "
.2 CAN/CGSB-41.33M87, "Installation of Rigid Vinyl Residential Siding, Soffits and Fascia"
.3 VINYL SIDING INSTITUTE, Installation Guidelines

1.4 SUBMITTALS

.1 Submit 12" long sample of siding in approved colour to the Departmental Representative or approval.
.2 Submit samples of accessories, if requested by the Departmental Representative.
.3 Submit manufacturer's data sheets covering the care and recommended maintenance procedures of vinyl siding for incorporation into maintenance manuals.
.4 Submit copies of manufacturer's warranties.

1.5 QUALITY ASSURANCE

.1 Employ installers having a minimum of five (5) years of proven experience in the installation of the products specified on projects of a similar size and scope.

1.6 MOCKUP

.1 Install a full wall mock-up on the building including 1 window and 1 corner in a location as directed by the Departmental Representative or as marked in the drawings. Incorporate siding, all required finishing accessories and adjacent materials such as windows and trim in the mockup.
.2 The mock-up should cover a corner, full height and at least 1 window entirely.
.3 Do not proceed with remaining work until workmanship and colour are approved by the Departmental Representative. Re-install mock-up area as required to produce acceptable work.

1.7 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with the site and

environmental conditions prescribed by the manufacturer.

.2 Remove damaged materials from the site.

1.8 COORDINATION WITH OTHER TRADES

.1 Fit all penetrations through the vinyl siding for the work of other trades with a watertight sleeve.

1.9 EXTRA MATERIALS

.1 Provide 2% of the total product used standard size panels of the type used for the project, to the Departmental Representative for its later use in maintenance. Neatly label and store as directed by the Departmental Representative.

1.10 WARRANTY

.1 Provide manufacturer's lifetime (50 year) warranty covering defects in materials. Warranty to cover peeling, flaking, rusting, blistering, corroding and hail damage.

2.0 PRODUCTS

2.1 VINYL SIDING

.1 Heavy gauge: Vinyl siding and accessories to conform to CGSB 41-GP-24Ma.

.2 Material: Extruded polyvinyl chloride.

.3 Minimum Siding Thickness: 1.25mm

.4 Shape: Horizontal siding, with elongated nailing slots on the nailing flanges.

.5 Accessories: Solid extruded PVC; starter strips, window undersill trim drip caps, 203mm wide perforated and unperforated soffits, "F" channel, base flashing, inside and outside corner posts and "J" channel (with pre-punched 9.5mm diameter weep holes at 305mm o.c.), all as required for a complete and finished installation so that there are no exposed unfinished edges.

.6 Nails: Hot dip galvanized nails, 44.5mm long, shank diameter of 3.2mm and head diameter of 11mm.

.7 Penetration Fittings: As manufactured by VSA Enterprises SA, or Mid-American Building Products (Kaycan), or a substitution submitted and accepted prior to tender close.

.8 Acceptable Manufacturer: Gentek Building Products, Mitten, or Kaycan, or a substitution submitted and accepted prior to tender close.

.9 Product: Premium Thickness: (1.25mm) with .100 Nailing Hem.

.10 Colours: 4 different colours on the grey tones as selected by the Departmental Representative.

.11 Provide galvanized or other corrosion-resistant nails as recommended by the manufacturer of siding products

3.0 EXECUTION

3.1 INSPECTION

.1 Inspect the work and notify the Departmental Representative of any conditions that would affect the installation or performance of the work.

3.2 PREPARATION

.1 Verify site dimensions prior to commencement of the work.
.2 Existing metal window flashings to remain. Do not substitute vinyl drip caps for head flashings.

3.3 INSTALLATION

.1 Install siding in accordance with
  .1 Manufacturer’s written instructions
  .2 CAN/CGSB 41.33M87
  .3 Vinyl Siding Institute installation guide.
  .4 Instructions included within this section

If there are duplicate requirements, priority will be given to more stringent requirements. In the case of any numbering conflicts, the Contract shall be interpreted to include the intent of each clause.
.2 Install siding and accessories over strapping in accordance with manufacturer's printed instructions.
.3 Provide starter strip at the base of all walls and above cross cavity flashings, including stepped wall locations. Do not use "J" channel in any horizontal application exposed to rain.
.4 Lay out siding lengths to achieve a regular staggered joint pattern. Use longest practical lengths and minimize number of joints where possible.
.5 Install siding true to line and level with clean cut edges and joints.
.6 Use nails long enough to penetrate supports a minimum of 25.4mm.
.7 Nail only in the centre of the nailing slot. Leave a space of 1.6mm – 3.2mm between the nail head and the siding surface, do not nail tightly. Do not nail through the vinyl without first pre-punching a hole in the surface.
.8 Overlap siding and accessories. Cut-outs for overlap should be 38mm long and overlap 1/2 of the cut-out width. Do not nail overlapping siding and accessories within 153mm of the joint.
.9 Where panels fit into accessories, leave 6mm clearance for expansion.
.10 Lift panels into the lock when nailing. Do not pull up tight. Panels to hang in the lock without strain.
.11 Provide watertight fitted PVC penetration fittings.
.12 Seal around all items penetrating siding.
.13 Install accessories so that junctions of siding with dissimilar construction will be finished with trim members.
.14 Use inside and outside corner posts at the junction of internal and external corners.
.15 Provide "J" channel around the sides of window and door frames or trim and seal with sealant.
.16 Use undersill trim under windows and doors and at the top of walls

adjoining soffits.

.17 Finished installation to be properly secured, free of rattles, distortions, waviness, protrusions, damaged or chipped components.

3.4 CLEANUP

.1 Upon completion of work remove all equipment, tools, surplus materials and garbage.
.2 Leave siding installation in a clean condition free from construction dirt and dust.

END OF SECTION 07 46 00

PART 1 - GENERAL

1.1 Description

.1 This section specifies the supply and application of pre-finished galvanized sheet metal flashings and trim as required by the drawings and specifications.

1.2 Environmental Conditions

.1 Membrane and primers be applied in conformance with Manufacturer’s most recent published temperature requirements.

1.3 Inspection and Testing

.1 Notify Departmental Representative for review of installation of sheet metal and caulking.

PART 2 - MATERIALS AND PRODUCTS

2.1 Fastening Strips

.1 20 gauge galvanized sheet metal.

2.2 Finished Sheet Metal

.1 24 gauge galvanized prefinished sheet steel sized to project requirements. Colour(s) are to be selected from Standard 8000+ Series Colour Chart by the Departmental Representative. To meet or exceed CGSB 93-GP-3M "Sheet Steel Galvanized Prefinished Residential". Any chipped, scratched or dented material shall be rejected. All flashing and trim to have folded edges where exposed.

2.3 Fasteners

.1 Screws: Self-tapping. Colour matched coated heads by Tapcon.
.2 Rivets: Stainless steel. Size to suit application. Colour to match siding.
.3 Nail Anchors: Galvanized steel nail in plastic insert with mushroom head. Sized to suit application, with minimum 25mm penetration into substrate.
.4 Gun powder actuated tools are not permitted
.5 All fasteners shall be suitably coated to prevent corrosion or galvanic action.

2.4 Sealant

.1 Conform to the requirements of Section 07 92 13 - Sealants.
.2 Colour to match sheet metal or approved by the Owner.

2.5 Membrane Flashing

.1 Use one of the following products for membrane flashing and caps on parapet/landscaping walls:

Manufacturer	Product
Bakor	Blueskin S.A. with Blueskin LVC Primer
Grace Construction Products	Bituthene 3000 with WP-3000 Primer
Soprema	Colphene Black with Elastocol Stick H20 Primer

PART 3 - EXECUTION

3.1 Fabrication

.1 Use competent sheet metal mechanics and work accurately to details indicated and specified.
.2 Construct all joints between sheet metal panels as S-lock type joints. Install sheet metal sections in 2400mm maximum lengths or as otherwise shown on the drawings.
.3 Form bends with straight sharp lines. Double back exposed and/or cut edges 13mm for stiffness. Leave no unfinished metal exposed.

3.2 Installation

.1 Ensure that all horizontal surfaces have positive slope. Panned surfaces are not acceptable.
.2 Install sheet metal in conformance with CGSB 93-GP-5 "Installation of Residential Siding, Soffits, and Fascia".
.3 Provide membrane flashing under sheet metal caps over walls. Drain the membrane to the exterior. Lap all joints. Bond to substrate.

3.3 Caulking

.1 Caulk all joints at perimeter of sheet metal which are exposed to weather.
.2 Caulk intermediate joints which are not watertight.

End of Section 07 62 00

PART 1 - GENERAL

1.1 DESCRIPTION

.1 This Section specifies the materials and methods for work involving sealants.

1.2 REFERENCE STANDARDS

.1 ASTM INTERNATIONAL
- .1 ASTM C1382, “Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish Systems (EIFS) Joints”.
- .2 ASTM C1248, “Standard Test Method for Staining of Porous Substrate by Joint Sealants”

1.3 SUBMITTALS

.1 Submit in accordance with Section 01 33 00 – Submittal Procedures:
- .1 Sealant colour samples for Departmental Representative approval, before commencing respective work.
- .2 Manufacturer’s written recommendations regarding elastomeric joint sealant application, before commencing respective work

1.4 QUALIFICATIONS

.1 Surface preparation and sealant installation to be completed by a recognized specialized applicator who is thoroughly trained and competent in all aspects of this work.

1.5 MOCK-UPS

.1 Complete mock-ups in accordance with Section 01 45 00 – Quality Control:
- .1 Complete a minimum of three mock-ups for each material and substrate type, with the manufacturer representative present, including:
  - .1 Check existing sealant removal and surface preparation procedures;
  - .2 Install the specified sealant at representative locations; and
  - .3 Allow the sealant to cure according to manufacturer’s written instructions to facilitate adhesion testing.

1.6 INSPECTIONS AND TESTING

.1 Arrange for sealant manufacturer’s representative to inspect Work and perform on-site adhesion testing at mock-up and at regular intervals during Work. Provide manufacturer’s written project recommendations including observations made during site visits and on-site test results.

.2 Notify Departmental Representative for review of surface preparation prior to sealant application and completed sealant application prior to demobilizing from each work area.

2 PRODUCTS

2.1 MATERIALS

.1 General

.1 Sealant colour to be approved by Departmental Representative during mock-up and to match the surfaces to be caulked

.2 Solvents and Primers

.1 Ensure solvents/cleaners for surfaces to receive sealant are compatible with surfaces to receive cleaner (i.e. solvent). Sealant manufacturer to recommend and approve in writing the cleaner type(s) for each sealant.

.2 Ensure primers are recommended by sealant manufacturer in writing for surfaces to be adhered to and are not detrimental to surface to which it comes in contact.

.3 Exterior Sealants

1. At penetrations, anchors and/or as shown on the drawings use one of the following Type S, Grade NS, Class 25, moisture curing silicone sealant, conforming to ASTM C 920.

.4 Accessories

.1 Use joint backing to control depth of joint to recommended thickness of sealant and to prevent three-sided adhesion.

.1 Backer Rod: extruded polyolefin foam, non-gassing and have a diameter 25% larger than joint width.

.2 Bondbreaker Tape: pressure sensitive adhesive tape which will not bond to the sealant, alternately apply a wax crayon to the substrate where you do not want sealant to bond.

.2 Void Fillers

.1 Unless otherwise specified, insulation for packing into large voids and cavities shall be light weight resilient, inorganic fibrous batts.

.3 Miscellaneous

.1 Use clean, white, solvent resistant cloths for solvent cleaning of surfaces prior to application of sealants. Do not use coloured cloths. Change cloths frequently as they become soiled during cleaning.

.2 Install cell vents as required to maintain through wall drainage and venting.

3 EXECUTION

3.1 GENERAL

.1 Consult and follow the sealant manufacturer’s written project recommendations. Notify the Departmental Representative where sealant manufacturer’s written requirements conflict with requirements of this Specification. In general, all work shall meet or exceed the more stringent requirement, as agreed with Departmental Representative.

3.2 SURFACE PREPARATION

.1 Remove all existing sealant to expose a sound substrate, without damaging adjacent finishes or causing damage to the substrate.
  .1 For Concrete and Masonry Surfaces, remove dust, paint, loose mortar and other foreign matter by brushing and vacuuming or blowing air.
  .2 For Ferrous & Metal Surfaces, remove dust, silt, scale, oxidation and coating by scraping, wire brushing or grinding.
  .3 For Plastic Surfaces, such as PVC, remove all dust, plastic surface residue and other foreign matter and lightly abrade surface by light sanding with sand paper.
.2 Clean all surfaces to receive sealant by wiping with a clean cloth saturated with recommended cleaning solvent and by following immediately with another clean cloth to wipe the surface dry (2 rag method). Clean only as much area as can be sealed in one 1 hour. If cleaned areas are exposed to rain or contaminants (dirt, dust, etc.), the surface must be cleaned again.

3.3 INSTALLATION

.1 Priming
  .1 If recommended, prime surfaces to receive sealants as per the sealant manufacturer's written specifications. Follow the sealant manufacturer’s written instructions for application and cure time.
  .2 Take sufficient precautions to prevent staining of adjacent surfaces. Do not apply primer to the backer rod/bond breaker. Where necessary to protect adjacent surfaces, mask surfaces with suitable tape prior to primer and/or sealant installation.
  .3 If primed areas are exposed to rain or contaminants (dirt, dust, etc.), the surface must be cleaned and re-primed.
  .4 Protect the surfaces that do not require primer. If primer is installed accidentally on surfaces other than the one specified, it should be removed immediately with a clean cloth dampened with the manufacturer’s recommended cleaner.
.2 Joint Backing
  .1 At large open cavities, fill cavity with approved void filler prior to installation of backer rod.
  .2 Install backer rod or apply bond breaker tape prior to sealant installation.
  .3 Tightly install backer rod without stretching, twisting, braiding or puncturing its outer skin.
  .4 Use an approved installation tool that is blunt surfaced and developed to accurately set backer rod at required depth to achieve recommended sealant profile.
  .5 Joint backing must be thoroughly dry. Do not install more joint backing/bond breaker tape than can be sealed in one working day.
.3 Sealant Bead Profile
  Figure 1 - Sealant Bead Profile
  .1 Unless otherwise specified by the Manufacturer’s written instructions or Drawings, provide sealant with a profile that meets the following criteria:
    .1 Width to Depth Ratio: 2:1 profile (sealant depth that is ½ the joint width) where possible, within limits for joint width and depth specified by Manufacturer’s written instructions and below.

.2 Depth: Minimum 6mm and maximum 12mm. Adjust sealant depth as required to adhere to minimum and maximum depth tolerances and to provide a 2:1 width to depth profile.

.3 Minimum Joint Width: 10mm, unless otherwise approved by Departmental Representative. Identify any joint widths less than 10mm to Departmental Representative for direction.

.4 Maximum Joint Width: For joints wider than 19mm, application of sealant in several passes may be required (dependent on joint configuration, weather conditions, access and material type). Follow Manufacturer’s written instructions for maximum joint width and application methods.

.4 Sealant Application

.1 Apply sealant using equipment in accordance with manufacturer’s written instructions.

.2 Immediately after application, tool sealant to ensure firm, full contact with joint faces. Neatly tool surfaces to a slight concave profile. Avoid pulling sealant out of the joint by frequent cleaning of tooling instrument. Surface of sealant to be smooth, free from ridges, wrinkles, sags, air pockets and embedded impurities.

.3 Ensure existing drainage holes provided for wall systems are not blocked by sealant material.

.4 Joining Silicone to Urethane Sealants: Place silicone and urethane sealants in contact with each other by wet to wet (prior to skinning over) and/or wet silicone to dry urethane application methods, as per manufacturer’s written instructions and confirmed to be acceptable by an on-site mock-up. Sealants detailing must provide a watertight seal, including lapping to provide proper shedding of water flowing with gravity. Where initial lengths of sealant are required to assure appropriate lap, apply silicone first.

.5 Cleaning

.1 Remove sealant smears and droppings on completion of sealant installation in affected areas.

.1 For non-porous surfaces (i.e. metal and glass), immediately remove all excess sealant adjacent to joint as work progresses with a cleaning solvent per Manufacturer’s written instructions.

.2 For porous surfaces, allow sealant to develop initial cure, then remove by abrasion or other mechanical means. Caution should be exercised to maintain original surface integrity.

.2 Remove masking tape immediately after tooling of joints.

.3 Cleaning solutions and methods per Manufacturer’s written instructions.

END OF SECTION 07 92 13 - Sealants