J·DAGENAIS ARCHITECTE
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ARCHITECTURAL SPECIFICATIONS BOOK
TOME 1

For submission : 2017-03-31

Project :
Experimental farm improvements (building #14)
l'Acadie expérimental farm
Agriculture and Agri-Food Canada
AR16-2060

Customer :
Sherbrooke Research and Development Centre
Agriculture and Agri-Food Canada
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SUMMARY OF WORK

Section 01 11 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All documents provided in this invitation to tender must be read in their entirety. If a point is dealt with more than once in the documents, the most restrictive interpretation will be adopted.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

.1 The work included in this contract includes renovation and fit-out of a storage room in Storage Building No. 14 of the Acadie Experimental Farm, located at 1134 Route 219, L'Acadie, Quebec, J2Y 1C4.

1.3 CONTRACT METHOD

.1 Construct Work under [construction management] [[design-build] [single] [cost plus] [stipulated price] [unit price]] contract.

.2 Employ suppliers and subcontractors qualified for the work.

.3 Relations and responsibilities between Contractor and subcontractors and subcontractors assigned by Owner are as defined in Conditions of Contract.

1.4 CONTRACTOR USE OF PREMISES

.1 Site may be used without restriction until substantial completion of work. On the other hand, the building remains operational and therefore, when the contract is awarded, coordination of the areas can be carried out on site.

.2 Coordinate the use of the premises as directed by the architect and owner.

.3 Find and pay for additional work areas or warehouses required for the performance of work under this Contract.

.4 Removing or modifying existing structure to avoid damage to parts remaining in place.

.5 On completion of work, the existing work must be in a condition equivalent to or greater than the condition it presented prior to commencement of work.

1.5 EXISTING SERVICES

.1 Notify the architect and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services, give the architect 48 hours notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to [pedestrian] [vehicular traffic] [tenant operations].

.3 Provide alternative routes for personnel, pedestrian and vehicular traffic.

.4 Establish location and extent of service lines in area of work before starting Work. Notify the architect of findings.

.5 Submit schedule to and obtain approval from the architect for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

.6 Provide temporary services required to maintain critical building and tenant systems.

.7 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.

.8 Where unknown services are encountered, immediately advise the architect and confirm findings in writing.

.9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.

.10 Record locations of maintained, re-routed and abandoned service lines.

1.6 DOCUMENTS REQUIRED

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

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

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

W O R K R E S T R I C T I O N S

Section 01 14 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All section of the architectural specification

1.2 ACCESS AND EGRESS

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

.2 Since access to the Department's facilities requires a reliable security clearance provided by the Department, the Contractor, its employees and all subcontractors will be subject to a security investigation before they may enter the site.

1.3 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with architect to facilitate work as stated.

.2 Maintain existing services to building and provide for personnel and vehicle access.

.3 Where security is reduced by work provide temporary means to maintain security.

.4 Client will assign sanitary facilities for use by Contractor's personnel. Keep facilities clean.

.5 Closures: protect work temporarily until permanent enclosures are completed.

1.4 EXISTING SERVICES

.1 Notify the architect and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services, give architect 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.

.3 Ensure pedestrian, personnel and vehicular traffic in a safe manner.

1.5 SPECIAL REQUIREMENTS

.1 Access to the site needs to be made between 8 am to 4 pm, unless otherwise agreed, or according to any arrangement made with the owner. Access of the facilities must always be coordinated with the farm manager.

.2 Noisy work must be carried out according to the schedule respecting the municipal regulations and not to compel the workers. Coordination will be required when the contract is awarded and the contractor's schedule is received.

.3 Contractor must submit the schedule to the owner and the architect.

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

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

1.6 SECURITY

.1 Provide temporary means to maintain safety if reduced due to work under this contract.

1.7 BUILDING SMOKING ENVIRONMENT

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

PROJECT MEETINGS

Section 01 31 19

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

1.2 ADMINISTRATIVE

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

.2 The architect will prepare agenda for meetings.

.3 Distribute written notice to the architect of each special meeting four (4) days in advance of the meeting date.

.4 Provide physical space and make arrangements required for meetings.

.5 The architect will preside the meetings.

.6 The architect shall draw up the minutes of the meetings. Will indicate all important issues and decisions. The latter will specify the actions undertaken by various parties.

.7 The minutes will be distributed by e-mail to participants and relevant parties not present at the meeting within five (5) days of the meeting.

.8 Representatives of the Contractor, subcontractors and suppliers attending project meetings are authorized and authorized to act on behalf of the parties they represent.

1.3 PRECONSTRUCTION MEETING

.1 Within 15 days after the attribution of the Contract, organize a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

.2 Architect and engineer or their principal representatives, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.

.3 Establish time and location of meeting and notify parties concerned minimum five (5) days before meeting.

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

.5 Agenda to include:

.1 Designation of official representative of participants in the Work.

.2 Work Schedule.

.3 Schedule of submission of shop drawings, samples, colour samples. Submit submittals in accordance with Section 01 33 00- Submittal Procedures.

.4 Requirements for temporary facilities, site sign, offices, storage sheds, and facilities, utilities, fences in accordance with Section 01 52 00- Construction Facilities.

.5 Delivery schedule of specified equipment and materials.

.6 Site security in accordance with Section 01 56 00- Temporary Barriers and Enclosures.

.7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.

.8 Owner provided products (if applicable).

.9 Record drawings in accordance with Section 01 33 00- Submittal Procedures.

.10 Maintenance manuals in accordance with Section 01 78 00- Closeout Submittals.

.11 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00- Closeout Submittals.

.12 Monthly progress claims, administrative procedures, photographs, hold backs.

.13 Appointment of inspection and testing agencies or firms.

.14 Insurances, transcript of policies.

1.4 PROGRESS MEETINGS

.1 Establish a schedule of meetings to be held monthly or every 2 weeks during and to the completion of the work.

.2 Must be present at these meetings, architect, engineer, contractor, major subcontractors involved in the work if necessary), as well as the client and the professionals.

.3 The architect shall draw up the minutes of these meetings and forward them to the participants and to the parties concerned, who are absent from the meetings, within five (5) days of each meeting.

.4 Agenda to include the following:

.1 Reading and approval of the minutes of the previous meeting.

.2 Review of progress since the last meeting.

.3 On-site observations; problems and conflicts.

.4 Issues affecting the work schedule.

.5 Review of delivery schedules of off-site manufactured products.

.6 Procedures and remedial actions to address delays to ensure timely compliance.

.7 Revision of the work schedule.

.8 Review of progess schedule.

.9 Revision of the timetable for submission of required documents and samples; accelerate the process as required.

.10 Maintenance of quality standards.

.11 Review of proposed changes and possible impacts on the work schedule and completion date.

.12 Communications Methodology: ISE - Supplementary Instruction to Contractor, PM - Proposed Amendment, MD - Amendment Directive, AV - Amendment, Requests for Payment, Photos, Revised Schedule, Releases, Certificate of Payment

.13 Administrative Procedures and Contractor Obligations: Performance Bond, Contractor License, Construction Insurance, Proof of Opening and CSST Program, Subcontractor List, Schedule of Work, Schedule of Workshop Drawings, Shop drawings, substitution and equivalency requests, breakdown of construction costs, documents required at the site at all times, arrival trailer, installation of the promotional panel, testing and inspections, building permits and construction plans, waste , Security, elements to deliver to the owner, networking and telephony, parking, temporary lock, emergency contact, civil, structure, mechanical, electrical.

.14 Signing of contract.

.15 Other business.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

SUBMITAL PROCEDURES

Section 01 33 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All section of the architectural specification

1.2 ADMINISTRATIVE

.1 Submit to the architect submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with Work affected by submittal until review is complete.

.3 Present shop drawings, product data, samples and mock-ups in SI Metric units.

.4 Where items or information is not produced in SI Metric units converted values are acceptable.

.5 Review submittals prior to submission to the architect. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

.6 Notify the architect, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.7 Verify field measurements and affected adjacent Work are co-ordinated.

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

.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by the architect's review.

.10 Keep one reviewed copy of each submission on site.

1.3 SHOP DRAWINGS AND PRODUCT DATA

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

.2 Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Quebec, Canada.

.3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.4 Allow seven (7) days to the architect to review of each submission.

.5 Adjustments made on shop drawings by the architect are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the architect, prior to proceeding with Work.

.6 Make changes in shop drawings as architect may require, consistent with Contract Documents. When resubmitting, notify architect in writing of revisions other than those requested.

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

.1 Date.

.2 Project title and number.

.3 Contractor's name and address.

.4 Identification and quantity of each shop drawing, product data and sample.

.5 Other pertinent data.

.8 Submissions include:

.1 Date and revision dates.

.2 Project title and number.

.3 Name and address of:

.1 Subcontractor.

.2 Supplier.

.3 Manufacturer.

.4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.

.5 Details of appropriate portions of Work as applicable:

.1 Fabrication.

.2 Layout, showing dimensions, including identified field dimensions, and clearances.

.3 Setting or erection details.

.4 Capacities.

.5 Performance characteristics.

.6 Standards.

.7 Operating weight.

.8 Wiring diagrams.

.9 Single line and schematic diagrams.

.10 Relationship to adjacent work.

.9 After the architect's review, distribute copies.

.10 Submit one (1) electronic copie of shop drawings for each requirement requested in specification Sections and as the architect may reasonably request.

.11 If no shop drawings are required due to the use of a standard manufacturing product, submit one (1) electronic copy of the manufacturer's technical specifications or documentation prescribed in the technical sections of the specification and required by the architect

.12 Submit one (1) electronic copy of prescribed test reports in the technical sections of the specifications and required by the architect.

.1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.

.2 Testing must have been within 3 years of date of contract award for project.

.13 Submit electronic copie of certificates for requirements requested in specification Sections and as requested by the architect.

.1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.

.2 Certificates must be dated after award of project contract complete with project name.

.14 Submit electronic copie of manufacturers instructions for requirements requested in specification Sections and as requested by the architect.

.1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

.15 Submit electronic copie of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by the architect.

.16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

.17 Submit electronic copie of Operation and Maintenance Data for requirements requested in specification Sections and as requested by the architect.

.18 Delete information not applicable to project.

.19 Supplement standard information to provide details applicable to project.

.20 If upon review by the architect, no errors or omissions are discovered or if only minor corrections are made, electronic copie will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.4 SAMPLES

.1 Submit for review samples in duplicate (2) as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to the architect.

.3 Notify the architect in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where colour, pattern or texture is criterion, submit full range of samples.

.5 Adjustments made on samples by the architect are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the architect prior to proceeding with Work.

.6 Make changes in samples which the architect may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.5 MOCK-UPS

.1 Erect mock-ups in accordance with 01 45 00- Quality Control.

1.6 PHOTOGRAPHIC DOCUMENTATION

.1 Submit, monthly with the Progress Report, as directed by the architect, one (1) copy of the digital color photograph file, submitted electronically.

.2 Project identification: name and number of project and date of exposure indicated.

.3 Frequency of photographic documentation: weekly, as directed by the architect.

.1 Once the foundation, excavation, installation of the framework and installation of the utility pipes are completed, but before the works are concealed according to the architect's instructions.

1.7 CERTIFICATES AND TRANSCRIPTS

.1 Immediately after award of Contract, submit Workers' Compensation Board status.

.2 Submit transcription of insurance immediately after award of Contract.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

HEALTH AND SAFETY REQUIREMENTS

Section 01 35 29.06

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

1.2 REFERENCE STANDARDS

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

.2 Province of Quebec

.1 An Act Respecting Occupational Health and Safety, R.S.Q., c.S-2.1 (current edition) - Updated 2005.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:

.1 Results of site specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and operation [found in work plan].

.3 Submit weekly to the architect a copy of the reports of the health and safety inspection carried out on the site by the representative of the general contractor.

.4 Submit copies of incident and accident reports.

.5 The architect will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within seven (7) days. If necessary, the contractor will revise his health and safety plan and submit it to the architect again within three (3) days of receiving the architect's observations.

.6 The architect's review of the final health and safety plan prepared by the Contractor for the site shall not be interpreted as approval of the plan and shall in no way limit the Contractor's overall responsibility for Health and safety during construction.

.7 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.4 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 The architect may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.5 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 Contractor shall be the Principal Contractor as described in the Quebec Act Respecting Health and Safety code for the Construction for only their scope and areas of work as defined and described this project specification.

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

1.6 UNFORSEEN HAZARDS

.1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of the province of Quebec having jurisdiction and advise the architect verbally and in writing.

1.7 HEALTH AND SAFETY CO-ORDINATOR

.1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:

.1 Have site-related working experience specific to activities associated.

.2 Have working knowledge of occupational safety and health regulations.

.3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

.4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

.5 Be on site during execution of Work and report directly to and be under direction of site supervisor.

1.8 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 the Province of Quebec, having jurisdiction, and in consultation with the architect.

1.9 CORRECTION OF NON-COMPLIANCE

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

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

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

1.10 WORK STOPPAGE

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

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

QUALITY CONTROL
Section 01 45 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 – Submital procedures

.2 All administrative sections

1.2 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2- 2008, Stipulated Price Contract.

1.3 INSPECTION

.1 Allow the architect to access the 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 the architect 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 Architect will order 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, the owner shall pay cost of examination and replacement.

1.4 INDEPENDENT INSPECTION AGENCIES

.1 Independent Inspection/Testing Agencies will be engaged by the owner for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by the owner.

.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 the architect at no cost to the owner. Pay costs for retesting and reinspection.

1.5 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Co-operate to provide reasonable facilities for such access.

1.6 PROCEDURES

.1 Notify appropriate agency and the architect in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.

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

1.7 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by the architect 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 the architect, it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by the architect.

1.8 REPORTS

.1 Submit one (1) copie of inspection and test reports to the architect.

.2 Provide copies to subcontractor of work being inspected or tested by manufacturer or fabricator of material being inspected or tested.

1.9 TESTS AND MIX DESIGNS

.1 Furnish test results and mix designs as requested.

.2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by the architect and may be authorized as recoverable.

1.10 MOCK-UPS

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

.2 Construct in locations as specified by the architect.

.3 Prepare mock-ups for architect review with reasonable promptness and in orderly sequence, to not cause delays in Work.

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

.5 If requested, the architect will assist in preparing schedule fixing dates for preparation.

.6 Remove mock-up at conclusion of Work or when acceptable to the architect.

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

.8 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.

1.11 MILL TESTS

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

1.12 EQUIPMENT AND SYSTEMS

.1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.

.2 Refer to affected sections for requirements related to this issue.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

CONSTRUCTION FACILITIES

Section 01 52 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

1.2 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-2008, Stipulated Price Contract.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB 1.189-00, Exterior Alkyd Primer for Wood.

.2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.

.3 Canadian Standards Association (CSA International)

.1 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.

.2 CSA-0121-M1978(R2003, Douglas Fir Plywood.

.3 CAN/CSA-S269.2-M1987(R2003), Access Scaffolding for Construction Purposes.

.4 CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.

.4 U.S. Environmental Protection Agency (EPA) / Office of Water

.1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

1.4 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 gravelled to prevent tracking of mud.

.3 Indicate use of supplemental or other staging area.

.4 Provide construction facilities in order to execute work expeditiously.

.5 Remove from site all such work after use.

1.5 SCAFFOLDING

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

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

1.6 HOISTING

.1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.

.2 Hoists and cranes to be operated by qualified operator.

1.7 SITE STORAGE/LOADING

.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

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

1.8 CONSTRUCTION PARKING

.1 Parking will be permitted on site, provided it does not disrupt performance of Work.

.2 Provide and maintain adequate access to project site.

.3 Clean runways and taxi areas where used by Contractor's equipment.

1.9 SECURITY

.1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays. If necessary.

1.10 OFFICES

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

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

.3 Subcontractors to provide their own offices as necessary. Direct location of these offices.

1.11 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.12 SANITARY FACILITIES

.1 The sanitary facilities of the farm will be made available to the contractor.

1.13 CONSTRUCTION SIGNAGE

.1 Apart from the warning signs, no other signs may be installed on the site.

1.14 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Provide access and temporary relocated roads as necessary to maintain traffic.

.2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by the architect.

.3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs

.4 Protect travelling public from damage to person and property.

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

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

.7 Construct access and haul roads necessary.

.8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.

.9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.

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

.11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by the architect.

.12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.

.13 Provide snow removal during period of Work.

.14 Remove, upon completion of work, haul roads designated by the architect.

1.15 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 not in construction facilities.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used

END OF SECTION

COMMON PRODUCT REQUIREMENTS

Section 01 61 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All section of the architectural specification

1.2 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-2008, Stipulated Price Contract.

.2 Within text of each specifications section, reference may be made to reference standards. List of standards reference writing organizations is contained in each section of the specification.

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

.4 If there is question as to whether products or systems are in conformance with applicable standards, architect reserves right to have such products or systems tested to prove or disprove conformance.

.5 If the products or systems are in conformity with the Contract Documents, the costs incurred by these tests will be borne by the customer, otherwise they will have to be assumed by the Contractor.

1.3 QUALITY

.1 Refer to CCDC 2.

.2 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.

.3 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.

.4 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.

.5 Should disputes arise as to quality or fitness of products, decision rests strictly with the architect based upon requirements of Contract Documents.

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

.7 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.

1.4 AVAILABILITY

.1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify the architect 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 the architect commencement of Work and should it subsequently appear that Work may be delayed for such reason, the architect reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.5 STORAGE, HANDLING AND PROTECTION

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

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

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

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

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

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

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

.8 Remove and replace damaged products at own expense and to satisfaction of the architect.

.9 Touch-up damaged factory finished surfaces to the architect satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.6 TRANSPORTATION

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

.2 Unload, handle and store such products.

1.7 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 the architect in writing, of conflicts between specifications and manufacturer's instructions, so that the architect will establish course of action.

.3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes the architect to require removal and re-installation at no increase in Contract Price or Contract Time.

1.8 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 the architect if required Work is such as to make it impractical to produce required results.

.2 Do not employ anyone unskilled in their required duties. The architect 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 the architect, whose decision is final.

1.9 CO-ORDINATION

.1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.

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

1.10 CONCEALMENT

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

.2 Before installation inform the architect if there is interference. Install as directed by the architect.

1.11 REMEDIAL WORK

.1 Refer to CCDC 2 and the Section 01 73 00- Execution Requirements.

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

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

1.12 LOCATION OF FIXTURES

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

.2 Inform the architect of conflicting installation. Install as directed.

1.13 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.

1.14 FASTENINGS - EQUIPMENT

.1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.

.2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.

.3 Bolts may not project more than one diameter beyond nuts.

.4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.15 PROTECTION OF WORK IN PROGRESS

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

1.16 EXISTING UTILITIES

.1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and pedestrian and vehicular traffic and/or building occupants.

.2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

EXAMINATION AND PREPARATION

Section 01 71 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All section of the architectural specification

1.2 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-2008, Stipulated Price Contract.

.2 Owner's identification of existing survey control points and property limits.

1.3 SURVEY REFERENCE POINTS

.1 Existing base horizontal and vertical control points are designated on drawings.

.2 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.

.3 Make no changes or relocations without prior written notice to the architect.

1.4 EXISTING SERVICES

.1 Before commencing work, establish location and extent of service lines in area of Work and notify the architect of findings.

1.5 LOCATION OF EQUIPMENT AND FIXTURES

.1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.

.2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.

.3 Inform the architect of impending installation and obtain approval for actual location.

.4 Submit field drawings to indicate relative position of various services and equipment when required by the architect.

1.6 RECORDS

.1 Maintain a complete, accurate log of control and survey work as it progresses.

.2 On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.

.3 Record locations of maintained, re-routed and abandoned service lines.

1.7 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit name and address of Surveyor to Departmental Representative.

.2 Submit certificate signed by surveyor certifying and noting those elevations and locations of completed Work that conform with Contract Documents.

1.8 SUBSURFACE CONDITIONS

.1 Promptly notify Consultant in writing if subsurface conditions at Place of Work differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.

.2 After prompt investigation, should Consultant determine that conditions do differ materially, instructions will be issued for changes in Work as provided in Changes and Change Orders.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

E X E C U T I O N

Section 01 73 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00- Submittal Procedures.

.2 Submit written request in advance of cutting or alteration which affects:

.1 Structural integrity of elements of project.

.2 Integrity of weather-exposed or moisture-resistant elements.

.3 Efficiency, maintenance, or safety of operational elements.

.4 Visual qualities of sight-exposed elements.

.5 Work of Owner or separate contractor.

.3 Include in request:

.1 Identification of project.

.2 Location and description of affected Work.

.3 Statement on necessity for cutting or alteration.

.4 Description of proposed Work, and products to be used.

.5 Alternatives to cutting and patching.

.6 Effect on Work of Owner or separate contractor.

.7 Written permission of affected separate contractor.

.8 Date and time work will be executed.

1.3 MATERIALS

.1 Required for original installation.

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

1.4 PREPARATION

.1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.

.2 After uncovering, inspect conditions affecting performance of Work.

.3 Beginning of cutting or patching means acceptance of existing conditions.

.4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.

.5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

1.5 EXECUTION

.1 Execute cutting, fitting, and patching [including excavation and fill,]to complete Work.

.2 Fit several parts together, to integrate with other Work.

.3 Uncover Work to install ill-timed Work.

.4 Remove and replace defective and non-conforming Work.

.5 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.

.6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.

.7 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.

.8 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.

.9 Restore work with new products in accordance with requirements of Contract Documents.

.10 Fit Work [airtight]to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

.11 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with [firestopping]material in accordance with Section [07 84 00- Firestopping], full thickness of the construction element.

.12 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.

.13 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

1.6 WASTE MANAGEMENT AND DISPOSAL

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

C L E A N I N G

Section 01 74 11

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All section of the architectural specification

1.2 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-2008, Stipulated Price Contract.

1.3 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including those generated by sub-Contractors.

.2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by the architect. Do not burn waste materials on site.

.3 Clear snow and ice from access to building, bank/pile snow in designated areas only. Remove from site if required.

.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.5 Provide on-site containers for disposal of waste and debris.

.6 Provide and use marked separate bins for recycling. Refer to Section 01 74 21-Construction/Demolition Waste Management and Disposal.

.7 Dispose of waste materials and debris off site or at designated dumping areas on Crown property.

.8 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.

.9 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

.10 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.

.11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.12 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.4 FINAL CLEANING

.1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.3 Prior to final review remove surplus products, tools, construction machinery and equipment.

.4 Make the necessary arrangements and obtain permits from the competent authorities for the disposal of debris and waste materials.

.5 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.

.6 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, on walls and on floors.

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

.8 Vacuum clean and dust building interiors, behind grilles, louvres and screens.

.9 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.

.10 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

.11 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.

.12 Remove dirt and other disfiguration from exterior surfaces.

.13 Clean and sweep roofs, gutters, areaways, and sunken wells.

.14 Sweep and wash clean paved areas.

.15 Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.

.16 Clean roofs, downspouts, and drainage systems.

.17 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.

.18 Remove snow and ice from access to building.

1.5 WASTE MANAGEMENT AND DISPOSAL

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL

Section 01 74 21

Part 1 General

1.1 WASTE MANAGEMENT GOALS

.1 Prior to start of Work conduct meeting with the architect to review and discuss PSPC's waste management goal.

.2 The waste management objective is to reduce the total flow of construction / demolition waste to landfills. Provide the architect with documents certifying that comprehensive measures and procedures for waste management, recycling, reuse / reuse of recyclable and reusable materials have been implemented.

.3 Target percentage goals are achievable for waste diversion.

.4 Protect environment and prevent environmental pollution damage.

1.2 RELATED REQUIREMENTS

.1 All administrative sections

1.3 DEFINITIONS

.1 Class III: non-hazardous waste - construction renovation and demolition waste.

.2 Inert Fill: inert waste - exclusively asphalt and concrete.

.3 Waste Source Separation Program (WSSP): implementation and co-ordination of ongoing activities to ensure designated waste materials will be sorted into pre-defined categories and sent for recycling and reuse, maximizing diversion and potential to reduce disposal costs.

.4 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.

.5 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.

.6 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

.7 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:

.1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.

.2 Returning reusable items including pallets or unused products to vendors.

.8 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.

.9 Separate Condition: refers to waste sorted into individual types.

.10 Source Separation: act of keeping different types of waste materials separate beginning from the point they became waste.

.11 Waste Management Co-ordinator (WMC): contractor representative responsible for supervising waste management activities as well as co-ordinating required submittal and reporting requirements.

.12 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials generated by project. Specifies diversion goals, implementation and reporting procedures, anticipated results and responsibilities.

1.4 DOCUMENTS

.1 Post and maintain in visible and accessible area at job site, one copy of following documents:

.1 Waste Reduction Workplan

.2 Waste Source Separation Program.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

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

1.6 WASTE REDUCTION WORKPLAN (WRW)

.1 Prepare and submit WRW at least prior to project start-up.

.2 WRW identifies strategies to optimize diversion through reduction, reuse, and recycling of materials and comply with applicable regulations, based on information acquired from WA.

.3 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.

.4 Post WRW or summary where workers at site are able to review content.

.5 Monitor and report on waste reduction by documenting total volume (in tonnes) and cost of actual waste removed from project (Schedule D).

1.7 WASTE SOURCE SEPARATION PROGRAM (WSSP)

.1 As part of Waste Reduction Workplan, prepare WSSP prior to project start-up.

.2 WSSP will detail methodology and planned on-site activities for separation of reusable and recyclable materials from waste intended for landfill.

.3 Provide sufficient on-site facilities and containers for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.

.4 Clearly and securely label containers to identify types/conditions of materials accepted and assist contractor in separating materials accordingly.

.5 Place sorted waste material in locations where it is least damaged.

.6 Waste materials must be collected, handled and stored on the job site and then disposed of in the sorted state.

.1 Recovered waste material must be transported to approved and licensed recycling facility or to users of waste material to be recycled.

.2 Date, time and location shall be determined by the architect.

1.8 STORAGE, HANDLING AND PROTECTION

.1 Store, materials to be reused, recycled and salvaged in locations as directed by the architect.

.2 Unless specified otherwise, materials for removal becomes Contractor's property.

.3 Protect, stockpile, store and catalogue salvaged items.

.4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.

.5 Protect structural components not removed and salvaged materials from movement or damage.

.6 Support affected structures. If safety of building is endangered, cease operations and immediately notify the architect.

.7 Protect surface drainage, mechanical and electrical from damage and blockage.

.8 Separate and store materials produced during project in designated areas.

.9 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated processing facilities.

.1 On-site source separation is recommended.

.2 Remove co-mingled materials to off site processing facility for separation.

.3 Obtain waybills, receipts and/or scale tickets for separated materials removed from site.

.4 Materials reused on-site are considered to be diverted from landfill and as such are to be included in all reporting.

1.9 DISPOSAL OF WASTES

.1 Do not bury rubbish or waste materials.

.2 Do not dispose of oil, mineral spirits, volatile materials, waste, paint thinner into waterways, storm, or sanitary sewers.

.3 Keep records of construction waste including:

.1 Number and size of bins.

.2 Waste type of each bin.

.3 Total tonnage generated.

.4 Tonnage reused or recycled.

.5 Reused or recycled waste destination.

.4 Remove materials on-site as Work progresses.

.5 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in the waste audit.

1.10 SCHEDULING

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 APPLICATION

.1 Do Work in compliance with WRW and WSSP.

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

3.2 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

END OF SECTION

C L O S E O U T P R O C E D U R E S

Section 01 77 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

1.2 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-2008, Stipulated Price Contract.

.2 Canadian Environmental Protection Act (CEPA)

.1 SOR/2008-197, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.

1.3 ADMINISTRATIVE REQUIREMENTS

.1 Acceptance of Work Procedures:

.1 Contractor's Inspection: Contractor conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify the architect, in writing, of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.

.2 Request the architect's inspection.

.2 Architect's Inspection:

.1 Architect and Contractor to inspect Work and identify defects and deficiencies.

.2 Contractor to correct Work as directed.

.3 Completion Tasks: submit written certificates in French that tasks have been performed as follows:

.1 Work: completed and inspected for compliance with Contract Documents.

.2 Defects: corrected and deficiencies completed.

.3 Equipment and systems: tested, balanced, adjusted and fully operational.

.4 Certificates required by Fire Commissioner, Boiler Inspection Branch, Utility companies are submitted.

.5 Operation of systems: demonstrated to Owner's personnel.

.6 Commissioning of mechanical equipment, equipment and systems was carried out in accordance with the requirements of the commissioning section and a copy of the final commissioning report was submitted to the architect.

.7 Work: complete and ready for final inspection.

.4 Final Inspection:

.1 When completion tasks are done, request final inspection of Work by architect and Design-Builder.

.2 When Work incomplete according to Owner and architect, complete outstanding items and request re-inspection.

.5 Declaration of Substantial Performance: when the architect considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.

.6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

1.4 FINAL CLEANING

.1 Clean in accordance with Section 01 74 11- Cleaning.

.1 Remove surplus materials, excess materials, rubbish, tools and equipment.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

C L O S E O U T S U B M I T T A L S

Section 01 78 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

1.2 REFERENCE STANDARDS

.1 Canadian Environmental Protection Act (CEPA)

.1 SOR/2008-197, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Two weeks prior to Substantial Performance of the Work, submit to the two final copies of operating and maintenance manuals in English and French.

.3 Provide spare parts, maintenance materials and special tools of same quality and manufacture as products provided in Work.

.4 Provide evidence, if requested, for type, source and quality of products supplied.

1.4 FORMAT

.1 Organize data as instructional manual.

.2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.

.3 When multiple binders are used correlate data into related consistent groupings.

.1 Identify contents of each binder on spine.

.4 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.

.5 Arrange content by process flow, systems, under Section numbers and sequence of Table of Contents.

.6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.

.7 Text: manufacturer's printed data, or typewritten data.

.8 Drawings: provide with reinforced punched binder tab.

.1 Bind in with text; fold larger drawings to size of text pages.

.9 Provide 1:1 scaled CAD files in dwg format on CD.

1.5 CONTENTS - PROJECT RECORD DOCUMENTS

.1 Table of Contents for Each Volume: provide title of project;

.1 Date of submission; names.

.2 Addresses, and telephone numbers of Consultant and Contractor with name of responsible parties.

.3 Schedule of products and systems, indexed to content of volume.

.2 For each product or system:

.1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

.3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.

.4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

.5 Typewritten Text: as required to supplement product data.

.1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00- Quality Control.

1.6 AS -BUILT DOCUMENTS AND SAMPLES

.1 Maintain, in addition to requirements in General Conditions, at site for the architect one record copy of:

.1 Contract Drawings.

.2 Specifications.

.3 Addenda.

.4 Change Orders and other modifications to Contract.

.5 Reviewed shop drawings, product data, and samples.

.6 Field test records.

.7 Inspection certificates.

.8 Manufacturer's certificates.

.2 Store record documents and samples in field office apart from documents used for construction.

.1 Provide files, racks, and secure storage.

.3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.

.1 Label each document "PROJECT RECORD" in neat, large, printed letters.

.4 Maintain record documents in clean, dry and legible condition.

.1 Do not use record documents for construction purposes.

.5 Keep record documents and samples available for inspection by the architect.

1.7 RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS

.1 Record information on set of opaque drawings and in copy of Project Manual, provided by the architect.

.2 Use felt tip marking pens, maintaining separate colours for each major system, for recording information.

.3 Record information concurrently with construction progress.

.1 Do not conceal Work until required information is recorded.

.4 Provide digital photos, if requested, for site records.

1.8 EQUIPMENT AND SYSTEMS

.1 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

.2 Provide servicing and lubrication schedule, and list of lubricants required.

.3 Include manufacturer's printed operation and maintenance instructions.

.4 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

.5 Provide installed control diagrams by controls manufacturer.

.6 Provide [Contractor's] [Design-Builder's]co-ordination drawings, with installed colour coded piping diagrams.

.7 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

.8 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

.9 Include test and balancing reports as specified in Section [01 45 00- Quality Control] [01 91 13- General Commissioning (Cx) Requirements].

.10 [Aboveground] [Underground]storage tank inspection documentation, registration, forms, decommissioning and removal in accordance with CEPA SOR/2008-197.

.11 Additional requirements: as specified in individual specification sections.

1.9 MATERIALS AND FINISHES

.1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations.

.2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.4 Additional requirements: as specified in individual specifications sections.

1.10 MAINTENANCE MATERIALS

.1 Spare Parts:

.1 Provide spare parts, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to location as directed, on site; place and store.

.2 Extra Stock Materials:

.1 Provide maintenance and extra materials, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to location as directed, on site; place and store.

.3 Special Tools:

.1 Provide special tools, in quantities specified in individual specification section.

.2 Provide items with tags identifying their associated function and equipment.

.3 Deliver to site, on location, as directed; place and store.

1.11 DELIVERY, STORAGE AND HANDLING

.1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.

.2 Store in original and undamaged condition with manufacturer's seal and labels intact.

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

.4 Store paints and freezable materials in a heated and ventilated room.

.5 Remove and replace damaged products at own expense and for review by the architect.

1.12 WARRANTIES AND BONDS

.1 Develop warranty management plan to contain information relevant to Warranties.

.2 Warranty management plan to include required actions and documents to assure that the client receives warranties to which it is entitled.

.3 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.

.4 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:

.1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

.2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

.3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within [ten]days after completion of applicable item of work.

.4 Verify that documents are in proper form, contain full information, and are notarized.

.5 Co-execute submittals when required.

.6 Retain warranties and bonds until time specified for submittal.

.5 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.

.6 Include information contained in warranty management plan as follows:

.1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Contractors, subcontractors, manufacturers or suppliers involved.

.2 Listing and status of delivery of Certificates of Warranty for extended warranty items.

.3 Provide list for each warranted equipment, item, feature of construction or system indicating:

.1 Name of item.

.2 Model and serial numbers.

.3 Location where installed.

.4 Name and phone numbers of manufacturers or suppliers.

.5 Names, addresses and telephone numbers of sources of spare parts.

.6 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.

.7 Cross-reference to warranty certificates as applicable.

.8 Starting point and duration of warranty period.

.9 Summary of maintenance procedures required to continue warranty in force.

.10 Cross-Reference to specific pertinent Operation and Maintenance manuals.

.11 Organization, names and phone numbers of persons to call for warranty service.

.12 Typical response time and repair time expected for various warranted equipment.

.4 Procedure and status of tagging of equipment covered by extended warranties.

.5 Post copies of instructions near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

.7 Respond in timely manner to oral or written notification of required construction warranty repair work.

.8 Written verification to follow oral instructions.

.1 Failure to respond will be cause for the client to proceed with action against Contractor.

1.13 WARRANTY TAGS

.1 Tag, at time of installation, each warranted item. Provide durable, oil and water resistant tag approved by the architect.

.2 Attach tags with copper wire and spray with waterproof silicone coating.

.3 Leave date of acceptance until project is accepted for occupancy.

.4 Indicate following information on tag:

.1 Type of product/material.

.2 Model number.

.3 Serial number.

.4 Contract number.

.5 Warranty period.

.6 Inspector's signature.

.7 Construction Contractor.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

C O M M I S S I O N I N G : T R A I N I N G

Section 01 91 41

Part 1 General

1.1 SUMMARY

.1 Section Includes:

.1 This Section specifies roles and responsibilities of Commissioning Training.

.2 Related Requirements

.1 All administrative sections

1.2 TRAINEES

.1 Trainees: personnel selected for operating and maintaining this facility. Includes Facility Manager, building operators, maintenance staff, security staff, and technical specialists as required.

.2 Trainees will be available for training during later stages of construction for purposes of familiarization with systems.

1.3 INSTRUCTORS

.1 Contractor will provide:

.1 Descriptions of systems.

.2 Instruction on design philosophy, design criteria, and design intent.

.2 Contractor and certified factory-trained manufacturers' personnel: to provide instruction on the following:

.1 Start-Up, operation, shut-down of equipment, components and systems.

.2 Control features, reasons for, results of, implications on associated systems of, adjustment of set points of control and safety devices.

.3 Instructions on servicing, maintenance and adjustment of systems, equipment and components.

.3 Contractor and equipment manufacturer to provide instruction on:

.1 Start-up, operation, maintenance and shut-down of equipment they have certified installation, started up and carried out PV tests.

1.4 TRAINING OBJECTIVES

.1 Training to be detailed and duration to ensure:

.1 Safe, reliable, cost-effective, energy-efficient operation of systems in normal and emergency modes under all conditions.

.2 Effective on-going inspection, measurements of system performance.

.3 Proper preventive maintenance, diagnosis and trouble-shooting.

.4 Ability to update documentation.

.5 Ability to operate equipment and systems under emergency conditions until appropriate qualified assistance arrives.

1.5 TRAINING MATERIALS

.1 Instructors to be responsible for content and quality.

.2 Training materials to include:

.1 "As-Built" Contract Documents.

.2 Operating Manual.

.3 Maintenance Manual.

.4 Management Manual.

.5 TAB and PV Reports.

.3 Project Manager, Commissioning Manager and Facility Manager will review training manuals.

.4 Training materials to be in a format that permits future training procedures to same degree of detail.

.5 Supplement training materials:

.1 Transparencies for overhead projectors.

.2 Multimedia presentations.

.3 Manufacturer's training videos.

.4 Equipment models.

1.6 SCHEDULING

.1 Include in Commissioning Schedule time for training.

.2 Deliver training during regular working hours, training sessions to be three (3) hours in length.

.3 Training to be completed prior to acceptance of facility.

1.7 RESPONSIBILITIES

.1 Be responsible for:

.1 Implementation of training activities,

.2 Coordination among instructors,

.3 Quality of training, training materials,

.2 Architect will evaluate training and materials.

.3 Upon completion of training, provide written report, signed by Instructors, witnessed by the architect.

1.8 TRAINING CONTENT

.1 Training to include demonstrations by Instructors using the installed equipment and systems.

.2 Content includes:

.1 Review of facility and occupancy profile.

.2 Functional requirements.

.3 System philosophy, limitations of systems and emergency procedures.

.4 Review of system layout, equipment, components and controls.

.5 Equipment and system start-up, operation, monitoring, servicing, maintenance and shut-down procedures.

.6 System operating sequences, including step-by-step directions for starting up, shut-down, operation of valves, dampers, switches, adjustment of control settings and emergency procedures.

.7 Maintenance and servicing.

.8 Trouble-shooting diagnosis.

.9 Inter-Action among systems during integrated operation.

.10 Review of O&M documentation.

.3 Provide specialized training as specified in relevant Technical Sections of the construction specifications.

1.9 VIDEO-BASED TRAINING

.1 Manufacturer's videotapes to be used as training tool with the architect's review and written approval prior to commencement of scheduled training.

.2 On-Site training videos:

.1 Videotape training sessions for use during future training.

.2 To be performed after systems are fully commissioned.

.3 Organize into several short modules to permit incorporation of changes.

.3 Production methods to be professional quality.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

D E M O L I T I O N F O R M I N O R W O R K S

Section 02 41 99

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 – Submital Procedures

.2 Section 01 74 11 – Cleaning

.3 Section 01 74 21 – Construction / Demolition waste management and disposal

.4 Section 01 35 29.06 – Healthy and safety requirement

.5 All technic Sections

1.2 REFERENCE STANDARDS

.1 CSA International

.1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.

.2 National Research Council Canada (NRC)

.1 National Building Code of Canada 2010 (CNB).

.2 CNPI of Canada, actual edition

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Submit demolition drawings:

.1 Submit for review and approval by architect shoring and underpinning drawings stamped and signed by professional engineer registered or licensed in the Province of Québec, Canada, showing proposed method.

1.4 SITE CONDITIONS

.1 Review "Designated Substance Report" and take precautions to protect environment.

.2 If material resembling spray or trowel-applied asbestos or other designated substance (listed as hazardous) be encountered, stop work, take preventative measures, and notify the architect immediately.

.1 Proceed only after receipt of written instructions have been received from the architect.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 EXAMINATION

.1 Inspect building / construction site with the architect and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.

.2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.

.3 Notify and obtain approval of utility companies before starting demolition.

.4 Disconnect, cap, plug or divert, as required, existing public utilities within the property where they interfere with the execution of the work, in conformity with the requirements of the authorities having jurisdiction. Mark the location of these and previously capped or plugged services on the site and indicate location (horizontal and vertical) on the record drawings. Support, shore up and maintain pipes and conduits encountered.

.1 Immediately notify the architect and utility company concerned in case of damage to any utility or service, designated to remain in place.

.2 Immediately notify the architect should uncharted utility or service be encountered, and await instruction in writing regarding remedial action.

3.2 PREPARATION

.1 Protection of In-Place Conditions:

.1 Take necessary measures to prevent displacement, collapse or other damage to existing walls on either side of demolition, utility piping, structures and / or parts of the building. Provide shoring and bracing of structures as required.

.2 Keep noise, dust, and inconvenience to occupants to minimum.

.3 Protect building systems, services and equipment.

.4 Provide temporary dust screens, covers, railings, supports and other protection as required.

.5 Do Work in accordance with Section 01 35 29.06- Health and Safety Requirements.

.2 Demolition/Removal:

.1 Remove items as indicated. Pay special attention to the elements that must remain in place despite demolition (eg electrical lines above the indoor garage door between the current cold and warm parts of the building (near axis 4) - or Still the structure of the mezzanine which is not directly affected by the works).

.2 Removal of Pavements, Curbs and Gutters:

.1 Square up adjacent surfaces to remain in place by saw cutting or other method approved.

.2 Protect adjacent joints and load transfer devices.

.3 Remove parts of existing building to permit new construction.

.4 Trim edges of partially demolished building elements to tolerances as defined by architect to suit future use.

3.3 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

.3 Refer to demolition drawings and specifications for items to be salvaged for reuse.

END OF SECTION

METAL FABRICATIONS
Section 05 50 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All plans and specifications book (architectural and engineering)

.2 Section 01 33 00 – Submital procedures

.3 Section 01 35 29.06 – Healthy and safety requirement

.4 Section 01 74 11 – Cleaning

.5 Section 01 74 21 - Construction/Demolition waste management and

.6 Section 05 51 29 – Metal stairs and ladders

.7 Section 07 26 00 – Vapour retarders

.8 Section 07 46 19 – Steel siding

.9 Section 07 92 00 – Joint sealants

.10 Section 08 11 00 – Metal doors and frames

.11 Section 09 21 99 – Partitions

.12 Section 09 91 99 – Painting for minor work

1.2 REFERENCE STANDARDS

.1 ASTM International

.1 ASTM A53/A53M-07, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.

.2 ASTM A269-08, Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.

.3 ASTM A307-07b, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

.2 CSA International

.1 CSA G40.20/G40.21-04(R2009), General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2 CAN/CSA G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.

.3 CSA S16-09, Design of Steel Structures.

.4 CSA W48-06, Filler Metals and Allied Materials for Metal Arc Welding (Developed in co-operation with the Canadian Welding Bureau).

.5 CSA W59-M03(R2008), Welded Steel Construction (Metal Arc Welding), Metric.

.3 Green Seal Environmental Standards (GS)

.1 GS-11-2008, 2nd Edition, Paints and Coatings.

.4 Health Canada / Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.5 The Master Painters Institute (MPI)

.1 Architectural Painting Specification Manual - current edition.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for sections, pipe, bolts, plates, tubing and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

.1 Submit drawings stamped and signed by professional engineer registered or licensed the Province of Quebec, Canada.

.2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

1.4 QUALITY ASSURANCE

.1 Certifications: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials in dry location off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Replace defective or damaged materials with new.

Part 2 Products

2.1 MATERIALS

.1 Steel sections and plates: to CSA G40.20/G40.21, Grade 300W.

.2 Steel pipe: to ASTM A53/A53M, standard weight, galvanized finish.

.3 Welding materials: to CSA W59.

.4 Welding electrodes: to CSA W48 Series.

.5 Bolts and anchor bolts: to ASTM A307.

.6 Aluminum sheet: proprietary utility sheet, general use, of thickness, finish and color to architect's choice.

.7 Stainless steel tubing: to ASTM A269, Type commercial grade, 302, seamless welded with AISI No. 4 finish.

.8 Grout: non-shrink, non-metallic, flowable, 15 MPa at 24 hours.

2.2 FABRICATION

.1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.

.2 Use self-tapping shake-proof oval / round / flat headed screws on items requiring assembly by screws or as indicated.

.3 Where possible, fit and shop assemble work, ready for erection.

.4 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.3 FINISHES

.1 Galvanizing: hot dipped galvanizing with zinc coating 600 g/m2to CAN/CSA-G164.

.2 Chromium plating: chrome on steel with plating sequence of 0.009 mm thickness of copper 0.010 mm thickness of nickel and 0.0025 mm thickness of chromium.

.3 Shop coat primer: conforms to the painting section of this quotation.

.4 Zinc primer: zinc rich, ready to use, conforms to the painting section of this quotation.

2.4 ISOLATION COATING

.1 Isolate aluminum from following components, by means of bituminous paint:

.1 Dissimilar metals except stainless steel, zinc, or white bronze of small area.

.2 Concrete, mortar and masonry.

.3 Wood.

2.5 SHOP PAINTING

.1 Primer: VOC limit 250 g/L maximum to GS-11.

.2 Apply one shop coat of primer to metal items, with exception of galvanized or concrete encased items.

.3 Use primer unadulterated, as prepared by manufacturer. Paint on dry surfaces, free from rust, scale, grease. Do not paint when temperature is lower than 7 degrees C.

.4 Clean surfaces to be field welded; do not paint.

2.6 STRUCTURAL ELEMENTS

.1 Coordinate all metal structural members and uprights with engineers' plans, all based on architectural drawings. Structural elements will be present in the new partitions and the perimeter of the new openings.

2.7 PIPE RAILINGS

.1 Tubular steel, 50 mm in diameter, coated with a primer in the workshop after assembly, to be painted on site.

.2 The guardrail on the mezzanine will be 1067 mm high and will also make the perimeter of the mezzanine.

.3 The guardrail on the staircase can be 915 mm high.

.4 The steel bars will have a diameter of 13 mm and will be placed at 100 mm c/c.

.5 Part of the guard rail in the hot mezzanine area must be removable. Provide the anchors for the support on both sides of the removable part.

2.8 TRENCH COVERS AND FRAMES

.1 Channels made of relief steel plates, 6 mm thick, with L-shaped frame of 55 x 55 x 6, anchors fully coated with concrete at 1200 mm center distance, and removable covers in lengths of 1200 mm.

.2 Finish: galvanized

2.9 CHANNEL FRAMES

.1 Fabricate frames from steel, sizes of channel and opening as indicated.

.2 Weld channels together to form continuous frame for jambs and head of openings, sizes as indicated.

.3 Flat steel anchors.

.4 Finish: prime coat painted.

Part 3 Execution

3.1 EXAMINATION

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

.1 Visually inspect substrate in presence of architect.

.2 Inform architect 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 the architect.

3.2 ERECTION

.1 Do welding work in accordance with CSA W59 unless specified otherwise.

.2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.

.3 Provide and install appropriate anchors approved by the architect, such as dowels, staples, anchor rods, expansion bolts, expansion shells and wing bolts.

.4 Exposed fastening devices to match finish and be compatible with material through which they pass.

.5 Supply components for work by other trades in accordance with shop drawings and schedule.

.6 Weld field connection and / or make field connections with bolts to CSA S16.

.7 Deliver items over for casting into concrete and building into masonry together with setting templates to appropriate location and construction personnel.

.8 Touch-up rivets, field welds, bolts and burnt or scratched surfaces with primer after completion of:

.1 Primer: maximum VOC limit 250 g/L to GS-11.

.9 Touch-up galvanized surfaces with zinc rich primer where burned by field welding.

.1 Primer: maximum VOC limit 250g/L to GS-11.

3.3 PIPE RAILINGS

.1 Install the tubular railings as the stairs and ramps where indicated.

.2 Set railing standards in concrete. Grout to fill hole. Trowel surface smooth and flush with adjacent surfaces.

3.4 TRENCH COVERS

.1 Install trench covers in locations as indicated.

3.5 CHANNEL FRAMES

.1 Install steel channel frames to openings as indicated.

3.6 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

3.7 PROTECTION

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

.2 Repair damage to adjacent materials caused by metal fabrications installation.

END OF SECTION

METAL STAIRS AND LADDERS

Section 05 51 29

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All plans and specifications book (architectural and engineering)

.2 Section 01 33 00 – Submital procedures

.3 Section 01 35 29.06 – Healthy and safety requirement

.4 Section 01 74 11 – Cleaning

.5 Section 01 74 21 - Construction/Demolition waste management and disposal

.6 Section 05 50 00 – Metal fabrications

.7 Section 07 92 00 – Joint sealants

.8 Section 09 91 99 – Painting for minor work

1.2 REFERENCE STANDARDS

.1 American National Standards Institute/National Association of Architectural Metal Manufacturers (ANSI/NAAMM)

.1 ANSI/NAAMM MBG 531-00, Metal Bar Grating Manual.

.2 ASTM International

.1 ASTM A53/A53M-07, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.

.2 ASTM A307-07b, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

.3 ASTM A325M-09, Standard Specification for Structural Bolts, Steel, Heat Treated, 830 MPa Minimum Tensile Strength [Metric].

.3 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-1.40-97, Anti-corrosive Structural Steel Alkyd Primer.

.2 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.

.4 CSA International

.1 CSA G40.20/G40.21-04(R2009), General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2 CAN/CSA G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.

.3 CSA W59-03(R2008), Welded Steel Construction (Metal Arc Welding).

.5 Health Canada / Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.6 National Association of Architectural Metal Manufactures (NAAMM)

.1 AMP 510-92, Metal Stair Manual.

.7 National Research Council Canada (NRC)

.1 National Building Code of Canada 2015 (NBC).

.8 The Society for Protective Coatings (SSPC)

.1 Systems and Specifications Manual, Volume 2, 2008 Edition.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for stairs, ladders and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

.1 Submit drawings stamped and signed by professional engineer registered or licensed in Canada, in the Province of Quebec.

.2 Indicate construction details, sizes of steel sections and thickness of steel sheet.

1.4 QUALITY ASSURANCE

.1 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

.2 Certifications: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials in dry location, indoors and off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect ladders, stairs from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

Part 2 Products

2.1 SYSTEM DESCRIPTION

.1 Design Requirements:

.2 Design metal stair, balustrade and landing construction and connections to National Building Code of Canada (NBC) vertical and horizontal live load requirements.

.3 Detail and fabricate stairs to NAAMM Metal Stairs Manual.

2.2 MATERIALS

.1 Steel sections: to CSA G40.20/G40.21 Grade 300 W.

.2 Steel plate: to CSA G40.20/G40.21, Grade 260 W.

.3 Steel pipe: to ASTM A53/A53M, standard weight, schedule 40 seamless black.

.4 Steel tubing: to CSA G40.20/G40.21, Grade 300 W, round.

.5 Metal bar grating: to ANSI/NAAMM MBG 531, steel, Type W-19-4, with checkered plate nosings.

.6 Welding materials: to CSA W59.

.7 Bolts: to ASTM A307.

.8 High strength bolts: to ASTM A325M.

2.3 FABRICATION

.1 Fabricate in accordance with NAAMM, Metal Stair Manual.

.2 Weld connections where possible, otherwise bolt connections. Countersink exposed fastenings, cut off bolts flush with nuts. Make exposed connections of same material, colour and finish as base material on which they occur.

.3 Accurately form connections with exposed faces flush:

.1 Make mitres and joints tight.

.2 Make risers of equal height.

.4 Grind or file exposed welds and steel sections smooth.

.5 Shop fabricate stairs in sections as large and complete as practicable.

2.4 PLATE/GRATING STAIRS

.1 Form treads from 6 mm thick steel plate to profile indicated, and secure to stringers with L 35 x 35 x 5 supports. Form landings from 6 mm thick steel plate, reinforced by L 55 x 55 x 6 spaced at 600 mm on centre.

.2 Form steel grating treads and landings from metal bar grating to profile indicated and secure to stringers and supports as indicated. Form landings of steel grating and reinforce as required.

.3 Form stringers from MC 310 x 15.8.

2.5 PIPE/TUBING BALUSTRADES

.1 Construct balusters and handrails with section 05 50 00 – Metal Fabrications.

.2 Cap and weld exposed ends of balusters and handrails.

.3 Weld balustrades to stringers as indicated.

2.6 FINISHES

.1 Shop coat primer: to CAN/CGSB-1.40.

2.7 SHOP PAINTING

.1 Clean surfaces in accordance with Steel Structures Painting Council Manual Volume 2.

.2 Apply one coat of shop primer except interior surfaces of pans.

.3 Apply two coats of primer of different colours to parts inaccessible after final assembly.

.4 Use primer as prepared by manufacturer without thinning or adding admixtures. Paint on dry surfaces, free from rust, scale, grease, do not paint when temperature is below 7 degrees C.

.5 Do not paint surfaces to be field welded.

Part 3 Execution

3.1 EXAMINATION

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

.1 Visually inspect substrate in presence of architect.

.2 Inform architect 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 the architect.

3.2 INSTALLATION OF STAIRS

.1 Install in accordance with NAAMM, Metal Stair Manual.

.2 Install plumb and true in exact locations, using welded connections wherever possible to provide rigid structure. Provide anchor bolts, bolts and plates for connecting stairs to structure.

.3 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.

.4 Do welding work in accordance with CSA W59 unless specified otherwise.

.5 Touch up shop primer to bolts, welds, and burned or scratched surfaces at completion of erection.

3.3 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

3.4 CLEANING

.1 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.

.2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.5 PROTECTION

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

.2 Repair damage to adjacent materials caused by metal stairs and ladders installation.

END OF SECTION

B L A N K E T I N S U L A T I O N

Section 07 21 16

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 – Submital procedures

.2 Section 01 35 29.06 – Santé et sécurité

.3 Section 01 74 11 – Cleaning

.4 Section 01 74 21 - Construction / Demolition waste management and disposal

.5 Section 07 26 00 – Vapour retarders

.6 Section 07 92 00 – Joints sealants

.7 Section 09 21 99 – Partitions for minor work.

.8 Section 09 91 99 – Painting for minor work

1.2 REFERENCE STANDARDS

.1 ASTM International

.1 ASTM C553-13, Standard Specification for Mineral Fibre Blanket Thermal Insulation for Commercial and Industrial Applications.

.2 ASTM C665-12 Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

.3 ASTM C1320-10, Standard Practice for Installation of Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.

.2 CSA Group

.1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.

.2 CSA B149 PACKAGE-10, Consists of B149.1, Natural Gas and Propane Installation Code and B149.2, Propane Storage and Handling Code.

.3 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC-S604-[2012], Standard for Factory-Built Type A Chimneys.

.2 CAN/ULC-S702-[2012], Standard for Mineral Fibre Insulation for Buildings.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit required data sheets and manufacturer's documentation for mattress insulation. The data sheets must indicate the characteristics of the products, the performance criteria, the dimensions, the limits and the finish.

.3 Certificates:

.1 Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

.4 Test Reports:

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

1.4 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect specified materials from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

Part 2 Products

2.1 INSULATION

.1 Insulators made of mineral fiber, mattress and mat: in accordance with CAN / ULC-S702.

.1 As Owens Corning's Rose Fiberglas Eco Touch product.

.2 Application for a metal framework

.3 6 "thick to achieve R-20 thermal resistance.

2.2 ACCESSORIES

.1 Insulation clips:

.1 Impale type, perforated 50 x 50 mm cold rolled carbon steel 0.8 mm thick, adhesive back, spindle of 2.5 mm diameter annealed steel, length to suit insulation, 25 mm diameter washers of self locking type.

.2 Nails: galvanized steel, length to suit insulation plus 25 mm, to CSA B111.

.3 Staples: 12 mm minimum leg.

.4 Tape: as recommended by manufacturer.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for blanket insulation application in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of the architect.

.2 Inform the architect 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 the architect.

3.2 INSULATION INSTALLATION

.1 Install insulation to maintain continuity of thermal protection to building elements and spaces and to ASTM C1320.

.2 Install insulation with factory applied vapour barrier facing warm side of building spaces and vapour permeable membrane facing cold side. Lap ends and side flanges of membrane over framing members. Retain in position with staples, insulation clips, nails, wire ties installed as recommended by manufacturer. Tape seal butt ends and lapped side flanges. Do not tear or cut vapour barrier.

.3 Fit insulation closely around electrical boxes, pipes, ducts, frames and other objects in or passing through insulation.

.4 Do not compress insulation to fit into spaces.

.5 Keep insulation minimum 75 mm from heat emitting devices such as recessed light fixtures, and minimum 50 mm from sidewalls of CAN/ULC-S604 Type A chimneys, CSA B149.1 and CSA B149.2.

.6 Do not enclose insulation until it has been inspected and approved by the architect.

3.3 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

END OF SECTION

SPRAYED INSULATION – POLYURÉTHANE FOAM

Section 07 21 29.03

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 – Submital procedures

.2 Section 01 35 29.06 – Healthy and safety requirement

.3 Section 01 74 11 – Cleaning

.4 Section 01 74 21 - Construction/Demolition waste management and disposal

.5 Section 07 92 00 – Joint sealants

.6 Section 08 11 00 – Metal doors and frames

.7 Section 08 36 13.02 – Sectional metal doors

.8 Section 09 21 99 – Partitions

1.2 REFERENCE STANDARDS

.1 Canadian Urethane Foam Contractors Association Inc. (CUFCA)

.2 Green Seal (GS)

.1 GS-11-2013, Standard for Paints and Coatings.

.3 South Coast Air Quality Management District (SCAQMD)

.1 SCAQMD Rule 1113-13, Architectural Coatings.

.4 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC-S101-07, Standard Methods of Fire Tests of Building Construction and Materials.

.2 CAN/ULC-S102-10, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

.3 CAN/ULC-S705.1-01, Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, Material Specification. Includes Amendment 1.2.

.4 CAN/ULC-S705.2-05, Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, Application.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for polyurethane foam sprayed insulation and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Test Reports:

.1 Submit certified test reports for insulation from approved independent testing laboratories, indicating compliance with specifications for specified performance characteristics and physical properties.

.2 Submit test reports in accordance with CAN/ULC-S101 for fire endurance and CAN/ULC-S102 for surface burning characteristics.

.4 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions and special handling criteria, installation sequence, cleaning procedures.

1.4 QUALITY ASSURANCE

.1 Applicators to conform to CUFCA Quality Assurance Program.

.2 Qualifications:

.1 Installer: person specializing in sprayed insulation installations [approved by manufacturer] [with documented experience].

.2 Manufacturer: company with experience in producing of material used for work required for this project, with sufficient production capacity to produce and deliver required units without causing delay in work.

.3 Health and Safety Requirements: worker protection:

.1 Protect workers as recommended by CAN/ULC-S705.2 and manufacturer's recommendations:

.2 Workers must wear [long sleeved clothing] [respirators] [protective clothing] [dust masks] [eye protection] [gloves]when applying foam insulation.

.3 Workers must not eat, drink or smoke while applying foam insulation.

1.5 SITE CONDITIONS

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

Part 2 Products

2.1 MATERIALS

.1 Insulation: spray polyurethane to CAN/ULC-S705.1.

.2 Primers: in accordance with manufacturer's recommendations for surface conditions.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for vapour retarder installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of architect.

.2 Inform architect 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 the architect.

3.2 APPLICATION

.1 Apply insulation to clean surfaces in accordance with CAN/ULC-S705.2 and manufacturer's printed instructions.

.2 Apply sprayed foam insulation in thickness as indicated to respond to R-20.

3.3 FIELD QUALITY CONTROL

.1 Manufacturer's Field Services:

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

3.4 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

.1 Remove insulation material spilled during installation and leave work area ready for application of wall board.

END OF SECTION

V A P O U R R E T A R D E R S

Section 07 26 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

.2 Section 02 41 99 – Demolition

.3 Section 07 21 16 – Blanket insulation

.4 Section 07 62 10 – Sheet metal flashing trim

.5 Section 08 36 13.02 – Sectional metal doors

.6 Section 09 21 99 – Partitions for minor work

1.2 REFERENCE STANDARDS

.1 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.33-M89, Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction.

.2 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet, for Use in Building Construction.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for [vapour retarders]and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Certificates:

.1 Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.4 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect specified materials from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

Part 2 Products

2.1 SHEET VAPOUR BARRIER

.1 Polyethylene film: to CAN/CGSB-51.34, 0.15 mm thick.

2.2 ACCESSORIES

.1 Joint sealing tape: air resistant pressure sensitive adhesive tape, type recommended by vapour barrier manufacturer, 50 mm wide for lap joints and perimeter seals, 25 mm wide elsewhere.

.2 Sealant: compatible with vapour retarder materials, recommended by vapour retarder manufacturer. As section 07 92 00- Joint Sealants.

.3 Staples: minimum 6 mm leg.

.4 Moulded box vapour barrier: factory-moulded polyethylene box for use with recessed electric switch and outlet device boxes.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for vapour retarder installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of architect.

.2 Inform architect 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 the architect.

3.2 INSTALLATION

.1 Ensure services are installed and inspected prior to installation of retarder.

.2 Install sheet vapour retarder on warm side of exterior wall assemblies prior to installation of gypsum board to form continuous retarder.

.3 Use sheets of largest practical size to minimize joints.

.4 Inspect for continuity. Repair punctures and tears with sealing tape before work is concealed.

3.3 EXTERIOR SURFACE OPENINGS

.1 Cut sheet vapour retarder to form openings and ensure material is lapped and sealed to frame.

3.4 PERIMETER SEALS

.1 Seal perimeter of sheet vapour barrier as follows:

.1 Apply continuous bead of sealant to substrate at perimeter of sheets.

.2 Lap sheet over sealant and press into sealant bead.

.3 Install staples through lapped sheets at sealant bead into wood substrate.

.4 Ensure that no gaps exist in sealant bead. Smooth out folds and ripples occurring in sheet over sealant.

3.5 LAP JOINT SEALS

.1 Seal lap joints of sheet vapour barrier as follows:

.1 Attach first sheet to substrate.

.2 Apply continuous bead of sealant over solid backing at joint.

.3 Lap adjoining sheet minimum 150 mm and press into sealant bead.

.4 Install staples through lapped sheets at sealant bead into wood substrate.

.5 Ensure that no gaps exist in sealant bead. Smooth out folds and ripples occurring in sheet over sealant.

3.6 ELECTRICAL BOXES

.1 Seal electrical switch and outlet device boxes that penetrate vapour barrier as follows:

.1 Wrap boxes with film sheet providing minimum 300 mm perimeter lap flange.

.2 Apply sealant to seal edges of flange to main vapour barrier and seal wiring penetrations through box cover.

3.7 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

.1 Remove insulation material spilled during installation and leave work area ready for application of wall board.

END OF SECTION

STEEL SIDING

Section 07 46 19

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 07 62 00 – Sheet metal flashing trim

.2 Section 07 92 00 – Joint sealants

1.2 REFERENCE STANDARDS

.1 American Society of Mechanical Engineers (ASME)

.1 ASME B18.6.3-2011, Machine Screws, Tapping Screws, and Metallic Drive Screws (Inch Series).

.2 ASTM International

.1 ASTM D2369-10e1, Test Method for Volatile Content of Coatings.

.2 ASTM D2832-92(2011), Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.

.3 ASTM D5116-10, Standard Guide For Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.

.3 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.

.2 CAN/CGSB-93.3-M91, Prefinished Galvanized and Aluminum-Zinc Alloy Steel Sheet for Residential Use.

.3 CAN/CGSB-93.4-92, Galvanized and Aluminum-Zinc Alloy Coated Steel Siding Soffits and Fascia, Prefinished, Residential.

.4 CAN/CGSB-93.5-92, Installation of Metal Residential Siding, Soffits and Fascia.

.4 CSA International

.1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.

.5 Environmental Choice Program (ECP)

.1 CCD-045-95, Sealants and Caulking Compounds.

.6 Green Seal Environmental Standards (GS)

.1 GS-36-11, Standard for Commercial Adhesives.

.7 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

.1 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

.8 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULC-S706-09, Standard for Wood Fibre Insulating Boards for Buildings.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for [metal siding]and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

.1 Submit drawings stamped and signed by professional engineer registered or licensed in Canada, in the Province of Quebec.

.2 Indicate dimensions, profiles, attachment methods, schedule of wall elevations, trim and closure pieces, soffits, fascia, metal furring, and related work.

1.4 QUALITY ASSURANCE

.1 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

.2 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials in dry location, off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect metal siding from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

Part 2 Products

2.1 STEEL CLADDING AND COMPONENTS

.1 Steel prepaint siding, color and profile to be as the existant.

.1 New section to be provide and completed.

2.2 FASTENERS

.1 Nails: CSA B111. Screws: ASME B18.6.3. Purpose made stainless steel.

2.3 CAULKING

.1 Sealants: in accordance with Section 07 92 00- Joint Sealants.

2.4 ACCESSORIES

.1 Exposed trim: inside corners, outside corners, cap strip, drip cap, undersill trim, starter strip and window/door trim of same material, gloss, colour as existant cladding, with fastener holes pre-punched.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of the architect.

.2 Inform the architect 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 the architect.

3.2 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.3 INSTALLATION

.1 Install cladding in accordance with CGSB 93.5, and manufacturer's written instructions.

.2 Install one layer exterior wall sheathing paper horizontally by nailing, lapping edges 150 mm.

.3 Install continuous starter strips, inside and outside corners, edgings, soffit, drip, cap, sill and window/door opening flashings as indicated.

.4 Install outside corners, fillers and closure strips with carefully formed and profiled work.

.5 Install soffit and fascia cladding as indicated.

.6 Maintain joints in exterior cladding, true to line, tight fitting, hairline joints.

.7 Attach components in manner not restricting thermal movement.

.8 Caulk junctions with adjoining work with sealant. Do work in accordance with Section 07 92 00- Joint Sealants.

3.4 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

3.5 PROTECTION

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

.2 Repair damage to adjacent materials caused by preformed metal siding installation.

END OF SECTION

SHEET METAL FLASHING AND TRIM

Section 07 62 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 – Submittal procedures

.2 Section 01 35 29.06 – Healthy and safety requirement

.3 Section 01 74 11 – Cleaning

.4 Section 01 74 21 - Construction/Demolition waste management and disposal

.5 Section 07 21 16 – Blanket insulation

.6 Section 07 26 00 – Vapour retarders

.7 Section 07 92 00 – Joint sealants

.8 Section 09 21 99 – Partitions

1.2 REFERENCE STANDARDS

.1 The Aluminum Association Inc. (AAI)

.1 AAI-Aluminum Sheet Metal Work in Building Construction-2002.

.2 AAI DAF45-03, Designation System for Aluminum Finishes.

.2 American Society for Testing and Materials International (ASTM)

.1 ASTM A167-99(2004), Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.

.2 ASTM A240/A240M-07e1, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.

.3 ASTM A606-04, Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.

.4 ASTM A653/A653M-07, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.5 ASTM A792/A792M-06a, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.

.6 ASTM B32-04, Standard Specification for Solder Metal.

.7 ASTM B370-03, Standard Specification for Copper Sheet and Strip for Building Construction.

.8 ASTM D523-89(1999), Standard Test Method for Specular Gloss.

.9 ASTM D822-01(2006), Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.

.3 Canadian Roofing Contractors Association (CRCA)

.1 Roofing Specifications Manual 1997.

.4 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.

.2 CAN/CGSB-93.1-M85, Sheet Aluminum Alloy, Prefinished, Residential.

.5 Canadian Standards Association (CSA International)

.1 CSA A123.3-05, Asphalt Saturated Organic Roofing Felt.

.2 AAMA/WDMA/CSA 101/I.S.2/A440-2008, Standard/Specification for Windows, Doors, and Unit Skylights.

.3 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.

.6 Green Seal Environmental Standards

.1 Standard GS-03-93, Anti-Corrosive Paints.

.2 Standard GS-11-97, Architectural Paints.

.3 Standard GS-36-00, Commercial Adhesives.

.7 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.8 South Coast Air Quality Management District (SCAQMD), California State

.1 SCAQMD Rule #1113-04, Architectural Coatings.

.2 SCAQMD Rule #1168-05, Adhesives and Sealants.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

1.4 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and acceptance: deliver materials and equipment to the site in their original packaging, which must bear a label indicating the name and address of the manufacturer.

.3 Storage and Handling Requirements:

.1 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect specified materials from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

Part 2 Products

2.1 PREFINISHED STEEL SHEET

.1 Prefinished steel with factory applied polyvinylidene fluoride.

.1 Class F1S.

.2 Color selected by the architect from manufacturer's standard range.

.3 Specular gloss: 30 units +/- in accordance with ASTM D523.

.4 Coating thickness: not less than 26 gauge.

.5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20 % to ASTM D822 as follows:

.1 Outdoor exposure period: 2500 hours.

.2 Humidity resistance exposure period: 5000 hours.

2.2 ACCESSORIES

.1 Isolation coating: alkali resistant bituminous paint.

.2 Plastic cement: to CAN/CGSB 37.5.

.1 Maximum VOC limit 50 g/L to GSES GS-36.

.3 Underlay for metal flashing:

.1 Self-adhesive membrane such as Blueskin and Primer

.4 Sealants:

.1 Maximum VOC limit 50 g/L to GSES GS-36.

.5 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness same as sheet metal to be fixed.

.6 Fasteners: of same material as sheet metal, to CSA B111, Nails with a flat head and a corrugated stem, of length and thickness appropriate to metal flashings.

.7 Washers: of same material as sheet metal, 1 mm thick with rubber packings.

.8 Touch-up paint: as recommended by prefinished material manufacturer.

2.3 FABRICATION

.1 Fabricate metal flashings and other sheet metal work in accordance with applicable CRCA 'FL' series details.

.2 Fabricate aluminum flashings and other sheet aluminum work in accordance with AAI-Aluminum Sheet Metal Work in Building Construction.

.3 Form pieces in 2400 mm maximum lengths.

.1 Make allowance for expansion at joints.

.4 Hem exposed edges on underside 12 mm.

.1 Mitre and seal corners with sealant.

.5 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.

.6 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

2.4 METAL FLASHINGS

.1 Form flashings, copings and fascias to profiles with pre-finished 26 gauge aluminium sheet.

2.5 PANS

.1 The sealing sleeves must be made of stainless steel sheet. The sleeves shall project at least 75 mm from the coated roof and be fitted with a 100 mm continuous flange free of open corners.

.1 Rivet joints.

.2 Make pans minimum 50 mm wider than member passing through roof membrane.

2.6 REGLETS AND CAP FLASHINGS

.1 Metal counter flashings to accommodate the flashings shall be made with 26 gauge sheet and in accordance with the details of the drawings.

.1 Provide slotted fixing holes and steel/plastic washer fasteners.

.2 Cover face and ends with plastic tape.

2.7 ROOF FAN

.1 Roof fan, as from IDEAL Roofing.

.1 Ridge-vent Model

.2 Replace the existing ones by this new model

.3 Color as existing ones.

.4 The Contractor is responsible for calculating by the supplier the amount required for roof ventilation, without necessarily relying on existing quantities.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

.1 Install sheet metal work to the architect and the industry standards (AMCQ and others).

.2 Use concealed fastenings except where approved before installation.

.3 Provide underlay under sheet metal.

.1 Secure in place and lap joints 100 mm.

.4 Counterflash bituminous flashings at intersections of roof with vertical surfaces and curbs.

.1 Flash joints using standing seams forming tight fit over hook strips, as detailed.

.5 Lock end joints and caulk with sealant.

.6 Install surface mounted reglets true and level, and caulk top of reglet with sealant.

.7 Insert metal flashing into reglets and/or under cap flashing to form weather tight junction.

.8 Turn top edge of flashing into recessed reglet or mortar joint minimum of 25 mm. Lead wedge flashing securely into joint.

.9 Caulk flashing at cap flashing and/or reglet with sealant.

.10 Install pans, where shown around items projecting through roof membrane.

.11 Always assure the flashing for leaks with a Blueskin membrane underneath.

3.3 FIELD QUALITY CONTROL

.1 Manufacturer's Field Services:

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

3.4 CLEANING

.1 Proceed in accordance with Section 01 74 11- Cleaning.

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

.3 Leave work areas clean, free from grease, finger marks and stains.

END OF SECTION

J O I N T S E A L A N T S

Section 07 92 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 – Submital procedures

.2 Section 01 35 29.06 – Healthy and safety requirement

.3 Section 01 74 11 – Cleaning

.4 Section 01 74 21 - Construction/Demolition waste management and disposal

.5 Section 07 21 16 – Blanket insulation

.6 Section 07 26 00 – Vapour retarders

.7 Section 07 62 10 – Sheet metal flashing trim

.8 Section 09 21 99 – Partitions

1.2 REFERENCE STANDARDS

.1 ASTM International

.1 ASTM C919-08, Standard Practice for Use of Sealants in Acoustical Applications.

.2 Canadian General Standards Board (CGSB)

.1 CGSB 19-GP-5M-1984, Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1).

.2 CAN/CGSB-19.13-M87, Sealing Compound, One-component, Elastomeric, Chemical Curing.

.3 CGSB 19-GP-14M-1984, Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).

.4 CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.

.5 CAN/CGSB-19.24-M90, Multi-component, Chemical Curing Sealing Compound.

.3 General Services Administration (GSA) - Federal Specifications (FS)

.1 FS-SS-S-200-E(2)1993, Sealants, Joint, Two-Component, Jet-Blast-Resistant, Cold Applied, for Portland Cement Concrete Pavement.

.4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.5 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

.1 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

1.4 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 78 00- Closeout Submittals.

1.5 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect joint sealants from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

1.6 SITE CONDITIONS

.1 Ambient Conditions:

.1 Proceed with installation of joint sealants only when:

.1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 4.4 degrees C.

.2 Joint substrates are dry.

.3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

.2 Joint-Width Conditions:

.1 Proceed with installation of joint sealants only where joint widths are more than those allowed by joint sealant manufacturer for applications indicated.

.3 Joint-Substrate Conditions:

.1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

1.7 ENVIRONMENTAL REQUIREMENTS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to Health Canada.

Part 2 Products

2.1 SEALING PRODUCTS - RECOMMENDATION

.1 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.

.2 When low toxicity caulks are not possible, confine usage to areas which off gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off gas time.

.3 Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESCRIPTION

.1 External Sealant Products:

.1 Such as Tremco's Dymonic.

.2 Various applications; use correct membrane according to its application.

.2 Interior latex sealer products

.1 Various applications: Use the correct membrane according to its application

.3 Blueskin Self-Adhesive Membrane

.1 Perimeter of exterior doors and windows and edges (roof and wall junction - wall base and foundation) and everywhere indicated on plans.

.2 Various applications; Use the correct membrane according to its application

2.3 JOINT CLEANER

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

.2 Primer: in accordance with sealant manufacturer's written recommendations.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of the architect.

.2 Inform the architect 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 the architect.

3.2 SURFACE PREPARATION

.1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.

.2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.

.3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.

.4 Ensure joint surfaces are dry and frost free.

.5 Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

.1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.

.2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

.1 Apply bond breaker tape where required to manufacturer's instructions.

.2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 MIXING

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

3.6 APPLICATION

.1 Sealant:

.1 Apply sealant in accordance with manufacturer's written instructions.

.2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.

.3 Apply sealant in continuous beads.

.4 Apply sealant using gun with proper size nozzle.

.5 Use sufficient pressure to fill voids and joints solid.

.6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.

.7 Tool exposed surfaces before skinning begins to give slightly concave shape.

.8 Remove excess compound promptly as work progresses and upon completion.

.2 Curing:

.1 Cure sealants in accordance with sealant manufacturer's instructions.

.2 Do not cover up sealants until proper curing has taken place.

3.7 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Clean adjacent surfaces immediately.

.3 Remove excess and droppings, using recommended cleaners as work progresses.

.4 Remove masking tape after initial set of sealant.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

3.8 PROTECTION

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

.2 Repair damage to adjacent materials caused by joint sealants installation.

END OF SECTION

METAL DOORS AND FRAMES

Section 08 11 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 – Submittal Procedures

.2 Section 08 71 00 – Door Hardware

.3 Section 09 21 99 – Partitions

.4 Section 09 91 99 – Painting for minor work

1.2 REFERENCE STANDARDS

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM A653/A653M-06a, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM B29-03, Standard Specification for Refined Lead.

.3 ASTM B749-03, Standard Specification for Lead and Lead Alloy Strip, Sheet and Plate Products.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.

.2 CGSB 41-GP-19Ma-84, Rigid Vinyl Extrusions for Windows and Doors.

.3 Canadian Standards Association (CSA International)

.1 CSA-G40.20-04/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2 CSA W59-03, Welded Steel Construction (Metal Arc Welding).

.4 Canadian Steel Door Manufacturers' Association (CSDMA)

.1 CSDMA, Recommended Specifications for Commercial Steel Doors and Frames, 2000.

.2 CSDMA, Selection and Usage Guide for Commercial Steel Doors, 1990.

.5 National Fire Protection Association (NFPA)

.1 NFPA 80-99, Standard for Fire Doors and Fire Windows.

.2 NFPA 252-03, Standard Methods of Fire Tests of Door Assemblies.

.6 South Coast Air Quality Management District (SCAQMD), California State

.1 SCAQMD Rule 1113-04, Architectural Coatings.

.2 SCAQMD Rule 1168-05, Adhesives and Sealants Applications.

.7 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULC-S701-01, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.

.2 CAN/ULC-S702-97, Standard for Thermal Insulation, Mineral Fibre, for Buildings.

.3 CAN/ULC-S704-03, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.

.4 CAN4-S104-M80, Standard Method for Fire Tests of Door Assemblies.

.5 CAN4-S105-M85, Standard Specification for Fire Door Frames Meeting the Performance Required by CAN4-S104.

1.3 SYSTEM DESCRIPTION

.1 Design Requirements:

.1 Design exterior frame assembly to accommodate to expansion and contraction when subjected to minimum and maximum surface temperature of -35 degrees C to 35 degrees C.

.2 Maximum deflection for exterior steel entrance screens under wind load of 1.2 kPa not to exceed 1/175th of span.

.3 Steel fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with CAN4-S104 & NFPA 252 for ratings specified or indicated.

.4 Provide fire labelled frames for openings requiring fire protection ratings. Test products in conformance with CAN4-S104, ASTM E152, NFPA 252 and listed by nationally recognized agency having factory inspection services.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Provide shop drawings: in accordance with Section 01 33 00- Submittal Procedures.

.1 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, louvred, glazed, arrangement of hardware fire rating and finishes.

.2 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings reinforcing, fire rating finishes.

.3 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

.4 Submit test and engineering data, and installation instructions.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Transport, storage and handling of materials and equipment in accordance with manufacturer's written instructions.

.2 Delivery and Acceptance: Deliver materials and materials to the site in their original packaging, which must be labeled with the name and address of the manufacturer.

.3 Storage and Handling

.1 Store materials and materials so that they do not rest on the floor in a clean, dry, well ventilated area as recommended by the manufacturer.

.2 Store sealants to protect against marks, scratches and scratches.

.3 Replace damaged materials and equipment with new materials and equipment.

Part 2 Products

2.1 DOORS VISUAL

.1 The visual of doors and frames is determined by architectural plans. Refer to it as additional information.

2.2 MATERIALS

.1 Hot dipped galvanized steel sheet: to ASTM A653M, ZF75, minimum base steel thickness in accordance with CSDMA Table 1 - Thickness for Component Parts.

.2 Reinforcement channel: to CSA G40.20/G40.21, Type 44W, coating designation to ASTM A653M, ZF75.

2.3 DOOR CORE MATERIALS

.1 Honeycomb construction:

.1 "Honeycomb" type cell, not more than 24.5 mm long, of Kraft paper, of a mass of not less than 36.3 kg per ream and not less than 16.5 kg / m3 density, sanded Until the required thickness is obtained.

.2 Reinforced core: welded panels on hollow core, not insulated on the inside and insulated on the outside.

.1 Glass fiber core:

.1 Polyurethane core: rigid closed-cell polyisocyanurate rigid panels with a density of 32 kg / m3 according to CGSB 51-GP-21M.

.3 Fire classification (thermal protection index): the material of the core of a door shall be such as to limit the heating obtained on the unexposed side of the door to 250 degrees Celsius during the time prescript in the table Of the architect's doors. The core shall be tested as an integral part of the door in accordance with CAN4-S104, NFPA 252 and ASTM E152 for fire behavior testing of doors and shall be certified by a recognized testing organization at National level and providing a factory inspection service.

2.4 ADHESIVES

.1 Honeycomb cores and steel components: heat resistant, spray grade, resin reinforced neoprene/rubber (polychloroprene) based, low viscosity, contact cement.

.1 Adhesive: Minimum as possible VOC content.

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

.3 Staple-sealed doors: fire-resistant adhesive / sealant based on polychloroprene with incorporated resin filler, high viscosity.

2.5 PRIMER

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

.1 Minimum as possible VOC content.

2.6 PAINT

.1 Field paint steel doors and frames in accordance with the painting Section. Protect weather-strips from paint. Provide final finish free of scratches or other blemishes.

.1 Minimum as possible VOC content.

.2 Colors will be provided by the architect upon the signature of the contract.

2.7 ACCESSORIES

.1 Door silencers: single stud rubber/neoprene type.

.2 Interior and Exterior (top and bottom caps): rigid polyvinylchloride extrusion conforming to CGSB 41-GP-19Ma.

.3 Fabricate glazing stops as formed channel, minimum 16 mm height, accurately fitted, butted at corners and fastened to frame sections with counter-sunk oval head sheet metal screws.

.4 Weatherstripping: double magnetic system and polyflex

.5 Door bottom seal: adjustable

.6 Metallic paste filler: to manufacturer's standard.

.7 Fire labels: secured with metal rivets.

.8 Sealant: as per manufacturer's specifications.

.1 Minimum as possible VOC content.

.9 Glazing: Depending on specifications in gates and specifications.

.10 Make provisions for glazing as indicated and provide necessary glazing stops.

.1 Glazing shall be secured with removable stainless steel glazing beads for use with glazing tape and mastic and secured with stainless steel screws with countersunk head.

.2 The outer beads shall be of the inviolable type.

2.8 FRAMES FABRICATION GENERAL

.1 Fabricate frames in accordance with CSDMA specifications.

.2 Fabricate frames to profiles and maximum face sizes as indicated.

.3 Exterior frames: 1.6 mm, welded with thermally broken.

.4 Interior frames: 1.6 mm, removable.

.5 Blank, reinforce, drill and tap frames for mortised, templated hardware, [electronic hardware]using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.

.6 Protect mortised cutouts with steel guard boxes.

.7 Prepare frame for door silencers, 3 for single door, 2 at head for double door.

.8 Manufacturer's nameplates on frames and screens are not permitted.

.9 Conceal fastenings except where exposed fastenings are indicated.

.10 Provide factory-applied touch up primer at areas where zinc coating has been removed during fabrication.

.11 Insulate exterior frame components with polyurethane insulation.

2.9 FRAME ANCHORAGE

.1 Provide appropriate anchorage to floor and wall construction.

.2 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.

.3 Provide 2 anchors for rebate opening heights up to 1520 mm and 1 additional anchor for each additional 760 mm of height or fraction thereof.

.4 Locate anchors for frames in existing openings not more than 150 mm from top and bottom of each jambs and intermediate at 660 mm on centre maximum.

2.10 FRAMES: WELDED TYPE

.1 Welding in accordance with CSA W59.

.2 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.

.3 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.

.4 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.

.5 Securely attach floor anchors to inside of each jamb profile.

.6 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.

2.11 FRAMES: KNOCKED-DOWN TYPE

.1 Ship knocked-down type frames unassembled.

.2 Provide frames with mechanical joints which inter-lock securely and provide functionally satisfactory performance when assembled and installed in accordance with CSDMA Recommended Installation Guide for Steel Doors and Frames.

.3 Securely attach floor anchors to inside of each jamb profile.

2.12 FRAMES: SLIP-ON TYPE

.1 Ship slip-on type frames unassembled.

.2 Provide frames with mechanical joints which inter-lock securely and provide functionally satisfactory performance when installed in accordance with CSDMA Recommended Installation Guide for Steel Doors and Frames and manufacturers' instructions.

.3 Provide slip-on frames with manufacturers' proprietary design of wall anchorage comprising single, adjustable tension type per jamb and provision for secure attachment of each jamb base to stud runners.

2.13 DOOR FABRICATION GENERAL

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

.2 Exterior doors: honeycomb and insulated core. Interior doors: honeycomb core.

.3 Fabricate doors with longitudinal edges locked seamed, adhesive assisted. Seams: grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.

.4 Doors: manufacturers' proprietary construction, tested and/or engineered as part of a fully operable assembly, including door, frame, gasketting and hardware in accordance with ASTM E330 to provide blast resistance.

.5 Blank, reinforce, drill doors and tap for mortised, templated hardware / electronic hardware.

.6 Factory prepare holes 12.7 mm diameter and larger except mounting and through-bolt holes, on site, at time of hardware installation.

.7 Reinforce doors where required, for surface mounted hardware. Provide flush PVC top caps to exterior doors. Provide inverted, recessed, spot welded channels to top and bottom of interior doors.

.8 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.

.9 Provide fire labelled doors for those openings requiring fire protection ratings, as scheduled. Test such products in conformance with NFPA 252, CAN4-S104, ASTM E152 and list by nationally recognized agency having factory inspection service and construct as detailed in Follow-Up Service Procedures/Factory Inspection Manuals issued by listing agency to individual manufacturers.

.10 Manufacturer's nameplates on doors are not permitted.

2.14 DOORS: HONEYCOMB CORE CONSTRUCTION

.1 Form face sheets for exterior doors from 1.6 mm sheet steel with polyurethane core laminated under pressure to face sheets.

.2 Form face sheets for interior doors from 1.6 mm sheet steel with honeycomb and temperature rise rated core laminated under pressure to face sheets.

2.15 THERMALLY BROKEN DOORS AND FRAMES

.1 Fabricate thermally broken doors by using insulated core and separating exterior parts from interior parts with continuous interlocking thermal break.

.2 Thermal break: rigid polyvinylchloride extrusion conforming to CGSB 41-GP-19Ma.

.3 Fabricate thermally broken frames separating exterior parts form interior parts with continuous interlocking thermal break.

.4 Apply insulation.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

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

3.2 INSTALLATION GENERAL

.1 Install labelled steel fire rated doors and frames to NFPA 80 except where specified otherwise.

.2 Install doors and frames to CSDMA Installation Guide.

3.3 FRAME INSTALLATION

.1 Set frames plumb, square, level and at correct elevation.

.2 Secure anchorages and connections to adjacent construction.

.3 Brace frames rigidly in position while building-in. Install temporary horizontal wood spreader at third points of door opening to maintain frame width. Provide vertical support at centre of head for openings over 1200 mm wide. Remove temporary spreaders after frames are built-in.

.4 Make allowances for deflection of structure to ensure structural loads are not transmitted to frames.

.5 Caulk perimeter of frames between frame and adjacent material.

.6 Maintain continuity of vapour retarder and air barrier with Blueskin sprayed urethane and self-adhesive membrane.

3.4 DOOR INSTALLATION

.1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 71 00- Door Hardware.

.2 Provide even margins between doors and jambs and doors and finished floor and thresholds as follows.

.1 Hinge side: 1.0 mm.

.2 Latchside and head: 1.5 mm.

.3 Finished floor, sill: 13 mm.

.3 Adjust operable parts for correct function.

.4 Install louvres. Always validate with engineering plans for this section.

3.5 FINISH REPAIRS

.1 Touch up with primer finishes damaged during installation.

.2 Fill exposed frame anchors, surfaces with imperfections with metallic paste filler and sand to a uniform smooth finish.

3.6 GLAZING

.1 Install glazing for doors in accordance with Section 08 80 50- Glazing.

END OF SECTION

S E C T I O N A L M E T A L D O O R S

Section 08 36 13.02

Part 1 General

1.1 RELATED REQUIREMENTS

.1 N/A

1.2 REFERENCE STANDARDS

.1 Aluminum Association (AA)

.1 AA DAF 45-03(R2009), Designation System for Aluminum Finishes.

.2 ASTM International

.1 ASTM A1008/A1008M-10, Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.

.2 ASTM D523-08, Standard Test Method for Specular Gloss.

.3 ASTM D822-01(2006), Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.

.3 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-1.105-M91, Quick-Drying Primer.

.2 CAN/CGSB-1.213-04, Etch Primer (Pretreatment Coating or Tie Coat) for Steel and Aluminum.

.3 CAN/CGSB-1.181-99, Ready-Mixed, Organic Zinc-Rich Coatings.

.4 CSA International

.1 CAN/CSA-G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.

.5 Environmental Choice Program (ECP)

.1 CCD-016-97(R2005), Thermal Insulation.

.2 CCD-047-98(R2005), Architectural Surface Coatings.

.3 CCD-048-98(R2006), Surface Coatings - Recycled Water-borne.

.6 Green Seal Environmental Standards (GS)

.1 GS-11-2008, 2nd Edition, Paints and Coatings.

.7 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

.1 SCAQMD Rule 1113-A2007, Architectural Coatings.

1.3 ADMINISTRATIVE REQUIREMENTS

.1 Prior to commencement of work, make arrangements with the architect to review existing conditions in the vicinity of the proposed demolition site.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for [doors, hardware, and accessories]and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

.1 Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Quebec, Canada.

.2 Indicate sizes, service rating, types, materials, operating mechanisms, glazing locations and details, hardware and accessories, required clearances and electrical connections.

1.5 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 78 00- Closeout Submittals.

1.6 QUALITY ASSURANCE

.1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.7 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials in dry location, off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect metal siding from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

1.8 RELATED WORK

.1 All electrical connections shall be made and installed by a qualified electrician as recommended by the manufacturer of electric door openers.

.2 Garage door frames shall be made of Steel C-type steel, enclosing the exterior wall (or interior wall according to the installation) on 3 sides and fixed to the structure. The steel shall be galvanized and painted as described in Section 05 50 00.

.3 This construction quote is applicable to the products of the Garaga Company. In the case of the use of another product, the general criteria must be met.

1.9 MAINTENANCE SHEETS

.1 Provide instructions for the proper operation and maintenance of electrical door hardware and door openers and attach them to the Operations and Maintenance Manual referred to in 01300.

1.10 QUALIFICATIONS

.1 Manufacturer of products to be registered to ISO-9001 (2000 version). The installation of the mentioned products must be carried out by a company having a minimum of 7 years experience for the specified product.

.2 Installation must be done by a company approved by the garage door manufacturer, using qualified and experienced persons for this type of work.

Part 2 Products

2.1 DESIGN CRITERIA

.1 Design exterior door assembly to withstand wind load of 1 kPa with a maximum horizontal deflection of 1/240 of opening width.

2.2 CALCULATION CRITERIA

.1 Doors and hardware and hardware must be designed to meet or exceed the Door & Access Systems Manufacturer Association in terms of load resistance to winds.

.2 Doors, rails and springs shall be designed to withstand "a maximum cycle of operations". Over their useful lives.

2.3 MATERIALS / MATERIALS

.1 White pre-painted tubular aluminum profiles, 1.6 mm (0.06 ") thick, with an over-thickness of 3.2 mm (0.13") at hinge mounting locations.

.2 Double sealed clear glass, total thickness of 22 mm (7/8 "), 3 mm (1/8") glasses fixed on aluminum extrusion. The glazing is fixed to the assembly of the aluminum profiles using moldings of P.C.V. Rigid staples.

.3 Double aluminum rings consisting of two 0.60 mm (0.02 ") aluminum sheets and 19 mm plywood, in accordance with the manufacturer's standard colors The panel is attached to the aluminum profile assembly Using rigid PVC moldings with staples.

2.4 DOORS

.1 Garage doors shall be G-5000, as manufactured by Garaga inc. The panels will consist of an assembly of aluminum tubulars secured with self-tapping screws with a catch. The tubulars should be at least 159 mm (6 ¬¼ ") at the perimeter of the door.

.2 Doors shall comply with the following dimensions and characteristics: (see drawings)

.3 Aluminum tubing assemblies shall be lined at the ends to provide a minimum support of 6 ¼ "(159 mm) at these locations. And more will be provided with horizontal reinforcements integrated to the aluminum profiles.

2.5 2.5 WATERPROOFING

.1 Underneath the bottom panel of each door, provide and install a continuous weatherstripping consisting of a U-shaped aluminum profile and a TPE (thermoplastic elastomer) semi-tubular rubber.

.2 Provide and install a weather stripping system consisting of an aluminum profile and an arctic vinyl double lip flap at the outside jambs and door lintel.

2.6 "TORSION SPRING" TYPE HARDWARE

.1 Guide rails:

.1 Rails shall be made of 76 mm (3 ") galvanized steel, 12 (2.6 mm (0.1")) gauge. The horizontal rail will be reinforced with a metal angle of 50 x 50 mm (2 "x 2"). Provide maximum opening. The horizontal rail will be as close as possible to the ceiling. Without harming equipment (to coordinate)

.2 Hardware:

.1 Hinges shall be made of galvanized steel of gauge 13. The wheels shall be industrial type 75 mm (3 ") and be fitted with 10 ball bearings.

.3 Reinforcements for large doors (if applicable)

.1 Doors with a width of 3759 mm (12'-4 ") or more shall be provided with horizontal reinforcements of galvanized steel 22 gauge, double hinge, gauge 13 at the ends.

.4 Movement Type

.1 The movement of the ironwork shall permit maximum available space under the door when it is in the open position. (See plans and sections)

.5 Torsion Springs

.1 The torsion spring system shall include all parts and accessories required for its installation. All doors weighing more than 454 kg (1000 lb.), including surface hardware, must be approved by a qualified professional when selecting hardware (drums, galvanized cables, springs, mounting plates, 25 mm solid shaft (1 ").

2.7 ADDITIONAL OPTIONS

.1 Rail Protectors

.1 Vertical rails shall be protected by non-galvanized protectors ("L", 1524 mm x 6.4 mm (5 'x 0.3 ") in order to avoid accidental breakage. 'installation.

.2 Springs and throwers

.1 For doors greater than 15 m2 (161 sq. Ft.), Regular and space-saving ironwork shall be equipped with springs at the end of the horizontal rails to prevent loosening of the lifting cables.

.3 Precision Bearings

.1 End supports shall be fitted with precision bearings for all doors weighing more than 300 kg (660 lb). "Football" center supports will also be installed for doors exceeding this weight.

.4 Tensors

5563 mm (18'-3 ") wide and more doors shall be fitted with a steel cable tensor attached to the ends of the top panel and supported at the center by a support the height of which is adjusted according to Width of the door This tensor must be installed according to Garaga inc.

2.8 SECONDARY SHAFT ELECTRIC DOOR OPENER ("JACKSHAFT")

.1 Electrical door openers shall be of the "Jackshaft" type and shall be equipped with an integrated chain hoist system and a door opener disconnecting device for manual operation in case Of electrical failure.

.2 Electric motors, control devices, relays and electrical equipment of the opener shall be certified to U.L. And C.S.A.

.3 Electric power shall be 110 volts, 1 phase and 60 Hz. The model and power of the door openers shall be as follows: ½ HP motor

.4 The door opener shall be equipped with a self-locking mechanical brake, an engine reverser and a thermal overload protection device. The electrical control circuit will be 24 volts.

.5 The operating speed of the door shall be 200 to 230 mm / sec (7.9 to 11 in / sec).

.6 The door opener control station will be of the push-button type "open / close / close" and will be installed protruding inside the building, as well as by remote control. (Provide 4 remotes).

.7 A photoelectric safety device shall be added to each door opener in order to stop and reverse the door if an object blocks the light beam.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of the architect.

.2 Inform the architect 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 the architect.

3.2 INSTALLATION

.1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

.2 Install doors and hardware in accordance with manufacturer's instructions.

.3 Rigidly support rail and operator and secure to supporting structure.

.4 Touch-up steel doors with primer where galvanized finish damaged during fabrication.

.5 Install operator including electrical motors, controller units, pushbutton stations, relays and other electrical equipment required for door operation.

.6 Lubricate and adjust door operating components to ensure smooth opening and closing of doors.

.7 Adjust weatherstripping to form a weather tight seal.

.8 Adjust doors for smooth operation.

3.3 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

.1 Remove traces of primer; clean doors and frames.

.2 Clean glass and glazing materials with approved non-abrasive cleaner.

3.4 PROTECTION

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

.2 Repair damage to adjacent materials caused by sectional metal door installation.

END OF SECTION

DOOR HARDWARE

Section 08 71 00

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 – Submittal procedures

.2 Section 08 11 00 – Metal doors and frames

1.2 REFERENCE STANDARDS

.1 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)

.1 ANSI/BHMA A156.1-2000, American National Standard for Butts and Hinges.

.2 ANSI/BHMA A156.2-2003, Bored and Preassembled Locks and Latches.

.3 ANSI/BHMA A156.3-2001, Exit Devices.

.4 ANSI/BHMA A156.4-2000, Door Controls - Closers.

.5 ANSI/BHMA A156.5-2001, Auxiliary Locks and Associated Products.

.6 ANSI/BHMA A156.6-2005, Architectural Door Trim.

.7 ANSI/BHMA A156.8-2005, Door Controls - Overhead Stops and Holders.

.8 ANSI/BHMA A156.10-1999, Power Operated Pedestrian Doors.

.9 ANSI/BHMA A156.12-2005, Interconnected Locks and Latches.

.10 ANSI/BHMA A156.13-2002, Mortise Locks and Latches Series 1000.

.11 ANSI/BHMA A156.14-2002, Sliding and Folding Door Hardware.

.12 ANSI/BHMA A156.15-2006, Release Devices - Closer Holder, Electromagnetic and Electromechanical.

.13 ANSI/BHMA A156.16-2002, Auxiliary Hardware.

.14 ANSI/BHMA A156.17-2004, Self-closing Hinges and Pivots.

.15 ANSI/BHMA A156.18-2006, Materials and Finishes.

.16 ANSI/BHMA A156.19-2002, Power Assist and Low Energy Power - Operated Doors.

.17 ANSI/BHMA A156.20-2006, Strap and Tee Hinges and Hasps.

.2 Canadian Steel Door and Frame Manufacturers' Association (CSDMA)

.1 CSDMA Recommended Dimensional Standards for Commercial Steel Doors and Frames - 2009.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for [door hardware]and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Samples:

.1 Submit for review and acceptance of each unit.

.2 Samples will be returned for inclusion into work.

.3 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.

.4 After approval samples, will be returned for incorporation in Work.

.4 Hardware List:

.1 Submit contract hardware list.

.2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.

.5 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

.6 Manufacturer's Instructions: submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

.1 Regulatory Requirements:

.1 Hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.

1.5 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Package items of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

.4 Storage and Handling Requirements:

.1 Store materials off ground, indoors and in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect door hardware from nicks, scratches, and blemishes.

.3 Protect prefinished surfaces with strippable coating.

.4 Replace defective or damaged materials with new.

Part 2 Products

2.1 HARDWARE ITEMS

.1 Use one manufacturer's products only for similar items.

2.2 DOOR HARDWARE

.1 See architectural plans.

2.3 FASTENINGS

.1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.

.2 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

.3 Exposed fastening devices to match finish of hardware.

.4 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.

.5 Use fasteners compatible with material through which they pass.

2.4 KEYING

.1 Locks and locks for cabinets and doors must be ordered according to the detailed list of keys in collaboration with the architect and the customer.

.2 Supply two (2) keys for every lock in this Contract.

.3 Supply three (3) master keys for each master key or grand master key group.

.4 Stamp keying code numbers on keys and cylinders.

.5 Supply construction cores.

Part 3 Execution

3.1 INSTALLATION

.1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

.2 Supply metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.

.3 Supply manufacturers' instructions for proper installation of each hardware component.

.4 Install hardware to standard hardware location dimensions in accordance with CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction).

.5 Where door stop contacts door pulls, mount stop to strike bottom of pull.

.6 Install key control cabinet.

.7 Use only manufacturer's supplied fasteners.

.1 Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.

.8 Remove construction cores prior final inspection.

.1 Install permanent cores and ensure locks operate correctly.

3.2 ADJUSTING

.1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.

.2 Lubricate hardware, operating equipment and other moving parts.

.3 Adjust door hardware to ensure tight fit at contact points with frames.

3.3 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacturer's instructions.

.3 Remove protective material from hardware items where present.

.4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

3.4 DEMONSTRATION

.1 Keying System Setup and Cabinet:

.1 Set up key control system with file key tags, duplicate key tags, numerical index, alphabetical index and key change index, label shields, control book and key receipt cards.

.2 Place file keys and duplicate keys in key cabinet on their respective hooks.

.3 Lock key cabinet and turn over key to customer upon delivery of the building.

.2 Maintenance Staff Briefing:

.1 Brief maintenance staff regarding:

.1 Proper care, cleaning, and general maintenance of projects complete hardware.

.2 Description, use, handling, and storage of keys.

.3 Use, application and storage of wrenches for and fire exit hardware, locksets, door closers.

.3 Demonstrate operation, operating components, adjustment features, and lubrication requirements.

3.5 PROTECTION

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

.2 Repair damage to adjacent materials caused by door hardware installation.

END OF SECTION

G L A Z I N G
Section 08 80 50

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

.2 Section 08 11 00 – Metal doors and frames

1.2 REFERENCE STANDARDS

.1 ASTM International

.1 ASTM C542-05, Standard Specification for Lock-Strip Gaskets.

.2 ASTM D790-07e1, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

.3 ASTM D1003-07e1, Standard Test Method for Haze and Luminous Transmittance of Plastics.

.4 ASTM D1929-96(R2001)e1, Standard Test Method for Determining Ignition Temperature of Plastics.

.5 ASTM D2240-05, Standard Test Method for Rubber Property - Durometer Hardness.

.6 ASTM E84-10, Standard Test Method for Surface Burning Characteristics of Building Materials.

.7 ASTM E330-02, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

.8 ASTM F1233-08, Standard Test Method for Security Glazing Materials and Systems.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.

.2 CAN/CGSB-12.2-M91, Flat, Clear Sheet Glass.

.3 CAN/CGSB-12.3-M91, Flat, Clear Float Glass.

.4 CAN/CGSB-12.4-M91, Heat Absorbing Glass.

.5 CAN/CGSB-12.6-M91, Transparent (One-Way) Mirrors.

.6 CAN/CGSB-12.8-97, Insulating Glass Units.

.7 CAN/CGSB-12.8-97(Amendment), Insulating Glass Units.

.8 CAN/CGSB-12.9-M91, Spandrel Glass.

.9 CAN/CGSB-12.10-M76, Glass, Light and Heat Reflecting.

.10 CAN/CGSB-12.11-M90, Wired Safety Glass.

.11 CAN/CGSB-12.12-M90, Plastic Safety Glazing Sheets.

.12 CAN/CGSB-12.13-M91, Patterned Glass.

.3 Environmental Choice Program (ECP)

.1 CCD-045-95(R2005), Sealants and Caulking Compounds.

.4 Glass Association of North American (GANA)

.1 GANA Glazing Manual - 2008.

.2 GANA Laminated Glazing Reference Manual - 2009.

.5 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

.1 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for [glass, sealants, and glazing accessories]and include product characteristics, performance criteria, physical size, finish and limitations.

1.4 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 78 00- Closeout Submittals.

.2 Operation and Maintenance Data: submit operation and maintenance data for glazing for incorporation into manual.

1.5 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials indoors, off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect glazing and frames from nicks, scratches, and blemishes.

.3 Protect prefinished aluminum surfaces with strippable wrapping.

.4 Replace defective or damaged materials with new.

1.6 AMBIENT CONDITIONS

.1 Ambient Requirements:

.1 Install glazing when ambient temperature is 10 degrees C minimum. Maintain ventilated environment for 24 hours after application.

.2 Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

Part 2 Products

2.1 MATERIALS

.1 Design Criteria:

.1 Ensure continuity of building enclosure vapour and air barrier using glass and glazing materials as follow:

.1 Utilize inner light of multiple light sealed units for continuity of air and vapour seal.

.2 Size glass to withstand wind loads, dead loads and positive and negative live loads acting normal to plane of glass to design pressure.

.3 Limit glass deflection to 1/200, flexural limit of glass with full recovery of glazing materials.

.2 Insulating Glass Units:

.1 Insulating glass units: to CAN/CGSB-12.8, double unit, 6 mm.

.1 Glass: according to current standards.

.2 Glass thickness: 6 mm inner light and 6 mm outer light.

.3 Inter-cavity space thickness: 6 mm between middle and outer lights with low conductivity spacers.

.4 Glass coating: low "E ".

.3 Sealant: in accordance with Section 07 92 00- Joint Sealants.

.1 VOC limit 250 g/L maximum

2.2 ACCESSORIES

.1 Setting blocks: neoprene, Shore A durometer hardness to ASTM D2240, to suit glazing method, glass light weight and area, minimum 100 mm x width of glazing rabbet space minus 1.5 mm x height, length of 25 mm for each square metre of glazing.

.2 Glazing tape:

.1 Preformed butyl compound with integral resilient tube spacing device, 10-15, Shore A durometer hardness to ASTM D2240; coiled on release paper.

.3 Glazing splines: resilient polyvinyl chloride, extruded shape to suit glazing channel retaining slot, black color.

.4 Glazing clips: manufacturer's standard type.

.5 Lock-strip gaskets: to ASTM C542.

Part 3 Execution

3.1 EXAMINATION

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

.1 Verify that openings for glazing are correctly sized and within tolerance.

.2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

.3 Visually inspect substrate in presence of the architect.

.4 Inform the architect of unacceptable conditions immediately upon discovery.

.5 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from the architect.

3.2 PREPARATION

.1 Clean contact surfaces with solvent and wipe dry.

.2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.

.3 Prime surfaces scheduled to receive sealant.

3.3 INSTALLATION: EXTERIOR - WET METHOD (SEALANT AND SEALANT)

.1 Perform work in accordance with GANA Glazing Manual, GANA Laminated Glazing Reference Manual for glazing installation methods.

.2 Place setting blocks at 1/3 points and install glazing light or unit.

.3 Install removable stops with glazing centred in space by inserting spacer shims both sides at 600 mm intervals, 6 mm below sight line.

.4 Fill gaps between glazing and stops with sealant to depth of bite on glazing, maximum 9 mm below sight line to ensure full contact with glazing and continue air and vapour seal.

.5 Apply sealant to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.4 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.1 Remove traces of primer, caulking.

.2 Remove glazing materials from finish surfaces.

.3 Remove labels.

.4 Clean glass using approved non-abrasive cleaner in accordance with manufacturer's instructions.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

3.5 PROTECTION

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

.2 After installation, mark each light with an "X" by using removable plastic tape or paste.

.1 Do not mark heat absorbing or reflective glass units.

.3 Repair damage to adjacent materials caused by glazing installation.

END OF SECTION

PARTITIONS FOR MINOR WORKS

Section 09 21 99

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

.2 All technical sections

1.2 REFERENCE STANDARDS

.1 ASTM International

.1 ASTM C1396/C1396M-09a, Standard Specification for Gypsum Wallboard.

.2 ASTM C475/C475M-02(2007), Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.

.3 ASTM C514-[à04(2009)e1, Standard Specification for Nails for the Application of Gypsum Board.

.4 ASTM C645-09a, Standard Specification for Nonstructural Steel Framing Members.

.5 ASTM C754-09a, Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

.6 ASTM C840-08, Standard Specification for Application and Finishing of Gypsum Board.

.7 ASTM C954-10, Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.122 in. (2.84 mm) in Thickness.

.8 ASTM C1002-07, Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.

.9 ASTM C1047-10, Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.

.10 ASTM C1178/C1178M-08, Standard Specification for Glass Mat Water-Resistant Gypsum Backing Board.

.2 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

.1 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

.3 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULC-S102-07, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for [gypsum, framing, sealants]and include product characteristics, performance criteria, physical size, finish and limitations.

1.4 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials so that they do not rest on the ground in a clean, dry well-ventilated area, as recommended by the manufacturer.

.2 Store materials inside, level, under cover. Protect from weather, damage from construction operations and other causes, in accordance with manufacturer's printed instructions.

.3 Handle materials to prevent damage to edges or surfaces. Protect metal accessories and trim from being bent or damaged.

.4 Store and protect [partition materials]from [nicks, scratches, and blemishes].

.5 Replace defective or damaged materials with new.

Part 2 Products

2.1 MATERIALS

.1 Performance / Design Criteria:

.2 Non-structural Metal Framing:

.1 Non-load bearing metal structure composed of metal profiles: see ingineer.

.2 Top and bottom beams: conform to ASTM C645, width appropriate to post size and 32 high wings.

.3 Metal channel stiffener: 19 mm x 1.4 mm thick, cold rolled steel, coated with rust inhibitive coating (anti-corrosive paint).

2.2 ACCESSORIES

.1 Sealants: in accordance with Section 07 92 00- Joint Sealants.

.2 Insulating strip: rubberized, water-repellent, closed-cell neoprene, 3 mm thick, 12 mm wide, one side of which is coated with a permanent self-adhesive on one face, lengths as required.

Part 3 Execution

3.1 EXAMINATION

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

.1 Visually inspect substrate in presence of the architect.

.2 Inform the architect 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 the architect.

3.2 ERECTION OF FRAMING

.1 Install steel framing members to receive screw-attached gypsum board in accordance with ASTM C754 except where specified otherwise.

.2 Align partition tracks at floor and ceiling and secure at 600 mm on centre maximum.

.3 Place studs vertically at 400 mm on centre and maximum of 50 mm from abutting walls, and at each side of openings and corners. Position studs in tracks at floor and ceiling. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.

.4 Erect metal studding to tolerance of 1:1000.

.5 Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.

.6 Include two studs extending from floor to ceiling at each side of openings wider than stud centres specified. Secure studs together, 50 mm apart using column clips or other approved means of fastening placed alongside frame anchor clips.

.7 Install heavy gauge single jamb studs at openings.

.8 Erect track at head of door/window openings and sills of sidelight/window openings to accommodate intermediate studs. Secure track to studs at each end, in accordance with manufacturer's instructions. Install intermediate studs above and below openings in same manner and spacing as wall studs.

.9 Include 40 mm stud or furring channel secured between studs for attachment of fixtures behind lavatory basins, toilet and bathroom accessories, and other fixtures including grab bars and towel rails, attached to steel stud partitions.

.10 Install steel studs or furring channel between studs for attaching electrical and other boxes.

.11 Extend partitions to ceiling height except where indicated.

.12 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs. Use double track slip joint.

.13 Install continuous insulating strips to isolate studs from uninsulated surfaces.

.14 Install insulating strip under studs and tracks around perimeter of sound control partitions.

3.3 INSTALLATION

.1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges. Secure using contact adhesive for full length, at 150 mm on centre.

.2 Install casing beads around perimeter of suspended ceilings.

.3 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated. Seal joints with sealant.

.4 Install insulating strips continuously at edges of gypsum board and casing beads abutting metal window and exterior door frames, to provide thermal break.

.5 Install access doors to electrical and mechanical fixtures specified in respective sections.

.1 Rigidly secure frames to furring or framing systems.

.6 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.

.7 Finish corner beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.

.8 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.

.9 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.

3.4 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

3.5 PROTECTION

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

.2 Repair damage to adjacent materials caused by partition installation.

END OF SECTION

PAINTING FOR MINOR WORKS

Section 09 91 99

Part 1 General

1.1 RELATED REQUIREMENTS

.1 All administrative sections

.2 Section 05 50 00 – Metal fabrications

.3 Section 05 51 29 – Metal stairs and ladders

.4 Section 08 11 00 – Metal doors and frames

.5 Section 09 21 99 – Partitions

1.2 GENERAL TERMS AND CONDITIONS

.1 The general terms and conditions of the project are an integral part of the contract and the painter must carefully read all the terms and conditions.

.2 The Contractor undertakes to protect the owner or architect from any recourse or right of retention by maintaining adequate insurance against accidents and damage caused by or arising from the performance of the work.

1.3 REFERENCE STANDARDS

.1 Green Seal Environmental Standards (GS)

.1 GS-11-2008, 2nd Edition, Paints and Coatings.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.3 The Master Painters Institute (MPI)

.1 Architectural Painting Specification Manual - [current edition].

.2 Maintenance Repainting Manual - [current edition].

.4 National Research Council Canada (NRC)

.1 National Building Code of Canada 2015 (NBC).

.5 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

.1 SCAQMD Rule 1113-A2007, Architectural Coatings.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for [paint and coating products]and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Samples:

.1 Submit for review and acceptance of each unit.

.2 Samples will be returned for inclusion into work.

.4 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Provide and maintain dry, temperature controlled, secure storage.

.2 Store painting materials and supplies away from heat generating devices.

.3 Store materials and equipment in well ventilated area within temperature as recommended by manufacturer.

.4 Fire Safety Requirements:

.1 Provide one (1) chemical fire extinguisher and place near the storage area.

.2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.

.3 Handle, store, use and dispose of flammable and combustible materials in accordance with National Fire Code of Canada (NFC) requirements.

1.6 WORK'S EXTENT

.1 The specification includes the execution of all painting, dyeing, varnishing and other interior and exterior surface finishes, as indicated in drawings, finish tables or specifications of this specification. It shall include and describe all labor, materials, equipment, tools, fittings, transportation and maintenance required for the completion of the work in accordance with plans and specifications

.2 Copper, aluminum, bronze, stainless steel, brass and nickel will not be painted unless otherwise indicated; The same applies to doors, partitions, frames, guards or other finished articles at the factory. Vinyl, rubber or asphalt flooring will not be painted.

1.7 QUALITY ASSURANCE

.1 Qualifications:

.1 Contractor: to have a minimum of 5 years proven satisfactory experience. When requested, provide list of last 3 comparable jobs including, job name and location, specifying authority, and project manager.

.2 Qualified journey persons as defined by local jurisdiction to be engaged in painting work.

.3 Apprentices: may be employed provided they work under direct supervision of qualified journeyperson in accordance with trade regulations.

.4 Conform to latest MPI requirements for exterior painting work including preparation and priming.

.5 Materials: in accordance with MPI Painting Specification Manual "Approved Product" listing and from a single manufacturer for each system used.

.6 Retain purchase orders, invoices and documents to prove conformance with noted MPI requirements when requested by the architect.

.7 Standard of Acceptance:

.1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.

.2 Soffits: no defects visible from floor at 45 degrees to surface when viewed using final lighting source.

.3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

1.8 STORAGE AND INSPECTION

.1 Materials should be delivered to the site early enough and in sufficient quantity to avoid delays in the work schedule.

.2 The materials will be subject to inspection at all times and the architect reserves the right to have them analyzed. If they are found to be different from the requirements of this specification, they shall promptly be transported off site and replaced with the specified materials at no cost to the owner.

.3 The owner or the architect shall assign to the premises a suitable room or shed for the storage of paints and tools. 10 ° C (50 ° F) - max. 26 ° C (80 ° F). The Contractor must keep the premises locked, maintain it in good condition and avoid any risk of fire.

1.9 SURFACE INSPECTION

.1 The paint contractor shall not commence the application of the paints until they have inspected the surfaces concerned and have accepted them as suitable for the execution of the work. When the surfaces are deemed unacceptable for the execution of the painting work according to the usual methods of preparation, the contractor must notify the architect or the general contractor in writing.

.2 The beginning of the finishing work will imply an unreserved acceptance of the surfaces concerned and the contractor will then be held responsible for the condition of the finish if it is not of first quality.

1.10 WARRANTY

.1 Appearance of finishes shall satisfy the architect and any unapproved work shall be resumed immediately upon notification. The painter may not be held liable for damage caused by other trades. The Architect may require a written warranty that any defect that may occur within one year of the date of completion will be repaired to the satisfaction of the Architect.

.2 Akzo Nobel Canada Inc. warrants the performance of its products for the intended purpose if applied as specified on the label and in the specifications of the technical leaflet. Having no control over the methods and conditions of application or the circumstances of use, no other form of warranty, express or implied, legal or otherwise, is given. We will not be liable for indirect, special or consequential damages.

1.11 REQUIREMENTS RELATING TO INSPECTION

.1 The surfaces to be painted must be inspected before the paintwork begins after the application of a printing layer which has revealed defects in the substrate, the inspection of the painting work, the repair of the paintwork, before applying the subsequent layers

1.12 WORK SCHEDULE

.1 Submit timetable for various stages of painting.

1.13 SAMPLES

.1 Submit required samples in accordance with section.

.2 Provide two 200 mm x 300 mm sample panels of each prescribed paint of each color, texture and degree of gloss or gloss required in accordance with MPI Architectural Painting Specification Manual, using the following support materials:

.1 Use a 3 mm thick steel plate for products applied to a metal substrate.

.2 Use 13 mm thick birch plywood board for wood products.

.3 Use 13 mm thick gypsum board for plasterboard and other smooth surfaces.

.4 Use 10 mm thick plywood board for wood products.

.3 Once accepted, samples shall be the standard for quality of work for the relevant surface coated surfaces. One of the two samples submitted for each type of product will be kept on site.

.4 Submit samples of all available colors when color range is limited.

1.14 SUPPLEMENTARY MATERIALS

.1 Provide required maintenance / replacement materials / materials in accordance with section to be completed upon completion of work.

.2 Submit a four liter container of each type and color of finish paint. Identify the color and type of paint according to the list of colors and paint system specified.

.3 Deliver maintenance / replacement equipment to Contractor and store in appropriate location.

1.15 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle paint products and maintenance / spare parts in accordance with General Product Requirements.

.2 Deliver and store paint products and maintenance / replacement materials in original, sealed containers with intact labels.

.3 Labels shall clearly indicate:

.1 the name and address of the manufacturer;

.2 the type of paint or coating;

.3 compliance with relevant standards or requirements;

.4 the color number, according to the list of colors specified.

.4 Remove damaged, open or refused products and equipment from site.

.5 Provide safe, dry and controlled storage area and maintain properly.

.6 Observe manufacturer's warehouse and handling recommendations.

.7 Store products and equipment away from heat sources.

.8 Store products and equipment in a well-ventilated area with temperatures between 7 ^{0}C and 30 ^{0}C.

.9 Keep the areas used for storage, cleaning and preparation clean and tidy. Once the operations have been completed, return these areas to their original condition, to the satisfaction of the owner of the work.

.10 Remove from storage area only quantities of products to be used on the same day.

.11 Fire Safety Requirements

.1 Provide portable fire extinguisher in accordance with fire service requirements and place near the storage area.

.2 Place oily rags, waste, empty containers and spontaneously combustible materials in sealed ULC-approved containers and remove these containers from the work site daily. Handle, store, use and dispose of flammable and combustible products and materials in accordance with the requirements of the National Fire Code of Canada.

1.16 CONDITIONS OF IMPLEMENTATION

.1 Ventilate enclosed spaces in accordance with manufacturer's recommendations.

.1 Before commencing painting work, ensure that adequate and continuous ventilation can be provided on the one hand and that suitable heating systems can be used to raise the ambient and ambient air temperatures. Subjected to more than 10 ° C at least 24 hours prior to commencement of work, and to maintain these temperatures during execution and for the same number of hours after completion.

.2 Provide continuous ventilation, if required, within 7 days of completion of work.

.3 Coordinate the use of the existing ventilation system with the Engineer and, if necessary, make arrangements for its operation during and after the completion of the work.

.4 Provide and temporarily install necessary heating and ventilation equipment if permanent systems can not be used; If the building's permanent systems fail to meet the minimum requirements, provide and install additional equipment required to meet the minimum requirements.

.5 Before commencing painting work, check that the level of illumination of the surfaces to be painted is at least 323 lux. Appropriate lighting fixtures or systems shall be provided by the General Contractor.

.2 Ambient temperature, relative humidity and moisture content of the substrate

.1 Unless specifically authorized in advance by the contracting authority responsible for the specification, by the paint inspection agency and by the manufacturer of the applied product, do not proceed with painting work in the presence of The following conditions:

.1 ambient and substrate temperatures are less than 10 ° C for indoor and outdoor paints;

.2 the temperature of the substrate is greater than 32 ° C unless the paint formulation to be applied requires a high temperature during processing;

.3 ambient air and substrate temperatures should fall below the MPI or the paint manufacturer's recommended range;

.4 the relative humidity is greater than 85% or the dew point corresponds to a difference of less than 30 ° C between the temperature of the air and that of the substrate;

.5 snow or rain is expected before the paint has had time to harden completely; Conditions of fog, drizzle, rain or snow are noted on the site.

.2 Do not paint if maximum moisture content of substrate is greater than:

.1 12% for concrete and masonry (bricks and concrete / clay blocks);

.2 15% for wood;

.3 12% for plasterboard and plaster.

.3 Using a properly calibrated electronic humidimeter, perform tests to determine the moisture content of the substrates, except for concrete floors where the moisture content is to be assessed by simple "control Of the covering power over the reference surface ".

.4 Conduct testing on plaster, concrete and masonry surfaces to determine their alkalinity.

.3 Surface Condition and Implementation Conditions

.1 Painting only in areas where ambient air is free of airborne dust generated by construction work or wind - blown dust or ventilation system and, as a result, Alter the finished surfaces.

.2 Paint only on properly prepared surfaces with a moisture content within the range specified in this section.

.3 Apply paint only when the previous coat is dry or sufficiently hardened.

.4 Additional Requirements for Painting Interior Surfaces

.1 Apply paint products only when local temperature can be maintained within the range recommended by the manufacturer of the products used.

.5 Additional Painting Requirements for Exterior Surfaces

.1 Apply paint products only when weather conditions for the entire application period are in accordance with the manufacturer's recommendations for the products used.

.2 Do not apply paint under the following conditions:

.1 the ambient temperature is lowered below 10 ° C before complete curing of the paint;

.2 lower ambient air and substrate temperatures are expected to be below the MPI or paint manufacturer recommended limit; The surfaces to be painted are wet, wet or frosted.

.3 Provide shelter when paint is applied in cold or humid weather, and maintain as appropriate. Heat substrates and ambient air to meet the temperature and humidity conditions recommended by the manufacturer. Protect the surfaces until the paint is dry or the weather conditions are adequate.

.4 Arrange work so that painting of surfaces exposed to direct sunlight is completed early in the morning.

.5 Remove paint from areas that have been exposed to frost, excessive moisture, rain, snow or condensation. Prepare these surfaces again and resume painting work.

.6 The approved timetable for the painting of occupied premises shall be thoroughly respected and adequate drying and curing time shall be provided before occupants are re-entered.

Part 2 Products

2.1 MATERIALS

.1 All materials required for painting shall be of the highest quality and conform to specified standards. All paints must be delivered in sealed containers bearing the manufacturer's original and undamaged label. All necessary and unspecified materials must be of recognized design and must be approved by the architect.

.2 Each product used inside the building, at the site, must be approved beforehand by technical form proving the certifications determined in the previous point.

.3 Supply paint materials for paint systems from single manufacturer.

.4 Paints, coatings, adhesives, solvents, cleaning agents, lubricants and other products used must have the following characteristics:

.1 water-based, water-soluble, water-washable products;

.2 non-flammable products;

.3 products manufactured without any compounds contributing to the depletion of ozone in the upper atmosphere [products manufactured without any compound that promotes smog formation in the lower atmosphere;

.4 products containing no methylene chlorides, chlorinated hydrocarbons, toxic metal pigments;

.5 Water-based coating products must be manufactured and transported in such a way that all stages of the process, including the disposal of waste generated during the work, comply with the requirements of the Acts, Orders and Regulations Including, in the case of facilities located in Canada, the Fisheries Act and the Canadian Environmental Protection Act (CEPA).

.6 Water-based coating materials shall not contain aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or any of their compounds.

.7 New or recycled waterborne coatings must have a flash point of 61.0^{0}C or more.

.8 New and recycled waterborne coating products must be manufactured in a process that does not result in any discharge from the mill's undiluted effluent:

.1 substances capable of generating biochemical oxygen demand (BOD) greater than 15 mg / L in a natural watercourse or in a sewage treatment plant where no secondary treatment is provided;

.2 substances carrying total suspended solids (TSS) greater than 15 mg / L in a natural watercourse or wastewater treatment plant where no secondary treatment is provided.

2.2 COLOURS

.1 The architect will provide the list of colors after awarding of the contract.

.2 Colour schedule will be based upon selection of 5 base colors and 3 accent colours. No more than 8 colors will be selected for entire project and no more than 3 colors will be selected in each area.

.3 Selection of colours will be from manufacturers full range of colours.

.4 Where specific products are available in restricted range of colours, selection based on limited range.

.5 Second coat in three coat system to be tinted slightly lighter colour than top coat to show visible difference between coats, if requested by the architect.

.6 For deep and ultra deep colours; 4 coats may be required.

2.3 MIXING AND TINTING

.1 Perform colour tinting operations prior to delivery of paint to site. This operation cannot be done on site.

.2 Before et during application, thoroughly shake the paint in its container to remove the agglutinated material, to ensure complete dispersion of the deposited pigments, and to preserve uniformity in the color and gloss of the applied paint.

2.4 GLOSS/SHEEN RATINGS

.1 Paint gloss is defined as sheen rating of applied paint, in accordance with following values:

Gloss Level	Gloss @ 60 degrees	Sheen @ 85 degrees
Gloss Level 1 - Matte Finish (flat)	Max. 5	Max. 10
Gloss Level 2 - Velvet-Like Finish	Max.10	10 to 35
Gloss Level 3 - Eggshell Finish	10 to 25	10 to 35
Gloss Level 4 - Satin-Like Finish	20 to 35	min. 35
Gloss Level 5 - Traditional Semi-Gloss Finish	35 to 70	
Gloss Level 6 - Traditional Gloss	70 to 85	
Gloss Level 7 - High Gloss Finish	More than 85	

.2 Gloss levels of painted surfaces shall comply with requirements.

.3 The following finishes shall be used for the project:

.1 Ceiling: use matte finish (G1)

.2 Walls, doors and frames: use satin finish pearl finish (G4).

2.5 PREPARATION OF SURFACES

.1 Canadian Standard CAN / CGSB 85.100 is the reference for all major works. The application of the paints shall not commence until the surfaces to be painted have been properly prepared. All surfaces should be firm, dry, clean, free from dust, grease, oil, rust, chipped paint or any contaminants that could impair the adhesion and appearance of paint layers.

.2 Surfaces that are latex painted and in good condition ordinarily do not require a primer, but should be sanded with abrasive paper if they are shiny.

Part 3 Execution

3.1 COMPLIANCE

.1 Manufacturer's instructions: Comply with manufacturer's written recommendations, including any technical bulletins available, instructions for handling, storing and operating the products, and specifications in the technical data sheets.

3.2 GENERAL

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.

.2 Perform preparation and operations for interior painting in accordance with MPI - Maintenance Repainting Manual, MPI - Architectural Painting Specifications Manual, except where specified otherwise.

3.3 PREPARATION

.1 Protection of in-place conditions:

.1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore surfaces as directed by the architect.

.2 Protect items that are permanently attached such as Fire Labels on doors and frames.

.3 Protect factory finished products and equipment.

.2 Surface Preparation:

.1 Remove electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Identify and store items in secure location and re-installed after painting is completed.

.2 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.

.3 Place "WET PAINT" signs in occupied areas as painting operations progress. Signs to approval of the architect.

.4 Clean and prepare surfaces in accordance with MPI - Architectural Painting Specification Manual, MPI - Maintenance Repainting Manual specific requirements and coating manufacturer's recommendations.

.5 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.

.6 Where possible, prime non-exposed surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.

.1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.

.2 Apply wood filler to nail holes and cracks.

.3 Tint filler to match stains for stained woodwork.

.7 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.

.8 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements.

.9 Touch up of shop primers with primer as specified.

3.4 APPLICATION

.1 The application method used must be approved by the architect. Apply paint with brush or roller. Unless otherwise indicated, apply the product according to the manufacturer's instructions. No application to the rifle will be tolerated for the topcoat. The first layers of paint must be sanded. No rough paint will be tolerated; The architect reserves the right to resume painting work if the requirements are not respected.

.2 Use method of application approved by the architect.

.1 Apply a uniform coat of paint with a brush, brush and / or roller of the appropriate type.

.2 Penetrate paint into cracks, crevices and corners.

.3 Remove scallops and brushes with brush, brush or roller, and re-apply to marks so left. Roller-painted surfaces must be free of roll marks and excess paint unless approved by the architect. Remove scallops, runs and brush or brush marks on finished surfaces, and resume these surfaces.

.3 Use a tampon or sheepskin, or dip only if there are no other means of painting hard to reach surfaces and, subject to express permission, architect.

.4 Apply each coat of paint to obtain a continuous film of uniform thickness. Resume bare or overcoated surfaces before applying the next coat.

.5 Allow surfaces to dry and cure properly after cleaning and between successive layers, pending the minimum time recommended by the manufacturer.

.6 Sand and dust between coats to remove visible defects.

.7 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.

.8 Finish inside of cupboards and cabinets as specified for outside surfaces.

.9 Finish closets and alcoves as specified for adjoining rooms.

.10 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.5 PERFORMANCE OF THE WORK

.1 All work must be performed with care by a skilled workforce. The paints must be applied in strict accordance with the manufacturer's instructions and instructions. The same paint brand should be used for all layers.

.2 Caution: Treatments such as dry sanding, welding, burning etc. Paint films can generate dangerous dust and / or fumes. Wet sanding / sanding should be used if possible. Wear appropriate personal protective equipment (respiratory) if exposure can not be prevented by local exhaust ventilation.

.3 All appliances, finishing hardware, door and drawer handles, etc., must be carefully removed and stored prior to paint application. And replace them at the end of the work. All adjacent walls should be carefully protected from splashing, sagging, stains and other damage from finishing work.

.4 When applying paints, any surface that is not to be painted shall be well protected with masking tape, canvas or otherwise.

.5 All paints shall be thoroughly stirred to a uniform consistency and no residue left on the bottom of the containers. If dilution is recommended, no diluent other than the one recommended by the manufacturer should be used.

.6 Any varnish, paint, dye or other finish shall be applied uniformly, without dripping, streaking, overshooting, brush marks or other defects so as to obtain the specified texture, finish and color.

.7 No coat of paint should be applied until the previous coat is thoroughly dry and hard. Primers, undercoats and intermediate layers should be lightly sanded prior to application of topcoats.

.8 Wood panels should be primed before installation. The top and bottom of all hinged or sliding doors and panels will require at least one coat of paint.

.9 Cabinet interior will receive the specified finish for woodwork. Paint finishes should be applied to doors, windows, cabinets and other joinery only after they have been adjusted when ready for use.

3.6 ON-SITE QUALITY CONTROL

.1 On-site inspection of paint work shall be carried out by the architect.

.2 Inform architect when surface and product applied to site are ready to be inspected. Do not apply the next coat before the previous coat has been approved.

3.7 PROTECTION

.1 Protect building surfaces and neighboring structures that are not to be painted against speckles, marks and other damage using blank covers or non-dirty covers. If the surfaces in question are damaged, clean them and restore them according to the architect's instructions.

.2 Protect permanently affixed items, such as fire rating labels on doors and frames.

.3 Protect factory-coated equipment and components from finishing product.

.4 Provide protection for building occupants and the general public in or near the building.

.5 Prior to commencing painting, remove light fixtures, cover plates from electrical devices, visible door hardware, bathroom fixtures, and all other surface mounted fixtures and materials . Store these items properly in a safe place and reinstall them once the paint job is completed.

.6 Cover or move furniture and transportable equipment as required to facilitate painting. Submit these items and equipment as the work progresses.

.7 As work progresses, place "FRESH PAINT" signs in the occupied areas of the building.

3.8 TEMPERATURE

.1 Apply and dry paint at a suitable temperature. Inside, an ambient temperature of at least 10 ° C (50 ° F) should be maintained and adequate ventilation should be provided. No exterior paint work will be done at temperatures below 10 ° C (50 ° F) and above 90 ° F (32 ° C) or wet weather.

3.9 FINISHING SYSTEM

.1 A quality finish for work on unpainted surfaces requires a minimum of three coats: one coat of primer and two coats of finish, excluding preparation or treatment of surfaces when required.

3.10 CLEANING AND PREPARATION

.1 Clean and prepare all surfaces in accordance with MPI Architectural Painting Specification Manual. Refer to this document for specific requirements that will be added to the instructions below.

.1 Remove dust, dirt, and other foreign matter by wiping surfaces with clean, dry rags and vacuuming or sweeping with a jet of compressed air.

.2 Wash surfaces with biodegradable detergent (with bleach, if necessary) and clean hot water, using a stiff bristle brush to remove dirt, oil And other contaminants.

.3 After brushing surfaces thoroughly, rinse with clean water until no foreign matter is left.

.4 Allow surfaces to drain completely and dry thoroughly.

.5 For the preparation of surfaces intended to receive a paint with water, it is recommended to use cleaning agents with water instead of organic solvents.

.6 Once dried, many waterborne paints can not be removed with water. Nevertheless, the use of kerosene or other organic solvents of the same type for the cleaning of these paints must be minimized.

.2 Prior to the application of the primer or printing coat and between subsequent layers, prevent the cleaned surfaces from being contaminated with salts, acids, alkalis, corrosive chemicals, grease, Oil and solvents. Apply the primer or printing product, paint or other pre-treatment product as soon as possible after cleaning before the surface deteriorates.

.3 Where possible, apply a new print coat on new wooden structures prior to installation. Use prescribed printing products for exposed surfaces.

.1 Apply a vinyl printing product that meets the requirements for Product No. 36 of the MPI list of nodes, gum, sap and resinous surfaces.

.2 Seal cracks and nail holes with pores.

.3 Dye pores before application to dyed wood.

.4 Sand and dust surfaces between each layer as needed to ensure good adhesion of the next coat and to remove any visible defects at a distance of 1000 mm or less.

.5 Clean metal surfaces to be painted by removing rust marks, rolling scales, welding slag, dirt, oil, grease and other foreign matter in accordance with the requirements of MPI. Remove any traces of pickling material, then clean the corners and corners of the surfaces with clean brushes followed by cleaning with a vacuum cleaner.

.6 Touch up surfaces coated with a primer in the workshop, as prescribed in the relevant section. Significant alterations, such as cleaning and painting of on-site assemblies, welds, rivets, bolts, nuts and washers, and rusted or inadequately coated surfaces, must be carried out by the supplier of the components in question.

.7 Do not apply paint before surface acceptance.

3.11 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

.1 Remove drips, burrs, splashes, paint drips and spray paint as the work progresses, using materials and methods that will not damage the paint. Finished surfaces.

.2 Clean materials and equipment used. Then remove the washing water from the paint products with water, the solvents used to clean the products in oil, as well as cleaning and protective materials and materials (rags, protective cloths, Hides and the like), paint products, thinners, strippers and other stain removers, in accordance with the requirements and the requirements of the competent safety authorities.

.3 Clean paint materials and equipment in sealed containers for deposition and subsequent collection of particulate matter. Recycle or dispose of residues collected at the end of cleaning operations in a manner acceptable to the competent authorities.

.2 All rags, scrap and debris shall be removed from the building each day prior to the departure of the workers; It will not be allowed to let them accumulate. Materials, such as rags, may ignite spontaneously when used with certain products. After use, put the rags in the water or dry them flat, then discard them.

.3 At the completion of the work, remove any paint or varnish stains from floors, walls, hardware, glass, etc. and leave all surfaces clean and in perfect condition. Make sure all doors, drawers and windows move easily.

.4 The Contractor shall thereafter remove from the building any tool, scrap or surplus material resulting from his work.

3.12 REHABILITATION OF PLACES

.1 Clean and reinstall all removed hardware to facilitate paint job.

.2 Remove guards and warning signs as soon as possible after completion of work.

.3 Remove splashes on exposed surfaces that have not been painted. Remove burrs and speckles as work progresses with a compatible solvent.

.4 Protect freshly painted surfaces from staining and dust to the satisfaction of the architect and avoid scratching new coatings.

.5 Clean floors of paint spots when painter completes.

END OF SECTION