ARCHITECTURAL SPECIFICATIONS FOR SUBMISSION

ROOF RECONSTRUCTION AND EXTERIOR PAINTING

Pointe-Noire Interpretation and Observation Center
141, route 138, Baie-Sainte-Catherine
Québec G0T 1A0

PART 1 - GENERAL

1.1 GENERAL

1. The list below is a summary of the interventions to carry out on the buildings concerned by the proposal. It must not be seen as a complete list of the works to be carried out and must in no way restrict the works outlined in the plans and other sections of the specifications.

1.2 INCLUDED WORK

1. The work in this contract consists mainly, but without restriction, to execute the following.
   .1 Paint existing wood cladding of the buildings identified as Reception Post, Foghorn and Assistant Housing including handrail but excluding gallery wood bridging.
   .2 Paint structural elements, handrail, stairs, etc. of buildings identified as Reception Shelter, Observation Stand and Observation Tower.
   .3 Replace asphalt shingles on buildings identified as Observation Tower, Foghorn, Gatehouse and Assistant's House.
   .4 Replace cladding and/or moulding sections.
   .5 All other works described in the plans and architectural specifications as well as the work made necessary to accomplish them.

1.3 DOCUMENTS TO BE SUBMITTED

.1 At start-up reunion and/or at most **one (1) week** after signing the contract, the Contractor must submit a detailed timetable of the work sequence as requested in this proposal.

.2 If Contractor plans to realise the whole of the work under a shorter timetable, it must not be detrimental to functional and operational constraints of the Owner or endanger the security of users and residents.

1.4 WORK SEQUENCE

1. The Contractor's organisation and timetable of the work must take into account the following objectives:
   .1 Limit the number of times and length of electricity and water supply interruptions according to the acceptable limits defined by the Owner.
   .2 Allow a safe and complete access during the entire work period.
   .3 Carry out the main works to be done inside the apartments within one day.
   .4 Workers are required to mainly use exterior access for the whole of the work as to limit their passage through the apartments, if applicable.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED SECTIONS

1. n/a

1.2 ACCESS TO CONSTRUCTION SITE

1. Design and build temporary means of access to the construction site, in particular stairs, circulation routes, ramps or ladders as well as scaffolding, independent of the finished works and compliant with municipal, provincial or other regulations, and ensure maintenance.

1.3 USE OF PREMISES AND INSTALLATIONS

1. Carry out work disrupting normal use of premises as little as possible. For this purpose, make necessary arrangements with Departmental Representative to facilitate execution of required work.

2. Maintain function of existing utility services and provide building site access to staff and vehicles.

3. When work causes safety to be reduced, provide alternate temporary means to ensure a safe environment for individuals and property on site.

4. Use only existing means with which the building is equipped to ensure transport of workers, equipment and materials.

    1. Protect installations from damage, provide safety measure and avoid overloading.

5. Use temporary barriers to protect works until permanent closures are installed.

1.4 MODIFICATIONS, REPAIRS OR ADD-ONS TO EXISTING BUILDING

1. Carry out work disrupting operation of building, occupants and public, as well as normal use of premises as little as possible. For this purpose, make necessary arrangements with Departmental Representative to facilitate execution of required work.

1.5 EXISTING SERVICES

1. Advise Departmental Representative and utility companies of scheduled interruption of services and obtain necessary authorisations.

2. If tapping of existing networks or connecting to these networks is necessary, a 48 hour notice must be given to the Departmental Representative prior to interrupting electrical services or mechanical systems. Length of interruptions must be as short as possible. Perform interruptions outside of occupants' normal work hours, preferably during the weekend.

3. Ensure circulation of staff, pedestrians and vehicles.

4. Build protection barriers in accordance to section 01 56 00 – Temporary Barriers and Enclosures.

1.6 SPECIFIC REQUIREMENTS

1. Noisy work must be done from Monday to Friday, before opening hours of premises (Monday to Friday 8:00 AM to 5:00 PM).

2. Submit work schedule.

3. Contractor's on site staff must be aware of and respect rules and regulations, including fire safety rules, traffic regulations and work safety rules.

4. Stay within work and access paths limits

5. Make sure materials/supplies are delivered outside of peak operation hours of premises, except when otherwise stated by Departmental Representative (Monday to Friday 8:00 AM to 5:00 PM).

1.7 SECURITY AUTHORISATIONS

1. All members of personnel assigned to the present worksite can be submitted to security checks. All persons present on site must obtain proper authorisations, as per requirements.

2. All workers and members of personnel will be checked every day, at the start of the work shift, they will then receive a pass which they must wear at all times and return at the end of the work shift, after being checked before exit.

1.8 SMOKE FREE ENVIRONMENT

1. Respect non-smoking regulations. It is forbidden to smoke on site.

PART 2 - PRODUCTS

1. Non applicable

PART 3 - EXÉCUTION

1. Non applicable

END OF SECTION

PART 1 - GENERAL

1.1 UNIT PRICES OR FIXED PRICES

1. Le montant total du contrat est ventilé en fonction d'une description des travaux rémunérés sur une base forfaitaire (tableau des montants forfaitaires) et des travaux rémunérés sur une base unitaire (tableau des prix unitaires)

   Total contract amount is broken-down according to a description of the work paid for at a fixed price (fixed pricing chart) and of the work paid for by unit (unit pricing chart).

2. Each of the broken down prices, by unit or fixed, must include all expenses, all work, spent amounts, payments, direct or indirect costs, mobilization, demobilization and acts, all costs, as well as all responsibilities, obligations, omissions and errors of the Contractor related to the completion of this project. These prices also include shipping and implementation of materials, as well as other incidental costs. Prices must cover losses or damages that could result from nature of the work, price and salary variations, corporate risk, strikes, delays not attributable to the Departmental Representative, shipping restrictions, accidents and natural elements.

1.2 DEFINITIONS

1. Fixed Price: when work is determined precisely and in detail and a price is agreed to and accepted by both parties for the whole of the work.

2. Unit Price: when all specifications relating to the work are determined precisely and in detail and that all quantities on invoice are provided as an estimate.

1.3 NON-EXHAUSTIVE DESCRIPTION OF ITEMS ON FIXED PRICING CHART

The following work description is non-exhaustive and can only be used to clarify posts on the bid invoice. The full scope of the work is defined in the plans and specifications. Not mentioning an element in the following list does not relieve the Contractor of his obligations.

.1 BUILDING 1 – RECEPTION SHELTER

.1 Post 1.1 – Construction Site Organization

.1 This article covers construction site mobilization as well as its demobilization, relocation of traffic signs (if required), application of dust-suppressant products (if required), protection of existing utilities, all elements described in this section as well as all requirements described in Section 1 (General Requirements) of these specifications. This article also includes all other work which is not an integral part of other invoice articles.

.2 Payment of this article will be done according to the following method:
   .1 25% with first monthly payment;
   .2 50% distributed equally with payment of subsequent stages;
   .3 25% with payment issued along with « Certificate of Substantial Completion of Work ».

.2 Post 1.2 – Painting of Building.

.1 This article covers supply, preparation and painting of cladding surfaces and visible wood structure.

.3 Post 1.3 – Painting of Cladding and Structure

.1 This article covers supply, preparation and painting of surfaces.

.2 **BUILDING 2 – RECEPTION CENTER**

.1 Post 1.1 – Construction Site Organization

.1 This article covers construction site mobilization as well as its demobilization, relocation of traffic signs (if required), application of dust-suppressant products (if required), protection of existing utilities, all elements described in this section as well as all requirements described in Section 1 (General Requirements) of these specifications. This article also includes all other work which is not an integral part of other invoice articles.

.2 Payment of this article will be done according to the following method:
.1 25% with first monthly payment;
.2 50% distributed equally with payment of subsequent stages;
.3 25% with payment issued along with « Certificate of Substantial Completion of Work ».

.2 Post 1.2 – Painting of Building.

.1 This article covers supply, preparation and painting of cladding surfaces and visible wood structure.

.3 **BUILDING 3 – LOOKOUT**

.1 Post 1.1 – Construction Site Organization

.1 This article covers construction site mobilization as well as its demobilization, relocation of traffic signs (if required), application of dust-suppressant products (if required), protection of existing utilities, all elements described in this section as well as all requirements described in Section 1 (General Requirements) of these specifications. This article also includes all other work which is not an integral part of other invoice articles.

.2 Payment of this article will be done according to the following method:
.1 25% with first monthly payment;
.2 50% distributed equally with payment of subsequent stages;
.3 25% with payment issued along with « Certificate of Substantial Completion of Work ».

.2 Post 1.2 – Painting of Building.

.1 This article covers supply, preparation and painting of cladding, railings and visible wood structure.

.2 This article covers dismantling of railing sections, in workshop painting, replacement of mounting brackets and reinstallation of elements.

.3 Post 1.3 – Roof reconstruction.

.1 This articles covers demolition, supply and installation of asphalt shingles on all sides of roof.

.4 **BUILDING 4 - FOGHORN**

.1 Post 1.1 – Construction Site Organization

.1 This article covers construction site mobilization as well as its demobilization, relocation of traffic signs (if required), application of dust-suppressant products (if required), protection of existing utilities, all elements described in this section as well as all requirements described in Section 1 (General Requirements) of these specifications. This article also includes all other work which is not an integral part of other invoice articles.

.2 Payment of this article will be done according to the following method:
.1 25% with first monthly payment;
.2 50% distributed equally with payment of subsequent stages;
.3 25% with payment issued along with « Certificate of Substantial Completion of Work ».

.2 Post 1.2 – Painting of Building.

.1 This article covers supply, preparation and painting of wood cladding surfaces.

.3 Post 1.3 – Roof Reconstruction.

.1 Cet article comprend la fourniture, la préparation et la peinture des surfaces du parement de bois.

.5 **BUILDING 5 – ASSISTANT'S HOUSE**

.1 Post 1.1 – Construction Site Organization

.1 This article covers construction site mobilization as well as its demobilization, relocation of traffic signs (if required), application of dust-suppressant products (if required), protection of existing utilities, all elements described in this section as well as all requirements described in Section 1 (General Requirements) of these specifications. This article also includes all other work which is not an integral part of other invoice articles.

.2 Payment of this article will be done according to the following method:
.1 25% with first monthly payment;
.2 50% distributed equally with payment of subsequent stages;
.3 25% with payment issued along with « Certificate of Substantial Completion of Work ».

.2 Post 1.2 – Painting of Building.

.1 This article covers supply, preparation and painting of wood cladding surfaces and foundation.

.2 This article covers dismantling of railing sections, in workshop painting, replacement of mounting brackets and reinstallation of elements.

.3 Post 1.3 – Roof Reconstruction.

.1 This articles covers demolition, supply and installation of asphalt shingles on all sides of roof.

.2 This article covers dismantling and reconstruction of soffits.

.6 **BUILDING 6 – GATE HOUSE**

.1 Poste 1.1 – Construction Site Organization

.1 This article covers construction site mobilization as well as its demobilization, relocation of traffic signs (if required), application of dust-suppressant products (if required), protection of existing utilities, all elements described in this section as well as all requirements described in Section 1 (General Requirements) of these specifications. This article also includes all other work which is not an integral part of other invoice articles.

.2 Payment of this article will be done according to the following method:
.1 25% with first monthly payment;
.2 50% distributed equally with payment of subsequent stages;
.3 25% with payment issued along with « Certificate of Substantial Completion of Work ».

.2 Post 1.2 – Painting of Building.

.1 This article covers supply, preparation and painting of wood cladding surfaces and foundation.

.2 This article covers dismantling of railing sections, in workshop painting, replacement of mounting brackets and reinstallation of elements.

.3 Post 1.3 – Roof Reconstruction.

.1 This articles covers demolition, supply and installation of asphalt shingles on all sides of roof.

.2 This article covers dismantling and reconstruction of soffits and the addition of attic ventilators.

.7 **BUILDING 7 – OBSERVATION TOWER**

.1 Post 1.1 – Construction Site Organization

.1 This article covers construction site mobilization as well as its demobilization, relocation of traffic signs (if required), application of dust-suppressant products (if required), protection of existing utilities, all elements described in this section as well as all requirements described in Section 1 (General Requirements) of these specifications. This article also includes all other work which is not an integral part of other invoice articles.

.2 Payment of this article will be done according to the following method:
.1 25% with first monthly payment;
.2 50% distributed equally with payment of subsequent stages;
.3 25% with payment issued along with « Certificate of Substantial Completion of Work ».

.2 Post 1.2 – Painting of Building.

.1 This article covers supply, preparation and painting of cladding surfaces and visible wood structure.

.2 This article covers dismantling of railing sections, in workshop painting, replacement of mounting brackets and reinstallation of elements.

.3 Post 1.3 – Roof Reconstruction.

.1 This articles covers demolition, supply and installation of asphalt shingles on all sides of roof.

1.4 ADDITIONAL INFORMATION

1. On demand and within maximum five (5) days, Contractor must provide additional details regarding prices for identified elements of his bid.

1.5 AMOUNTS DUE ACCOUNT

1. The amounts due account must be established in accordance with a reasonable request from Departmental Representative as to supporting documents. Once approved by the Departmental Representative, the amounts due account can be used as a basis for payment requests.

2. Join a statement based on the amounts due account to every payment request.

3. Requests concerning products that have been delivered to the construction site but haven't yet been incorporated to the work must be substantiated by any proof that may be requested by the Departmental Representative to establish the value of the products and confirm their delivery.

1.6 SUBSTANTIAL COMPLETION OF WORK

1. Once work is substantially completed, provide the Departmental Representative with a complete list of elements that need to be finished or corrected. Ask Departmental Representative to visit work site to establish the work as substantially completed. Failing to list an item does not remove the Contractor from his obligation to complete the contract.

2. Ten (10) days, at the latest, after having received the list and the visit request, the Departmental Representative will visit the work site to verify the accuracy of the request and at most, seven (7) days following the visit, he will give the Contractor his decision as to the substantial completion of work or selected part of work.

3. Departmental Representative will issue a certificate indicating the date of substantial completion of the work or selected part of work.

4. Immediately after issue of certificate of substantial completion of work, consult with the Departmental Representative to set a reasonable date for final completion of work.

1.7 PAYMENT OF HOLDBACK AT SUBSTANTIAL COMPLETION OF

1. Once certificate of substantial completion of work has been issued, proceed as follows:

   .1 Submit a request for payment of holdback.
   .2 Provide a sworn statement confirming that, except for duly retained amounts or precise amounts subject to a dispute, all accounts concerning labor, subcontracting, machinery and construction materials, as well as any other debt contracted to realise substantial completion of work, for which the Departmental Representative can be held responsible, have been fully paid.

2. After receiving payment request and sworn statement, the Departmental Representative will issue a holdback payment certificate.

1.8 FINAL PAYMENT

1. The Contractor must submit a final payment request when he deems the work to be completed.

2. At most, ten (10) days after receiving a final payment request, Departmental Representative will visit the

work site to verify validity of the request. Within seven (7) days following the visit, Departmental Representative will notify the Contractor if his request has been accepted or denied, and, if denied, the grounds for denial.

3. If Departmental Representative deems that the Contractor's final payment request is justified, he will issue a final payment certificate.

PART 2 - PRODUCTS

2.1 NON APPLICABLE

PART 3 - EXECUTION

3.1 NON APPLICABLE

END OF SECTION

PART 1 - GÉNÉRAL

1.1 GENERAL

1. The shop drawings, product descriptions and specified samples must be submitted to the Departmental Representative for verification purposes.

2. It is forbidden to start work from shop drawings, samples and product descriptions having not been previously examined by the Departmental Representative.

2. SUBSTITUTION

1. The contractor is required to prepare his bid with the materials, accessories and appliances specified in the plans and specifications, for he must, should he be allowed the contract, provide and install exactly said materials, accessories and appliances.

3. SHOP DRAWINGS

1. The Contractor, in a timely fashion as not to delay work progress, must provide the Departmental Representative with all shop and installation drawings or diagrams that the Departmental Representative will deem necessary to explain the proposed work or indicate their relation to works contiguous to other trades; the contractor must make changes or modifications to these drawings or diagrams consistent with the spirit of the contract. When submitting these shop or installation drawings, the contractor must indicate to the Departmental Representative, in writing, the ways in which they differ from the contract plans and specifications.

2. The drawings must be prepared by the contractor, the subcontractor, the supplier or the dealer, illustrating the relevant part of the work, the fabrication details, arrangement, installation or assembly details required in the related sections. Shop drawings submitted containing duplicate sections from the architect's plans will be refused and must be resubmitted.

3. Details must be identified according to pages and sketch numbers from the contract drawings.

4. Pages must not exceed 279 x 432 mm (11'' x 17'') in size.

5. Drawings will be submitted by electronic copy (PDF) only.

6. Following verification of the original shop drawings by the Departmental Representative, the verified original will be forwarded by email to the contractor. According to the number of copies needed and if necessary, the contractor will produce enough copies of the revised drawings to be distributed to everyone concerned: owner, contractor, construction site and subcontractors.

7. Verification by the Departmental Representative of the shop drawings or diagrams does not remove responsibility from the contractor as to errors said contractor might have left in the drawings or from modifications made to the drawings and specifications by consultants of which the contractor has not been notified in writing. All submitted models, templates and patterns must conform to the spirit and intent of the contractual documents.

4. PRODUCTS DESCRIPTION

1. Certain sections of the specifications anticipate that in certain cases, the schematic sketches provided by the manufacturer, characteristics stated in catalogs, diagrams, charts, graphs, illustrations and regular descriptive data may constitute shop drawings.

2. The above-mentioned documentation will only be accepted if it is compliant with the following requirements:
    1. Must not contain information not pertaining to project.
    2. Basic information must be supplemented by additional, project specific information.
    3. Must state dimensions as well as required clearances.

5. SAMPLES AND PROTOTYPES

1. Submit samples to the specified dimensions and in required quantity.

2. If selection criteria include colour, design, or texture, submit all appropriate samples.

3. Build samples in an area of the construction site agreed to by the Departmental Representative.

4. Once approved, the samples and models become the quality standard for materials and execution upon which the work done on the worksite will be reviewed.

6. REVIEW OF SUBMITTED DOCUMENTS

1. Shop drawings, product characteristics and samples must be reviewed before submitting to the Departmental Representative.

2. Review :
    1. Measurements taken on the worksite.
    2. Execution criteria.
    3. Catalog numbers and other related information.

3. Arrange submitted documents according to the work requirements and the contractual documents. The drawings will not be approved one by one. The verification will be done once all the related drawings are submitted.

4. The contractor is not relieved of his responsibility regarding discrepancies in the requirements stated in the contractual documents even if the submitted documentation has been verified by the architect, except if the architect has signified his agreement in writing as to certain specific aspects.

5. Upon handing in documents, advise the Departmental Representative as to any discrepencies contained in submitted documentation.

6. Distribute copies only after having received approval from the Departmental Representative.

7. SUBMITTAL REQUIREMENTS

1. Set date for bids to at least 10 days before revised documentation is required.

2. Submit a master copy to the Departmental Representative.

3. Allow 10 (working) days to the Departmental Representative for verification of each of the shop drawings submitted.

4. The cover letter, one copy provided, must contain the following information :
    1. The date.
    2. Project name and number.
    3. Contractor’s name and address.

4. Numbers for each of the shop drawings, product descriptions and samples submitted
5. Any other useful information.

5. Submitted documentation must include :

1. Dates for the presentation of the original documents and the revisions.

2. Project name and number.

3. Names :
   1. of contractor,
   2. of subcontractor,
   3. of supplier,
   4. of manufacturer,
   5. of retailers, if need be.

4. Identification of product or material.

5. Its layout in relation to neighbouring works.

6. Measurements taken on site, clearly identified as such.

7. Number of the specifications section.

8. Applicable standards, such as ACNOR, or ONGC, and their number.

9. Contractor's seal with initials or signature certifying that the submitted documentation has been reviewed, that the measurements taken on site have been verified and that everything is compliant with the contractual documents.

PART 2 - PRODUCTS

2.1 NON APPLICABLE

PART 3 - EXECUTION

3.1 NON APPLICABLE

END OF SECTION

Partie 1 General

GENERAL NOTE: in this section the term “site” includes all the facilities located at the site where the work is taking place (construction site, buildings, access, infrastructure, parkings, bays, etc.).

1.1 RELATED REQUIREMENTS

.1 Non applicable.

1.2 REFERENCES

.1 Province of Québec

.1 Loi sur la santé et la sécurité du travail L.R.Q., c. S-2.1 (Act respecting occupational health and safety).

.2 Code de sécurité pour les travaux de construction L.R.Q., c. S-2.1, r.4 (Safety code for the construction industry).

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Submit to Departmental representative, and the CNESST the site-specific prevention program, as outlined in the article “GENERAL REQUIREMENTS”, at least 10 days prior to the start of work.

.3 Departmental representative will review Contractor’s site-specific prevention program and provide comments to Contractor within 10 days after receipt of the document. Revise plan as appropriate and resubmit to Departmental representative within 5 days after receipt of comments from Departmental representative. Departmental representative reserves the right not to authorize the start of work on the construction site as long as the content of the prevention program is not satisfactory. The Contactor shall then update his prevention program and resubmit it to the Departmental representative if the scope of work changes or if the working methods of the Contractor differ from his initial plans or for any other applicable new condition.

.4 Once a week departmental representative’s review of Contractor’s site-specific prevention program should not be construed as approval of the program and does not reduce the Contractor’s overall responsibility for construction Health and Safety during the work.

.5 Submit copies of Contractor’s authorized representative’s construction site health and safety inspection reports to Departmental representative.

.6 Submit to Departmental representative within 24 hours a copy of any inspection report, correction notice or recommendation issued by Federal, Provincial and Territorial health and safety inspectors.

.7 Submit to Departmental representative within 24 hours an investigation report for any accident involving injury and any incident exposing a potential hazard.

The investigation report shall contain at least the following:

1. date, time and place of accident;
2. name of sub-contractor involved in the accident;
3. number of persons involved and condition of wounded;
4. witness identification;
5. detailed description of tasks performed at the time of the accident;
6. equipment being used to accomplish the tasks performed at the time of the accident;

7. corrective measures taken immediately after the accident;
8. causes of the accident;
9. preventive measures that have been put in place to prevent a similar accident.

.8 Submit to Departmental representative WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00. Contractor must also keep one copy of these documents on the construction site.

.9 Medical Surveillance: where prescribed by legislation, regulation or prevention program, submit certification of medical surveillance for construction site personnel prior to commencement of Work, and submit additional certifications for any new construction site personnel to Departmental representative.

.10 Submit to Departmental representative an on-site Emergency Response Plan at the same time as the prevention program. The Emergency Response plan must contain the elements listed in the article “GENERAL REQUIREMENTS” of this section.

.11 Submit to Departmental representative copies of all training certificates required for the application of the prevention program, in particular (if applicable) for the following:

.1 first aid in the workplace and cardiopulmonary resuscitation;
.2 work likely to release asbestos dust (mandatory for all work where asbestos is present);
.3 work in confined spaces (mandatory for all work in confined spaces);
.4 lockout-tagout procedures (mandatory for all work requiring lockout);
.5 safely operating forklift trucks (mandatory for all forklift usage);
.6 safely operating elevating work platforms (mandatory for the use of all elevating platforms);
.7 any other requirement of Regulations or the safety program.

In addition, the certifications of the *Cours de santé et sécurité générale pour les chantiers de construction* (General Health and Safety Training for Construction Sites) shall be available on demand on the construction site.

.12 Engineer’s plans and certificates of compliance: Contractor must submit to the Departmental representative and to the *Commission des normes, de l’équité, de la santé et de la sécurité du travail* (CNESST) a copy signed and sealed by engineer of all plans and certificates of compliance required pursuant to the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the construction industry) or by any other legislation or regulation or by any other clause in the specifications or in the contract. The Contractor must also submit a certificate of conformity signed by an engineer once the facility for which these plans were prepared has been completed and before a person uses the facility. A copy of these documents must be available on site at all times.

1.4 FILING OF NOTICE OF CONSTRUCTION SITE OPENING

.1 Notice of construction site opening shall be submitted to the CNESST before work begins. A copy of such notice and acknowledgment of receipt from the CNESST shall be submitted to Departmental representative.

At the completion of all the work, a notice of construction site closing shall be submitted to the CNESST, with a copy to Departmental representative.

.2 The Contractor shall assume the role of being the Principal Contractor in the limits of the construction site and elsewhere where he must execute work within the framework of this project. The Contractor shall recognize the responsibility of being the Principal Contractor of the project and identify himself as such in the notice of the construction site opening he provides to the CNESST.

.3 The Contractor shall accept to divide and identify the construction site adequately in order to define time and space at all times throughout the course of the project.

1.5 HAZARD ASSESSMENT

.1 The contractor must perform construction site specific safety hazard assessment related to project.

1.6 MEETINGS

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

.2 Contractor's representative with decision power must attend any meetings at which construction site safety and health issues are to be discussed.

.3 If it is anticipated that there will be 25 workers or more on the construction site at any given time, the Contractor shall set up a worksite committee and hold meetings as required by the *Code de sécurité pour les travaux de construction* (S-2.1, r. 4) (Safety code for the construction industry). A copy of the minutes of the meetings of the committee shall be provided to the Departmental representative no later than 5 days after the committee meeting.

1.7 REGULATORY REQUIREMENTS

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

.2 Comply with all legislation, regulations and standards applicable to the construction site and its related activities.

.3 Comply with specified standards and regulations to ensure safe operations on a site containing hazardous or toxic materials.

.4 Always use the most recent version of the standards specified in the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the construction industry)*,* notwithstanding the date indicated in that *Code.*

1.8 COMPLIANCE REQUIREMENTS

.1 Comply with the *Loi sur la santé et la sécurité du travail* (L.R.Q., c. S-2.1) (Act Respecting Occupational Health and Safety) and the *Code de sécurité pour les travaux de construction* (S-2.1, r. 4.) (Safety code for the construction industry) in addition to respecting all the requirements of this specification manual.

1.9 RESPONSIBILITIES

.1 The Contractor must acknowledge and assume all the tasks and obligations which customarily devolve upon a principal Contractor under the terms of the *Loi sur la santé et la sécurité du travail* (L.R.Q., ch. S-2.1) (Act Respecting Occupational Health and Safety) and the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the construction industry).

.2 The Contractor must be responsible for health and safety of persons on construction site, safety of property on construction site and for the protection of persons adjacent to construction site and the environment to the extent that they may be affected by conduct of the work.

.3 No matter the size or location of the construction site, the Contractor must clearly define the limits of the construction site by physical means and respect all specific regulation requirements applicable in this regard. The means chosen to define the limits of the construction site must be submitted to the Departmental representative.

.4 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 prevention Plan.

1.10 WORK PERFORMED BY EXTERNAL CONTRACTORS

.1 Non applicable.

1.11 GENERAL REQUIREMENTS

.1 Before undertaking the work, prepare a site-specific prevention program based on the hazards identified according to the article “HAZARD ASSESSMENT” and the article “RISKS INHERENT TO THE WORKSITE” in this section. Apply this program in its totality from the start of the project until demobilization of all personnel from the construction site. The prevention program shall take into consideration the specific characteristics of the project and cover all the work to be executed on the construction site.

The safety program must include at least the following:

.1 company safety and health policy;

.2 description of the stages of the work;

.3 total costs, schedule and projected workforce curves;

.4 flow chart of safety and health responsibilities;

.5 physical and material layout of the construction site;

.6 risk assessment for each stage of the work, including preventive measures and the procedures for applying them;

.7 identification of the preventive measures relative to the specific risks inherent to the worksite indicated in the article “RISKS INHERENT TO THE WORKSITE”;

.8 identification of preventive measures for health and safety of employees and / or public works site as indicated in the article “SPECIFIC REQUIREMENTS FOR THE HEALTH AND SAFETY OF OCCUPANTS AND PUBLIC”;

.9 training requirements;

.10 procedures in case of accident/injury;

.11 written commitment from all parties to comply with the safety program;

.12 construction site inspection cheklist based on the preventive measures;

.13 emergency response plan which shall contain at least the following:

.1 construction site evacuation procedures;

.2 identification of resources (police, firefighters, ambulance services, etc.);

.3 identification of persons in charge of the construction site;

.4 identification of the first-aid attendants;

.5 communication organizational chart (including the person responsible for the site and the Departmental representative);

.6 training required for those responsible for applying the plan;

.7 any other information needed, in the light of the construction site’s characteristics.

If available the Departmental representative will provide the evacuation procedures to the Contractor who shall then coordinate the construction site procedure with that of the site and submit it to the Departmental representative.

.2 Departmental representative may respond in writing, where deficiencies or concerns are noted in the prevention program and may request resubmission with correction of deficiencies or concerns.

.3 In addition to the prevention program, during the course of the work the Contractor shall elaborate and submit to the Departmental representative specific written procedures for any work having a high risk factor of accident (for example: demolition procedures, specific installation procedures, hoisting plan, procedures for entering a confined space, procedures for interrupting electric power, etc.) or at the request of the Departmental representative.

.4 The Contractor shall plan and organize work so as to eliminate the danger at source or ensure collective protection, thereby minimizing the use of personal protective equipment.

.5 Equipment, tools and protective gear which cannot be installed, fitted or used without compromising the health or safety of workers or the public shall be deemed inadequate for the work to be executed.

.6 All mechanical equipment (for example, but not limited to: hoisting devices for persons or materials, excavators, concrete pumps, concrete saws) shall be inspected before delivery to the construction site. Before using any mechanical equipment, the Contractor shall obtain a certificate of compliance signed by a qualified mechanic dated less than a week prior to the arrival of each piece of equipment on the construction site; the certificate shall remain on the construction site and transmitted to the Departmental representative on demand.

.7 Ensure all inspections (daily, periodic, annual, etc.) for the hoisting devices for persons or materials required by the current standards are carried out and be able to provide a copy of the inspection certificates to the Departmental representative on demand.

.8 The Departmental representative can at all times, if he suspects a malfunction or the risk of an accident, order the immediate stop of any piece of equipment and require an inspection by a specialist of his choice.

.9 The Departmental representative must be consulted for the location of storing gas cylinders and tanks on the construction site.

1.12 RISKS INHERENT TO THE WORKSITE

.1 In addition to the risks related to the tasks to be carried out, personnel responsible for the execution of the work on the construction site will be exposed to the following risks, inherent to the area where the work will be executed..

At the worksite there is in particular the presence of the following:

.1 materials containing asbestos;
.2 materials containing lead;
.3 moulds;
.4 other dangerous materials (specify);
.5 confined spaces;
.6 overhead power lines;
.7 underground services (electric, gas, vapour, water system, etc.);
.8 laboratories;
.9 trees and landscaping to preserve and protect;
.10 potentially unstable ground;
.11 barbed wire fences;
.12 body of water close by;

The Contractor shall process to a risk assessment of the site to validate this information and see if other risks are present on the site. He must include in its prevention program all risks that have been identified.

1.13 SPECIFIC REQUIREMENTS FOR THE HEALTH AND SAFETY OF OCCUPANTS AND PUBLIC

.1 The worksite is occupied by employees and/or the public during the following times: monday to Friday, 7am to 17 pm. The Contractor shall consider the following specific requirements for the protection of employees and / or the public:

.1 Determine construction site zone.

.2 Monitor acces to authorized personnel only.

These requirements must be included in the Contractor's site-specific safety plan as well as any other measures provided by the Contractor to protect the health and safety of employees and / or the public on the site.

1.14 UNFORESEEN HAZARDS

.1 Whenever a source of danger not defined in the specifications or identified in the preliminary construction site inspection arises as a result of or in the course of the work, the Contractor must immediately suspend work, notify the person responsible for health and safety on the construction site, take appropriate temporary measures to protect the workers and the public and notify Departmental representative, both verbally and in writing. Then the Contractor must do the necessary modifications to the prevention program or apply the security measures required in order to resume work.

1.15 PERSON IN CHARGE OF HEALTH AND SAFETY

.1 If the construction site meets the requirements of article 2.5.3 of the *Code the sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the construction industry), the Contractor needs to hire a competent person authorized as a safety officer and appoint this person full time from the beginning of the work. This person's tasks shall solely be dedicated to the management of health and safety on the construction site. This safety officer must have the following qualifications:

.1 have a safety officer certificate issued by the CNESST.

.2 have site-related working experience specific to the activities associated with the present project;

.3 have working knowledge of occupational health and safety regulations in the workplace;

.4 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 the construction site to perform work;

.5 be responsible for implementing, enforcing in detail and monitoring site-specific Contractor's Health and prevention program;

.6 be on construction site at all times during execution of work;

.7 inspect the work and ensure compliance with all regulatory requirements and those indicated in the contract documents or the site-specific prevention program.

.8 Keep a daily log of actions taken and submitting a copy to Departmental representative each week.

The safety officer's certificate shall be submitted to the Departmental representative before the start of the work.

.2 When the hiring of a safety officer is not required or if this person is hired by the Departmental representative, the Contractor shall designate a competent person to supervise and take responsibility for health and safety, no matter the size of the construction site or how many workers are present at the workplace. This person shall be on construction site at all times and be able to take all necessary measures to ensure the health and safety of persons and property at or in the immediate vicinity of the construction site and likely to be affected by any of the work. The Contractor shall submit the name of this person to the Departmental representative before the start of work.

1.16 POSTING OF DOCUMENTS

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

.2 At a minimum, the following information and documents must be posted in a location readily accessible to all workers:

.1 notice of construction site opening;

.2 identification of principal Contractor;

.3 company OSH policy;

.4 site-specific prevention program;

.5 emergency plan;

.6 minutes of worksite committee meetings;

.7 names of worksite committee representatives;

.8 names of the first-aid attendants;

.9 action reports and correction notices issued by the CNESST.

1.17 INSPECTION OF THE CONSTRUCTION SITE AND CORRECTION OF NON-COMPLIANCES

.1 Inspect the construction site and complete the construction site inspection checklist and submit it to the Departmental representative in accordance with the article “ACTION AND INFORMATIONAL SUBMITTALS” in this section.

.2 Immediately take all necessary measures to correct any situations deemed non-compliant during the inspections mentioned in the previous paragraph or noticed by the authorities having jurisdiction or the Departmental representative or his agent.

.3 Submit to Departmental representative written confirmation of all measures taken to correct the situation in case of non-compliance in matters pertaining to health and safety.

.4 The Contractor shall give the safety officer or, where there is no safety officer, the person assigned to safety and health responsibilities, full authority to order cessation and resuming of work as and when deemed necessary or desirable in the interests of safety and health. This person should always act so that the safety and health of the public and construction site workers and environmental protection take precedence over cost and scheduling considerations.

.5 The Departmental representative or his agent may order cessation of work if the Contractor does not make the corrections needed to conditions deemed non-compliant in matters pertaining to health and safety. Without limiting the scope of the preceding articles, the Departmental representative may order cessation of work if, in his view, there is any hazard or threat to the safety or health of construction site personnel or the public or to the environment.

1.18 PREVENTION OF VIOLENCE

.1 Health and safety management of Public Works and Government Services Canada construction sites includes the implementation of measures designed to protect the psychological health of all persons who access the construction site where the work is taking place. Consequently, in addition to physical violence, verbal abuse, intimidation and harassment are not tolerated on the construction site. Any person who demonstrates such actions or behaviors will receive a warning and/or could be definitely expelled from the construction site by the Departmental representative.

1.19 BLASTING

.1 Non applicable.

1.20 POWDER ACTUATED DEVICE

.1 Non applicable.

1.21 USE OF PUBLIC ROADS

.1 Where it is necessary to encroach on a public road for operational reasons or to ensure the security of the workers, the occupants or the public (for example: the use of scaffolding, cranes, excavation work, etc.), the Contractor shall obtain at his own expense any authorizations and permits required by the competent authority.

.2 The Contractor shall install at his own expense any signage, barricades or other devices needed to ensure the safety and security of the public and the Contractor's own facilities.

1.22 LOCKOUT-TAGOUT

.1 Non applicable.

1.23 ELECTRICAL WORK

.1 Non applicable.

1.24 ASBESTOS EXPOSURE

It is not anticipated that the work covered by the present specifications involves the manipulation of materials containing asbestos; however, if the Contractor or the Departmental representative or his agent discover materials which are susceptible of containing asbestos, the Contractor must immediately stop the work and advise the Departmental representative. If more investigation demonstrates that the materials do contain asbestos, the Contractor shall comply with the following requirements.

Prior to starting any work likely to emit asbestos dust, the Contractor must:

1. Provide a written procedure for the work, identifying the risk level of the work (low, moderate, high), as defined in section 3.23 of the *Code the sécurité pour les travaux de construction* S-2.1, r- 4, (Safety code for the construction industry). This procedure must take into account all the requirements of that section 3.23.

2. Submit certificates that demonstrate that all workers involved in the work have received training on asbestos hazards and on the procedure required in the preceding paragraph.

3. Demonstrate that he has all the material and equipment required on hand to respect the procedure and for safely conducting the work.

1.25 FUNGAL CONTAMINATION

It is not anticipated that the work covered by the present specifications involves the manipulation of materials contaminated by mould; however, if the Contractor or the Departmental representative or his agent discover materials which are susceptible of being contaminated by mould, the Contractor must immediately stop the work and advise the Departmental representative. If more investigation demonstrates that the materials do contain mould, the Contractor shall comply with the following requirements.

Prior to starting any work where workers are likely to be in contact with materials contaminated by mould, the Contractor must:

1. Provide a written procedure for the work which respects all the requirements of the *Code the sécurité pour les travaux de construction* S-2.1, r- 4, (Safety code for the construction industry), as well as the requirements indicated in the document "*Mould Guidelines for the Canadian Construction Industry*" published by the Canadian Construction Association (http://www.cca-acc.com/documents/electronic/cca82/cca82.pdf).

2. Demonstrate that he has all the material and equipment required on hand to respect the procedure and for safely conducting the work.

1.26 EXPOSURE TO SILICA

.1 Non applicable.

1.27 SANDBLASTING

.1 Non applicable.

1.28 LEAD-BASE PAINT REMOVAL

Prior to all work where workers are likely to handle materials containing lead-base paint or other substances containing lead, the Contractor must:

1. Provide a written procedure for the work which respects all the requirements of the *Code de sécurité pour les travaux de construction* S-2.1, r- 4, (Safety code for the construction industry), as well as the requirements indicated in the document "*Guideline for Lead on Construction Projects*" published by the Ontario Ministry of Labour (http://www.labour.gov.on.ca/english/hs/pdf/gl_lead.pdf). If there is a discrepancy between the Québec regulation and the Ontario document, the most stringent requirement shall apply.

2. Demonstrate that he has all the material and equipment required on hand to respect the procedure and for safely conducting the work.

1.29 EXPOSURE TO ANIMAL'S FECAL DROPPINGS

Prior to all work where workers are likely to come in contact with materials contaminated by animal's fecal droppings, the Contractor must:

1. Provide a written procedure for the work which respects all the requirements of the *Code the sécurité pour les travaux de construction* S-2.1, r- 4, (Safety code for the construction industry), as well as the requirements indicated in the document "*Des fientes de pigeons dans votre lieu de travail: méfiez-vous"* (Pigeon droppings in your workplace: Beware" published by the CNESST (http://www.csst.qc.ca/publications/100/Documents/DC100_1331_1web2.pdf)

2. Demonstrate that he has all the material and equipment required on hand to respect the procedure and for safely conducting the work.

1.30 RESPIRATORORY PROTECTION

1. Contractor must ensure that all workers who must wear a respirator as part of their duties have received training for that purpose as well as fit testing of their respirator, in accordance with CSA Standard Z94.4 *Selection, use and care of respirators.* Submit the certificates of the fit testings to the Departmental representative on demand.

1.31 FALL PROTECTION

1. Plan and organize work so as to eliminate the risk of fall at the source or ensure collective protection, thereby minimizing the use of personal protective equipment. When personal fall protection is required, workers must use a safety harness that complies with CSA standard CAN/CSA Z-259.10 M90. A safety belt must not be used as fall protection.

2. Every person using an elevating platform (scissors, telescopic mast, articulated mast, rotative mast, etc.) must have a training regarding this equipment.

3. The use of a safety harness is mandatory for all elevating platforms with telescopic, articulate or rotative mast.

4. Define the limits of the danger zone around each elevating platform.

5. All openings in a floor or roof must be surrounded by a guardrail or provided with a cover fixed to the floor able to withstand the loads to which it could be exposed, regardless of the size of the opening and the height of the fall it represents.

6. Everyone who works within two metres from a fall hazard of three metres or more must use a safety harness in accordance with the requirements of the regulation, unless there is a guardrail or another device offering an equivalent safety.

7. Despite the requirements of the regulation, the Departmental representative may require the installation of a guardrail or the use of a safety harness for specific situations presenting a risk of fall less than three metres.

1.32 SCAFFOLDINGS

In addition to the requirements of the *Code de sécurité pour les travaux de construction* (Safety code for the construction industry), the Contractor who uses scaffoldings must respect the following requirements:

Foundation

1. Scaffoldings shall be installed on a solid foundation so that it does not slip or rock.
2. Contractors wishing to install scaffoldings on a roof, overhang, canopy or awning shall submit their calculations and loads, as well as plans signed and sealed by an engineer to the Departmental representative and obtain his authorization before beginning installation.

Assembly, bracing and mooring

1. All scaffoldings shall be assembled, braced and moored in accordance with the manufacturer's instructions and the provisions of the *Code de sécurité pour les travaux de construction* (Safety code for the construction industry).
2. Where a situation requires the removal of part of the scaffoldings (e.g., crosspieces), the Contractor shall submit to the Departmental representative an assembly procedure signed and sealed by an engineer certifying that the scaffolding assembled in that manner will allow the work to be done safely given the loads to which it will be subject.
3. For scaffoldings where the span between two supports is greater than three metres, the Contractor shall provide the Departmental representative an assembly plan signed and sealed by an engineer.

Protection against falls during assembly

1. Workers exposed to the risk of falling more than three metres shall be protected against falls at all times during assembly.

Platforms

1. Scaffolding platforms shall be designed and installed in accordance with the provisions of the *Code de sécurité pour les travaux de construction* (Safety code for the construction industry).
2. If planks are used, they shall be approved and stamped in accordance with section 3.9.8 of the *Code de sécurité pour les travaux de construction* (Safety code for the construction industry)
3. Scaffoldings of four sections (or six metres) high or more shall have a full platform covering the entire surface between the putlogs every three metres high or fraction thereof, and the components of that platform shall not be moved at any time to create an intermediate landing.

Guardrails

1. A guardrail shall be installed on every landing.
2. Cross braces shall not be considered as guardrails.
3. If the platforms are not covering the entire surface between the putlogs, the guardrail must be installed just above the edge of the platform so that there is no empty horizontal space between the platform and the guardrail.
4. Where scaffoldings has four sections (or six metres) high or more and full platforms are required, the guardrails shall be installed on each landing at the start of work and shall remain in place until the work is completed.

Access

1. The Contractor shall ensure that access to the scaffoldings does not compromise worker safety.
2. Where the platforms of the scaffoldings are comprised of planks, ladders shall be installed in such a way that planks extending beyond the platform do not block the way up or down.
3. Notwithstanding the provisions of the *Code de sécurité pour les travaux de construction* (Safety code for the construction industry), stairs shall be installed on all scaffoldings that have six or more rows of uprights or is six sections (or nine metres) high or higher.

Protection of the public and occupants

1. When scaffoldings are installed in a zone accessible to the public, the Contractor shall take the necessary measures to prevent the public from having access to them and, if applicable, to the work or storage area located in the vicinity of these scaffolding.
2. Contractor must install covered walkways, nets or other similar devices to protect workers, the public and the occupants against falling objects. The means of protection must be approved by the Departmental representative.

Engineering plans

1. In addition to those required by the *Code de sécurité pour les travaux de construction* (Safety code for the construction industry), the Departmental representative reserves the right to require engineering plans for other types or configurations of scaffoldings.
2. A plan signed and sealed by an engineer is required for all scaffoldings that will be covered with a canvas, a tarpaulin or any other material that has wind resistance.
3. A certificate of conformity signed by an engineer is required in all cases where an engineering plan is required ~~for the installation~~ and this, before anybody uses the facility. A copy of these documents must be available on the construction site at all times.

1.33 CONFINED SPACES

.1 Non applicable.

1.34 EXCAVATION WORK

.1 Non applicable.

1.35 LIFTING LOADS WITH CRANE OR BOOM TRUCK

.1 Non applicable.

1.36 HOT WORK

.1 Non applicable.

1.37 ROOFING WORK

Protection against fall from heights

1. Installation of guardrails is mandatory at all times; however, the installation of a warning line is allowed to define the limits of the work zones provided that all the requirements of the articles 2.9.4.0 and 2.9.4.1 of the *Code de sécurité pour les travaux de construction* (Safety code for the Construction Industry) are respected.
2. The guardrails must remain in place until the end of the project. The Departmental representative will authorize their dismantling when he can confirm that all the work, inspections and corrections have been made.
3. Workers installing guardrails must wear safety harnesses.
4. Workers installing and modifying guardrails or flashing shall wear safety harnesses in the event guardrails must be moved temporarily.
5. Workers shall wear safety harnesses when receiving material and giving directions to the crane operator next to a drop.
6. Safety harnesses shall be worn when carrying out work next to a drop where collective protection is not sufficiently safe.

7. The Contractor shall provide a fastening method and safety cable system compliant with section 2.10.12 of the *Code de sécurité pour les travaux de construction (L.R.Q., S-2.1, r.4)* (Safety code for the Construction Industry) for each construction site or location.

Lifting of materials

1. For all winch installations, the Contractor shall provide the Departmental representative with the installation method recommended by the manufacturer. If unavailable, the Contractor shall then provide an installation procedure signed and sealed by an engineer. The installation procedure must take into account load-bearing capacity, the amount, weight and location of counterweight and any other detail that may affect the capacity and stability of the device.
2. The Contractor shall carefully inspect all of the slings and lifting accessories and make sure that those in poor condition are destroyed or scrapped.
3. Compressed-gas cylinders shall be lifted with a basket specially designed for this purpose.
4. In all cases where a crane or boom truck is used, the Contractor must respect the requirements of the paragraph Lifting Loads With Crane or Boom Truck, in this section.

Protection against burns

1. Individuals assigned to the boilers shall wear long sleeves, safety glasses and a face shield when filling the boilers.
2. Individuals working with asphalt or other hot liquids shall wear gloves, long sleeves and safety glasses.

Protection against fire

1. The storage and use of propane cylinders shall comply with the standard CAN/CSA-B149.2, *Propane Storage and Handling Code*. The cylinders shall be stored outdoors, in a safe place, away from any unauthorized handling, in a storage cabinet specially designed for this purpose. The cylinders shall be securely kept upright and locked at all times in a place where no vehicles are allowed unless the cylinders are protected by barriers or similar protection.

2. The number of propane cylinders on the roof shall not exceed the number of cylinders necessary for a day's work, and cylinders shall at all times be secured upright or held in a cart designed for this purpose.

3. All hot work (burning, heating, riveting, welding, cutting, grinding, etc.) must be done in accordance with paragraph "Hot Work" in this section.

Material and waste management

1. On the roof, light material and sheet material shall be kept in containers or be securely fastened. In the event this requirement is disregarded in the slightest way, the Departmental representative may disallow the storage of materials on the roof.
2. Waste shall be discarded as produced using a waste chute or appropriate containers. The Contractor shall provide the means to prevent waste from being carried away by the wind.
3. All waste must be removed from the roof at the end of shifts.
4. Unless otherwise authorized by the Departmental representative, all waste bins must be placed at least 3 m from any structure or building.

Protection of occupants and the public

1. Contractor must install covered passageways, nets or other devices above the entrances and the exits of the building to protect the workers, the public and the occupants against falling object. The means of protection must be approved by the Departmental representative.
2. A safety perimeter on the ground must be placed under the work zone in order to protect the workers, the public and the occupants.
3. The ground construction site, material handling area and boiler area shall be clearly sealed off to prevent occupants or the public from accessing the construction site and areas.
4. Before installing any device that may emit gas or fumes, the Contractor shall receive authorization from the person in charge of the construction site, who shall make sure that there is no risk of gas or fumes infiltrating the building's ventilation system.

1.38 STEEL STRUCTURE ERECTION OR DISMANTLING WORK

.1 Non applicable.

1.39 WORK NEAR BODIES OF WATER

1. For all work done near a body of water (such as work above water, work on a wharf, work on the edge of a watercourse, etc.), the Contractor must respect the requirement of the following paragraphs in addition to those in article 2.10.13 du *Code de sécurité pour les travaux de construction* (Safety code for the Construction Industry).

2. The Contractor must plan his work in a way to implement safety measures to prevent any worker from falling in the water. The use of theses measures should be favoured over the wearing of a life jacket.

3. Submit the following documents to the Departmental representative before the beginning of the work:

   a. description of the body of water;
   b. description of the work done next to this body of water;
   c. plan of transportation on water adapted to the work and to the characteristics of the body of water;
   d. rescue plan adapted to the work and to the characteristics of the body of water;

   Each of the document listed above must contain at a minimum the information required in section 11 of the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the Construction Industry).

   If there is the possibility that all or part of the work can be done during the winter, the safety measures included in the documents required above must be adapted accordingly.

4. The Contractor must submit to the Departmental representative the certificate of training required in article 11.2 du *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the Construction Industry) for the following individuals:
   a. the person assigned to prepare the documents required in the preceding paragraph; and
   b. each person responsible for the transport or rescue operations

5. If the rescue plan stipulates the use of a vessel, the Contractor must submit to Departmental representative the competency card or certificate for the individuals in the rescue team for his work, issued by Transport Canada.

6. The Contractor must include in his weekly inspection checklist the devices required in the articles 11.4 and 11.5 du *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the Construction Industry).

7. Ensure that a rescue vessel moored and in the water is available at each place where a worker may fall in the water. However, a vessel may serve more than one workplace on the same construction site provided the distance between any of these workplaces and the vessel is less than 30 m.

8. Where the construction site is a wharf, a pier, a quay or any similar structure, a ladder with at least two (2) rungs below the surface of the water shall be installed on the front of the structure every 60 m.

1.40 INTERIOR USE OF INTERNAL COMBUSTION ENGINES

.1 Non applicable.

1.41 TEMPORARY HEATING

1. In addition to respecting section 3.11 of the *Code de sécurité pour les travaux de construction* (S-2.1, r.4) (Safety code for the Construction Industry), the Contractor must also respect the requirements described in the following paragraphs.
2. A portable fire extinguisher must be available at all times near the heating units, no matter what type of heating is used.
3. The heating units must always be used in accordance with the manufacturer's specifications.
4. If applicable, the canvas or tarpaulins used next to the heating units must be solidly fixed so as not to be projected on the heaters, on the pipes connected to the heaters or on any other heat source.
5. The gas cylinders must be installed in a way that they are protected from vehicule and other equipment traffic.
6. For the use of heating units other than electric, the Contractor must install a carbon monoxide detector in the work area, next to the heating units and/or the workers, throughout the course of the heating period. The Contractor must immediately apply the corrective measures required to the heating units if the detector's alarm goes off.
7. The Contractor must ensure a minimum surveillance of the heating units outside the hours of work (nights and weekends). He must submit a surveillance plan to the Departmental representative before the use of the heating units.

1.42 WORK NEAR OVERHEAD POWER LINES

.1 When there is an overhead power line in the work zone and that the Contractor chooses to apply paragraph b) of article 5.2.2 of the *Code de sécurité pour les travaux de construction* (2.1, r.4) (Safety code for the Construction Industry), a copy of the agreement with the electrical power company and a copy of the work process, required in the article 5.2.2 b), must be submitted to the Departmental representative before the beginning of the work in relation to these documents.

1.43 DIVING OPERATIONS

.1 Non applicable.

1.44 HEALTH AND SAFETY SUBORDINATION AGREEMENT

Project: _____ Address: _____

EXTERNAL CONTRACTOR

I hereby agree to submit to the authority of (name of the Principal Contractor's business) _____, which is the Principal Contractor for the project indicated above during the entire duration of our work on the construction site. Accordingly, I confirm that I have reviewed the Principal Contractor's prevention program, and I agree to:

- inform my employees of the content of the Principal Contractor's prevention program and ensure that its content are complied with at all times;
- apply the prevention program that is specific to the activities that we carry out under this project;
- inform the Principal Contractor of my actions or dealings on the construction site and obtain the Principal Contractor's agreement before the start of work; and
- follow the health and safety directives provided by the representative of the Principal Contractor on the construction site and, depending on requirements, attend training sessions and health and safety meetings organized by the representative of the Principal Contractor.

Name of representative: _____

Name of business: _____

Description of work to be done on the construction site: _____

Approximate dates of work (start-end): _____

Signature: _____ Date: _____

PRINCIPAL CONTRACTOR

I hereby agree to allow the business (name of external contractor) _____ to perform the work under this project indicated above and, as Principal Contractor, to take the necessary steps to protect the health and safety of workers on the construction site. Should the Contractor repeatedly refuse or fail to comply with my directives, I agree to inform PWGSC's Departmental representative of this and to provide documentary evidence of my actions or dealings with the Contractor.

Name of representative: _____

Name of the Principal Contractor's business: _____

Signature: _____ Date: _____

Submit a completed and signed copy to PWGSC's Departmental representative

End of section

PART 1 - GÉNÉRAL

1.1 RELATED SECTIONS

1. 07 31 13 Asphalt Shingles

2. 09 91 16 Exterior Re-Painting

1.2 CODES, STANDARDS AND OTHER REFERENCE MATERIALS

1. All works must be executed in accordance to the requirements of the National Building Code (NBC), including all amending regulations published up to the deadline for bids reception, and to the requirements of other appropriate provincial or local codes; in the case of discrepancies among the requirements of the different documents, the strictest ones take precedence.

2. The works must satisfy or exceed the requirements of the documents below.

    1. The contractual documents.
    2. The standards, codes and other reference materials recommended.

1.3 DISCOVERY OF HAZARDOUS MATERIALS

1. Asbestos: Demolition of structures made of or covered with materials containing asbestos applied by projection or with a trowel presents health risks. If such materials are discovered during demolition works, interrupt demolition immediately and notify Departmental Representative in order for him to determine required investigation and analysis.

2. PCB (Polychlorinated biphenyls): If Polychlorinated biphenyls are discovered during demolition works, interrupt demolition immediately and notify Departmental Representative.

3. Mildew: If mildew is discovered during demolition works, interrupt demolition immediately and notify Departmental Representative.

1.4 SMOKE FREE ENVIRONMENT

1. Restrictions concerning smokers are the same as municipal regulations and must be upheld.

1.5 NATIONAL PARKS LAW

1. Work executed within the limits of a National Park must be done in accordance with the National Parks Law.

PART 2 - PRODUCTS

1. Non applicable.

PART 3 - EXÉCUTION

1. Non applicable.

END OF SECTION

PARTIE 1 - GÉNÉRALITÉS

1.1 ABBREVIATIONS

1. The abbreviations below, found in different sections of the architectural specifications, refer to the following technical associations or organizations.

    1. CCA Canadian Construction Association
    2. CRCA Canadian Roofing Contractors' Association
    3. ACNOR Association Canadienne de Normalisation
    4. TTMAC Terazzo, Tile, Marble Specifications, Standards and Testing
    5. AISI American Iron and Steel Institute
    6. AMCQ Association des Maîtres-Couvreurs du Québec
    7. ASAHC American Society of Architectural Hardware Consultants
    8. ASTM International Anciennement American Society for Testing and Materials
    9. AWPA American Wood-Preservers' Association
    10. BNQ Bureau de Normalisation du Québec
    11. BSI British Standard Institute
    12. CAN National Standard of Canada
    13. CBD Canadian Building Digest
    14. CCQ Commission de la construction du Québec
    15. CGSB Canadian General Standards Board
    16. NBC National Building Code (including Quebec modifications), latest edition
    17. NRC National Research Council canada
    18. NFC National Fire Code Canada
    19. CSA Canadian Standards Association
    20. CSST Commission de la santé et de la sécurité du travail
    21. FM Factory Mutual System
    22. FS Federal Specifications (USA)
    23. IMQ Institut de la Maçonnerie du Québec
    24. NAAMM National Association of Architectural Metal Manufacturers
    25. NFPA National Fire Protection Association
    26. NRC National Research Council Canada
    27. CGSB Canadian General Standards Board
    28. SAE Society of Automotive Engineers Inc.
    29. SSPC Society for Protective Coatings
    30. ULC Underwriters' Laboratories of Canada

END OF SECTION

PART 1 - GÉNÉRAL

1.1 RELATED SECTIONS

1. Section 01 33 00 Submittal Procedures
2. Section 01 61 00 Common Product Requirements

1.2 DEFINITIONS

1. In the context of this section, the word « professional **»** has the same meaning as « architect » or « engineer » or « Departmental Representative ».

1.3 INSPECTION

1. The professional must have access to the work. If part of the work is done outside of the construction site, he must also be guaranteed access to that location throughout duration of the work.

2. In case certain parts of work are subject to inspections, approvals or special tests commissioned by the professional or required in the terms of local regulations concerning the construction site, request must be made within a reasonable timeframe.

3. If Contractor has covered or given permission to cover work before it has been subjected to required inspections, approvals or special tests, he must uncover said work, see that the inspections or tests be performed to the satisfaction of the competent authority, then return work to its initial condition.

4. The professional may order an inspection of any part of the work whose compliance with the contractual documents is questioned. If, after review, the work in question is declared non-compliant with the contractual document requirements, the Contractor must take the necessary measures to make the work consistent with the specified requirements, and cover inspection and repair costs. If the work in question is declared compliant with the contractual document requirements, the Owner will cover the inspection and repair costs incurred.

1.4 INDEPENDENT TEST AND INSPECTION AGENCIES

1. The professional will take care of hiring the services of independent test and inspection agencies. The cost of these services will be covered by the Owner.

2. Provide the materials required by the appointed agencies so they can proceed with tests and inspections.

3. The use of test and inspection agencies does not remove the Contractor from being responsible for the work being done in accordance to the requirements in the contractual documents.

4. If defects are found during these tests and inspections, the appointed agency will request a thorough inspection and additional tests to determine the precise nature and importance of said defects. The Contractor will then have to correct the defects and imperfections according to the professional's guidelines, with no additional cost to the Owner, and cover the costs for the tests and inspections that will have to be performed after these corrections.

1.5 CONSTRUCTION SITE ACCESS

1. Allow the test and inspection agencies to have access to the construction site as well as offsite production and shaping workshops.

2. Cooperate with these agencies and take all reasonable measures to grant them the desired means of access.

1.6 PROCEDURE

1. When proceeding to tests, notify the appropriate agency and the professional in advance, to allow all concerned parties to be present.

2. Submit samples, materials, supplies and equipment necessary for the tests according to the requirements in the specifications, within a reasonable timeframe and following a predetermined order as not to delay work proceedings.

3. Provide necessary labor and facilities in order to collect and manipulate the samples and the materials/supplies on construction site. Also provide required space for storage and curing of samples.

1.7 REJECTED WORKS

1. Remove defective elements found not compliant to contractual documents and rejected by the professional, either because they haven't been built properly, or because they were built with faulty materials or products, even if they have already been incorporated into the work. Replace or rebuild the elements in question according to the requirements in the contractual documents.

2. If applicable, repair without delay other contractors' work that has been damaged during above-mentioned reconstruction or replacement work.

3. If the professional deems it inappropriate to repair work that is defective or non-compliant with the contractual documents, the Owner will subtract the difference between the work that has been done and the work recommended in the contractual documents from the contract price, the amount of that difference being determined by the professional.

1.8 REPORTS

1. Provide two (2) copies of the test and inspection reports to the Departmental Representative.

2. Provide copies of these reports to the subcontractors responsible for the tested or inspected structures.

1.9 TESTS AND DOSAGE FORMULATIONS

1. Provide the requested testing reports and dosage formulations.

2. The costs of tests and dosage formulations that have not been specifically requested by the terms of the contractual documents or local regulations concerning the construction site will be submitted for approval to the professional and may be subject to reimbursement later on.

1.10 WORK SAMPLES

1. Prepare work samples required explicitly in the specifications. Requirements contained in the present article are valid for all specification sections in which work samples are called for.

2. Build work samples in the different locations specified in the intended section.

3. Prepare work samples to be approved by the professional in a timely fashion and following a predetermined order, as to not delay work progress.

4. Delay in building work samples does not constitute a valid reason to obtain a longer time limit for the work and no request to that effect will be accepted.

5. The professional may help the Contractor, as needed, to establish a timeframe for the preparation of work samples.

6. Remove work samples on completion of work or at a moment determined by the professional.

7. Work samples may be part of the completed work.

8. Refer to each section of the specifications calling for work samples to establish if samples may or may not be part of the finished work and at what point they should be removed, if need be.

1.11 FACTORY TESTS

1. Certificates for tests performed in factory must be submitted as required in different sections of the specifications.

PART 2 - PRODUCTS

2.1 NON APPLICABLE

1. Non applicable

PART 3 - EXÉCUTION

3.1 NON APPLICABLE

1. Non applicable

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCES

1. Canadian Construction Documents Committee (CCDC)
   1. CCDC 2 -1994, Fixed Price Contracts

2. Canada Green Building Council (CaGBC)
   1. LEED Canada-NC 1.0-décembre 2004, LEED (Leadership in Energy and Environmental Design) : Green building rating system for new buildings and major refurbishment.

3. Canadian General Standards Board (CGSB)
   1. CAN/CGSB 1.189-[00], Primer, alkyd, wood, exterior.
   2. CGSB 1.59-[97], Alkyd, exterior-gloss enamel.

4. Canadian Standards Association (CSA International)
   1. CSA-A23.1/A23.2-F04, Concrete materials and methods of concrete construction / Test methods and standard practices for concrete.
   2. CSA-0121-FM1978(C2003), Douglas Fir Plywood.
   3. CAN/CSA-S269.2-FM1987(C2003), Scaffolding.
   4. CAN/CSA-Z321-F96(C2001), Signs and signals for the workplace.

5. Public Works and Government Services Canada (PWGSC), Standard Acquisition Clauses and Conditions (SACC) - ID : R0202D, Title : General conditions * C +, in effect since May 14th 2004.

6. 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.

1.2 SUBMITTAL PROCEDURES

1. Submit required documents and samples according to section 01 33 00 – Submittal Procedures

1.3 INSTALLATION AND REMOVAL OF MATERIAL

1. Prepare a site plan indicating proposed placement and dimensions of area which is to be enclosed and used by Contractor, number of construction trailers needed, access roads to enclosed area and enclosure installation details.

2. Indicate areas to be covered in gravel to prevent mud accumulation.

3. Indicate any additional or transit area.

4. Provide, establish or prepare all construction facilities necessary to allow work to proceed as soon as possible.

5. Disassemble facilities and remove from construction site as soon as they are no longer needed.

1.4 SCAFFOLDING

1. Scaffolding: Compliant with CAN/CSA-S269.2 standard.

2. Provide and maintain scaffolding, access ramps, ladders, and temporary stairs required for proper execution of work.

1.5 HOISTING EQUIPMENT

1. Provide, install and maintain winches and cranes necessary for transport of workers, materials/supplies and equipment, as well as someone to operate them. Make necessary financial arrangements with subcontractors for use of hoisting equipment.

2. Operation of winches and cranes must be assigned to qualified workers.

1.6 ON SITE STORAGE/ACCEPTABLE LOADS

1. Ensure that work is done within the limits specified in the contractual documents. Do not crowd the premises unreasonably with materials and supplies.

2. Do not overload or allow overloading of any part of the work to ensure its integrity.

1.7 CONSTRUCTION SITE PARKING

1. It is permitted to park on construction site as long as the work in not obstructed.

2. Construct and maintain suitable access roads into construction site.

1.8 SECURITY MEASURES

1. Hire reliable security staff to ensure surveillance of the construction site and the materials/supplies contained on site, after work hours and during days off. Cover cost of security staff.

1.9 OFFICES

1. Set up a well ventilated office, heated to a temperature of 20 degrees Celsius and fitted with light fixtures providing a 750 Lux level of lighting. The office must be of sufficient dimensions to accommodate work site reunions and have a large enough table to allow the drawings to be spread out.

2. Provide a complete and easily identifiable first-aid kit and place it in a readily accessible area.

3. Subcontractors must set up their own offices, as needed. Provide an area where they can set up.

1.10 MATERIALS, SUPPLIES AND TOOL STORAGE

1. Provide weather proof, lockable sheds for storage of materials, supplies and tools. Keep them clean and orderly.

2. Materials and supplies that don’t need weatherproofing can be kept on site as long as they don’t interfere with the work taking place.

1.11 SANITARY FACILITIES

1. Provide sanitary facilities for workers compliant with relevant rules and regulations.

2. Display required notices and take all precautions required by the local sanitary authorities. Keep site and area clean.

1.12 CONSTRUCTION SITE SIGNS

1. Provide a construction sign consisting of a wooden framework and a substrate of 1200 mm x 2400

    1. Framework elements and Shims: 89 x 89mm, pressure treated EPS.

    2. Substrate: Medium density, Douglas plywood, compliant with CSA O121 standard.

    3. Fastening Devices: Hot dip galvanized steel nails and machine bolts.

    4. Vinyl coating: Self-adhesive vinyl film, displaying construction site identification inscription, provided by Departmental Representative.

2. Install construction sign in location specified by Departmental Representative and assemble as follows.

    1. Assemble framework and attach plywood panel to framework.

    2. Apply a coat of primer and 2 coats of paint to every surface of the panel and framework. Use white paint for panel face and black paint for all other surfaces.

    3. Apply vinyl film to painted face of panel according to supplied laying instructions.

3. Send approbation requests to install an identification sign for Consultant/Contractor to Departmental Representative. Overall appearance of this sign must match the construction sign and all text must be written in both official languages.

4. All text appearing on the instruction signs and security notices must be written in both official languages. The graphic symbols must conform to CAN/CSA-Z321 standard.

5. Keep all signs and notices in good condition throughout duration of work and remove them once work is completed, or beforehand if Departmental Representative requests so.

1.13 PROTECTING AND MAINTAINING TRAFFIC FLOW

1. As needed, set up access roads as well as temporary detour routes in order to maintain traffic flow.

2. Maintain and protect traffic flow on all roads affected throughout duration of work, unless otherwise specified by Departmental Representative.

3. Provide measures for protection and detour of traffic flow, including surveillance and signaling services, installation of barricades, installation of light fixtures around and in front of equipment and work zones, set up and maintenance of warning signs, danger signs and appropriate directional signage.

4. Provide protection to the traveling public against damages to individuals and goods.

5. Contractor’s automotive equipment used for transport of materials/supplies on and off site must hinder traffic flow as little as possible.

6. Make sure existing roads and load limits authorized on these roads are sufficient. Contractor is required to repair damaged roads after work is completed.

7. Build necessary construction site access roads.

8. Take necessary dust reduction measures to ensure a secure progression of work at all times.

9. Placement, slope, width and layout of construction site access roads are subject to approval by the

Departmental Representative.

10. Provide snow removal during the construction period.

1.14 CLEANING

1. All construction debris, trash and packing materials must be removed from work site daily.
2. Remove dust and mud from hard covered roads.
3. Store materials/supplies salvaged during demolition work.
4. Do not store new materials/supplies or salvaged materials/supplies on construction site facilities.

PART 2 - PRODUCTS

1.1 NON APPLICABLE

1. Non applicable.

PART 3 - EXECUTION

1.1 NON APPLICABLE

1. Non applicable.

END OF SECTION

PART 1 - GÉNÉRAL

1.1 GENERAL

1. Maintain sufficient and uninterrupted protection of work against damages and take reasonable precautions to protect the Owner's property against all damages ensuing from present contract. Fix any damaging outcome in relation to these works on said property and neighbouring properties, resulting from lack of reasonable precautions.

2. Install temporary protection elements gradually as work progresses for each trade; make sure protection stays in good condition and replace any protection element that has been damaged, removed, displaced, etc.; for more information on this subject see specifications for particular protection requirements of each section.

3. In general, work from each trade must be protected against any damages until final approval by owner; requirements specific to certain types of work such as drying or curing periods or any other type of protection must be respected. When necessary, close off and prevent access to areas for required periods of time.

4. Make sure all equipment and/or materials are stored and put away at the end of each work day to prevent them from cluttering up the floor and obstructing people from moving around. As needed, provide fasteners and counterweights.

2. TRAFFIC AREAS

1. Using firmly secured drop cloths, polyethylene, or other appropriate materials approved by the Departmental Representative to protect the walls and other works located near the freight elevator, ramps, ladders and other temporary transport facilities and passage ways, inside as well as outside building.

3. VANDALISM

1. Take all necessary measures to protect materials adequately against any form of vandalism or theft.

2. If certain materials delivered or work done on site are subject to vandalism or theft, the architect will order security guard services on construction site outside of opening hours, at the expense of the contractor.

3. These guard services do not remove from the contractor the obligation to protect himself against such actions by securing proper insurance, for he remains responsible for the work and materials as long as they haven't been approved by the owner.

4. REPAIRS

1. Repairs or rebuilding of any property or work done or destroyed due to the construction work or lack of precautions will be done to the expense of the contractor.

5. COLD WEATHER CONDITIONS

1. During cold weather conditions, protect before, during and after completion, against cold and frost using temporary shelters, heating and other appropriate methods. Work liable to be damaged by water and humidity must also be protected against these conditions.

END OF SECTION

1.1 GENERAL

1. Unless otherwise specified, use new materials, parts and equipment, in perfect condition, of the highest quality and made in Quebec, when possible.

2. Within 7 days of written request submitted by the architect, provide the following information for a few or all the materials and products to be used:
    1. Name and address of manufacturer.
    2. Trademark, model and catalog number.
    3. Performance, description and test results.
    4. Manufacturer's instruction on installation or application of product.
    5. Clearly prove they can be obtained.

3. Provide and install materials and equipment compliant with requested design and quality, performing to the established standards and for which replacement parts can easily be obtained.

4. Unless otherwise specified, use one manufacturer's products for products or equipment of the same type or grade.

5. Products found to be defective before work is completed will be rejected, regardless of conclusions from previous inspections. The purpose of the inspections is not to remove responsibility from the contractor but to reduce the risks of omissions and errors. The contractor will be responsible for removing and replacing the defective products at his expense and will be responsible for ensuing delays and costs.

1.2 MANUFACTURER'S INSTRUCTIONS

1. Unless otherwise specified, follow the manufacturer's most recent written instructions concerning materials and equipment to be used, as well as for installation methods.
2. Notify architect in writing of any inconsistency between present specifications and manufacturer's instructions; the architect will determine which document must be followed.

1.3 FASTENING COMPONENTS

1. Provide metal fastening components and hardware with the same texture, colour and finish as the metal support to which they will be attached. Avoid having different metals exposed to an electrolytic action.

2. Placement of anchors must take into account load limits and shear resistance in order to achieve a permanent anchoring. Wooden pegs are not accepted.

3. Use as little exposed fastening components as possible; space them evenly and install them properly.

4. Fastening components which could cause crumbling or cracking of the material used as an anchoring base will be refused.

5. Approval from the Departmental Representative must be obtained before using fastening components installed with pneumatic nailer. Once approval is obtained, comply with ACNOR standard Z166-1975.

1.4 FASTENING MATERIAL

1. Use fastening components of standard commercial shapes and sizes made of the required materials and having a finish appropriate to intended purpose.

2. Unless otherwise specified, use heavy-duty, hexagonal head fastening components. In the case of exterior installation, use type 304 stainless steel components.

3. The bolts must not protrude from the nuts by more than one length of their diameter.

4. Use ordinary washers on equipment, sheet metal lock washers with flexible gaskets in areas where vibrations may occur and flexible washers on steel components.

1.5 DELIVERY AND STORAGE

1. Materials and equipment must be delivered and stored in such a way as to keep the manufacturer's seal and label intact.

2. Avoid damaging, altering or dirtying the materials and equipment during their delivery, handling and storing. Materials and equipment having been refused must be removed from the construction site immediately.

3. Store materials and equipment according to the supplier's instructions.

4. Factory finished surfaces which have been damaged, must be patched as is satisfactory to the Departmental Representative. Use primer or enamel matching the original finish. Do not paint over informative plaques.

1.6 STANDARDS COMPLIANCE

1. If materials or equipment are specified under descriptive or performance standards, ask manufacturer, upon architect's request, to supply a report from an independent test laboratory, certifying that the materials and equipment meet or exceed the specified requirements.

1.7 REPLACEMENTS

1. The contractor is required to prepare his bid with the materials, accessories and appliances specified in the plans and specifications, for he must, should he be allowed the contract, provide and install exactly said materials, accessories and appliances.

2. Equivalence propositions must be submitted to the Departmental Representative for approval at least seven (7) days before bid application date.

1.8 CONSTRUCTION EQUIPMENT AND TOOLS

1. Upon demand, proof must be made, as is satisfactory to the architect, that the construction equipment and tools are appropriate to the production, transportation and execution of a finished product meeting the specified quality and production rate.

2. Maintain construction equipment and tools in good working order.

1.9 MATERIAL COMPATIBILITY

1. Before installation or application of materials, check material compatibility. Make sure that materials likely to cause chemical or electrolytic reactions are properly separated from one another by adequate insulating or neutralizing materials.

1.10 STORING, HANDLING AND PROTECTION OF PRODUCTS

1. Avoid damaging, altering or dirtying products during transport and storage by following manufacturer's instructions, where applicable. Store products in their original packaging taking good care not to damage manufacturer's seals and labels. Do not unpack or untie products before it is time to incorporate them into the project.

2. Products that may be damaged during bad weather must be stored in a covered and weatherproof area.

3. Hydraulic binders must not be left on the ground or on a concrete floor; they also must not come in contact with any walls.

4. Sand that is meant to be mixed into mortars and grouts must be kept dry and clean. Store on wooden supports and protect from bad weather with tarps when necessary.

5. Lay sheet materials, building timber, etc. on solid and flat surfaces so they don't lie directly on the ground. Store on a slight slope as to help drain condensation.

6. Store and mix paints in a well heated and well ventilated area. Remove oily rags and other flammable waste from work site daily. Take all necessary measures to prevent risks of spontaneous combustion.

7. Replace all damaged products, at no additional charge, as is satisfactory to the architect or engineers.

8. Avoid damaging, altering or dirtying products during transport and storage by following manufacturer's instructions, where applicable.

1.11 SHIPPING

1. Cover shipping charges for products required for execution of the work.

2. Shipping charges for products provided by the Owner are his responsibility. Handle unloading, handling and storing.

1.12 EXECUTION

1. General :

    1. Execution must be of the highest possible quality and the work must be executed by tradesmen skilled in their respective fields. Notify architect or engineer immediately if the nature of the work to be done is such that expected results can virtually not be attained.
    2. Do not hire individuals who are unqualified or lack the required competencies to execute the assigned work. The architect or the engineers reserve the right to demand the dismissal of any individual deemed incompetent, negligent, insubordinate or whose presence cannot be tolerated on work site.
    3. The architect and engineers alone can settle disputes concerning quality of the work execution and suitability of the work force and their decision is final.

2. Coordination :

    1. Make sure the workers cooperate with each other on the execution of the project. Perform full and constant supervision of the workers' progress on the project.
    2. Take charge of coordination and implementation of crossbeams, sleeves and fittings.

3. Concealment of ducts :

    1. Unless otherwise specified, conceal pipes, ducts and electrical wiring in the floors, walls and ceilings in finished areas.
    2. Before concealing ducts, advise the architect or the Consultants of any unusual situation. Install following architect, engineers or consultants instructions.

END OF SECTION

PART 1 - GÉNÉRAL

1.1 GENERAL

1. As the work progresses, carry out cleaning and disposal operations according to local regulations and anti-pollution laws.

2. Place volatile waste in covered metal containers and remove them from construction site daily.

3. Avoid build-up of potentially dangerous waste.

4. Ensure good ventilation when using volatile or toxic substances.

1.2 PRODUCTS

1. Use only manufacturer recommended cleaning products for each surface to be cleaned, and only in the way recommended by the cleaning product's manufacturer.

2. Use sufficiently powerful commercial equipment suitable to the required cleaning tasks.

1.3 LANDFILLS

1. All waste, scrap and debris must be taken out of worksite and transported to landfills or other locations allowed by codes and applicable laws.

2. Transport and landfill fees will be paid for by contractor.

1.4 CLEANING DURING CONSTRUCTION

1. Keep construction site clean and public properties free of debris and waste.

2. Carry out cleaning tasks daily.

3. Do not allow waste, scrap or debris to accumulate on construction site, either inside the building or on neighbouring lots.

4. Have on site the necessary containers intended for waste and debris.

5. Vacuum inside the building before starting work on finishing paint and continue to do so, as needed, until building is almost finished and ready for occupancy.

6. Set cleaning schedule so that blown up dust and other dirt does not fall onto freshly painted surfaces.

7. In the event the contractor does not accomplish cleaning as is satisfactory to the Departmental Representative, the latter may, without further notice, arrange for cleaning to be done by others, to the expense of the contractor.

1.4 FINAL CLEANING

1. Once work is almost complete or that building is almost ready for occupancy, proceed to an inspection of visible surfaces, interior and exterior.

2. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from visible finished surfaces, interior and exterior, including washing all window panes, glass or mirrors. All counter surfaces,

vanity tops, plumbing equipment or polished equipment affected by present work.

3. Remove debris and surplus materials from rooftops, concealed spaces and grounds.

4. Clean reflectors, diffusers and other lighting surfaces.

5. Replace filters from heating systems, ventilation and environmental control systems, if these units functioned during construction.

6. Refer to appropriate specification sections in the case of elements or finishes needing specific types of cleaning.

7. Remove debris from grounds and interior of building.

8. On completion of the work, proceed to a thorough cleaning of all rooms, rooftop surfaces and in areas inside building affected by the present project.

9. Ceilings, floors and walls must be free of stains and scratches.

10. The inspection for approval of the works towards substantial completion of the project will be done when all rooms and other surfaces are completely clean. Furthermore, if defects are corrected afterwards, clean again, until final reception of the work.

END OF SECTION

PART 1 - GÉNÉRAL

1.1 DOCUMENTS

1. At « Final Acceptance of the Work », the contractor must submit the following documents to the architect :

    1. The documents, catalogs, manufacturer's instructions, etc. as required in the plans and specifications.

    2. All warranties required of contractors, sub-contractors or suppliers, in accordance with the terms of the specifications.

    3. The various reports for tests and controls required in the contractual documents.

    4. « As completed » revised plans: On completion of project and before final inspection, carefully transcribe the amendments to the finished project onto the two (2) sets of plans; to be given to the Owner.

END OF SECTION

PART 1 - GENERAL

1.1 INCLUDED WORK

1. All interior demolition and dismantling work indicated in the plans.

2. All material identified for **removal** or **demolition,** or for recovery before relocation, in the demolition plans.

3. Also required : the demolition or dismantling of any existing element in order to put in place new components shown in the plans in the event where these elements are not indicated in the demolition plans and do not appear in the construction drawings. Include reinstalling of these elements after work is completed.

4. All demolition and drilling work required for installing a new ventilation system and ducts, lighting fixtures, and other elements required in engineering.

5. The contractor must take into account the protection of connections of any kind (telephone, electric, mechanical and gas).

6. All required shoring elements (where needed) must be approved by a structural engineer who is a member in good standing of the Ordre des ingénieurs du Québec and is paid by the general contractor.

1.2 INSPECTION

1. Notify the Departmental Representative concerned when demolition and dismantling works are completed.

1.3 CONDITION OF STRUCTURES TO BE DEMOLISHED

1. Undertake demolition of structures in the state they were in on the day the contract was awarded.

2. Before starting any work, check the condition of all plumbing, ventilation and electricity systems affected by partial demolition. Inform the Departmental Representative in writing of any malfunction of existing systems.

1.4 PROTECTION MEASURES

1. Take all necessary measures to avoid shifting or settling of structures and parts of buildings, or causing any damage to them. Provide and install the parts required for reinforcing and shoring and, where necessary, carry out underpinning work. Repair damaged structures and accept responsibility for any bodily injury that may result from demolition work.

2. Ensure that demolitions do not obstruct electrical and mechanical systems, which must remain in operation.

1.5 COORDINATION

1. Coordinate the sequence of demolition work with the execution of repair work, according to a systematic order based on the following requirements:

   .1 Ensure protection against intrusion into the building at all times.
   .2 Do not permit water to infiltrate the building or existing components to be maintained on site.

1.6 SCOPE OF DEMOLITION

1. All material indicated for demolition, dismantlement, removal or recovery in areas specified in the plans must in general be removed from any part of the building if this is required for the installation of new components.

2. The discovery of any material which is not identified in the demolition plans and which impedes the required work must be referred to the Departmental Representative for guidelines.

3. Any temporary disconnection of equipment or service operation to the building required for carrying out repair work will be done at the contractor's expense. Likewise, reconnection of this equipment or service is included in the contract

PART 2 - PRODUCTS

2.1 NON APPLICABLE

1. Non Applicable

PART 3 - EXECUTION

3.1 PRODUCT DISPOSAL

1. Unless otherwise specified, dispose of products from the demolition.

2. Products identified for recovery or preservation must be stored upon removal in a secure area and protected from damage, until reuse. This site must be approved by the Departmental Representative.

3. Selling and burning of demolition material on site are prohibited.

3.2 DRILLING

1. Drilling must be done with a clean and precise cut without exceeding the dimensions required for installation of the new structures.

2. Avoid notching the structural components of the frame.

3.3 VARIOUS CUTS

1. Where required, linear cuts, for example as regards filler pieces, roof overhangs, window sills, or wall panels, will be made using specialized tooling enabling a clean cut without chipping the materials to be preserved.

END OF SECTION

PART 1 - GÉNÉRAL

1.1 INCLUDED WORK

1. Furrings, blow-mouldings and exterior strapping.
2. Roof cladding substrate
3. Patching at perimeter of new openings (grids or other architectural requirements) as well as at perimeter of maintained existing openings (doors, windows and more).
4. Watertightness of openings (for products see 07 92 10).
5. Other works indicated in the plans or necessary for proper execution of work.

1.2 RELATED WORK

1. To be coordinated with all other sections of these specifications.

1.3 QUALITY ASSURANCE AT SOURCE

1. Lumber by grade stamp of an agency certified by *Canadian Lumber Standards Administration Board* or compliant with applicable ACNOR standard.
2. Plywood: Classification Grade compliant with current CSA standard.

1.4 PRODUCT DATA

1. Provide Departmental Representative with the technical description of products to be used, before starting work.

1.5 INSPECTION

1. Have Departmental Representative inspect every stage of carpentry work before covering work. See 01 33 00 Submittal procedures

1.6 WASTE MANAGEMENT AND DISPOSAL

1. It is forbidden to bury waste materials and trash on site.
2. It is forbidden to dispose of trash in a body of water or in a storm or sanitary sewer.
3. The contractor must have a waste container independent from the owner's to dispose of trash and it must be emptied regularly. No accumulation of trash on site or near the container will be tolerated.

PART 2 - PRODUCTS

2.1 MATERIALS

1 **Lumber**: Eastern SPF species, n^{o} 2 category and better, labeled S-Dry, maximum humidity level 19%.
2. **Furrings and Blow Mouldings** : Shims, nailing strips, strapping.
3. **General Use Plywood** : Western softwood lumber, labeled exterior and SPF, one good side, thickness as specified in the plans, grooved.
4. **Pine wood board** : Select white pine, thickness and width as specified in the plans.

5. **Plywood Screws** : Black steel, socket type countersunk head, 65 mm.
6. **Ethafoam :** Ethafoam cellular foam.
7. Any other material identified in the plans.

2.3 FASTENERS AND HARDWARE PARTS

1. Unless a particular type is specified, comply to CNB 2010 requirements as well as following requirements:

   1. Nails, pegs and staples must comply to CNB 2010 requirements, except for the following, compliant with ACNOR B111-1974 standard.
      1. Unless otherwise specified use spiral nails and pegs.
      2. Unless otherwise specified, use hot-dip galvanized steel fasteners for outside work, interior work located in very humid areas and pressure treated wood work.

   2. Bolts, nuts, washers, screws and pins: use hot-dip galvanized finish fasteners, according to ACNOR G164-M1981 standard, for exterior work located in very humid areas and for pressure treated wood work; in other cases, when they are visible, fasteners must be coated with a primer.

   3. Nailing Washers: flat heads at least 25 mm in diameter, sheet metal or fiber at least 4 mm thick, shaped as to avoid curving. Rounded or curved washers are not acceptable.

PART 3 - EXÉCUTION

3.1 GENERAL

1. Carefully examine plans, specifications and architectural, structural, mechanical and electrical details to determine, provide and install or as the case may be install only, securely and in the right place, all elements and articles necessary to completely execute construction work. All cladding, fasteners, backings and capping will be securely attached, adjusted, aligned properly, level, strictly plumb, executed according to the plans.

2. Carry out following work as well: capping, buffing, manufactured blocks, strapping and others, plywood panels as strapping.

3. All capping, strapping, sub-frames, blow-mouldings, to be used based on common usage, and not shown on the drawings are included in this contract when necessary to proper execution of the work in the spirit of the plans and specifications.

4. Carry out all drilling, work corrections, adjustments and other work not indicated in the plans. Replace parts damaged during work.

5. Ensure full coordination with all trades in question without exception, to carry out installation of any element necessary to the proper execution of the work.

6. Proceed according to NBC requirements.

3.2 FURRING AND SHIMS

1. Install furring to support vertically installed cladding, windows, walls, ceilings, claddings, edges and other types of work when framework doesn't feature shims and that cladding cannot be nailed directly onto wall or roof.

2. Install furring and plumb shims and align them respecting a 1:60 gap.

3.3 ROOF DECK

1. Roofing plywood will be installed in such a way that its longest direction intersects with the structure. Stagger seams from one row to another by at least one half panel length. All edges of the panel must be supported. Attachments must not exceed 200 mm c/c.

2. Roofing panels are nailed.

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

1. Asphalt shingles, roll roofing, accessories, existing roof removal and installation of new shingles.

2. Attic and ridge ventilator.

3. Flashings and metallic trim included in the plans: soffits, flashings and others.

1.2 RELATED WORKS SPECIFIED ELSEWHERE

1. Section 02 41 99 - Demolition for minor work.
2. Section 06 10 00 – Rough carpentry
3. Section 07 92 00 – Join sealants

1.3 REFERENCES

1. Canadian General Standards Board (CGSB).

    1. CAN/CGSB-37.4-M89, Fibrated, Cutback Asphalt, Lap Cement for Asphalt Roofing
    2. CAN/CGSB-37.5-M89, Cutback Asphalt Plastic Cement.
    3. CAN/CGSB-51.32-M77, Sheeting Membrane, Breather Type.
    4. CAN/CGSB-51.34-M86, Vapour barrier, polyethylene sheet for use in building construction.

2. Canadian Roofing Contractors Association (CRCA).

    1. Specifications, Roofing, 1997, by CRCA.

3. Canadian Standards Association (CSA)/CSA International.

    1. CAN/CSA-A123.1/A123.5-98, Asphalt Shingles made from organic felt and surfaced with mineral granules/ Asphalt shingles made from glass felt and surfaced with mineral granules.

    2. CSA A123.2-M1979 (R2001), Asphalt-Coated Roofing Sheets.

    3. CAN/CSA-A123.3-98, Asphalt Saturated Organic Roofing Felt.

    4. CAN3-A123.51-M85 (C2001), Asphalt Shingle Application on Roof Slopes 1:3 and Steeper.

    5. CAN3-A123.52-M85 (C2001), Asphalt Shingle Application on Roof Slopes 1:6 to Less than 1:3.

    6. CSA B111-1974 (R1998), Wire Nails, Spikes and Staples.

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

    1. Material Safety Data Sheet (MSDS).

5. National Research Council Canada (NRC)/Institute for Research in Construction (IRC) – Canadian Construction Materials Center (CCMC).

    1. CCMC-2002, Registry of product evaluations.

1.4 SUBMITTAL PROCEDURES

1. Provide manufacturer‘s instructions when work requires specific methods of handling, installation, cleaning and restrictions.

2. Submit required data sheets according to section 01 33 00 – Submittal Procedures.

3. Asphalt shingles data sheets must deal with the following :

    1. product characteristics,
    2. performance criteria,
    3. installation instructions,
    4. limitations,
    5. colour and finish.

1.5 PRODUCT SAMPLES

1. Submit required samples according to section 01 33 00 – Submittal Procedures.

2. Submit duplicate samples of shingles to be used.

1.6 QUALITY ASSURANCE

1. Provide a sample of the work

    1. Build a 3000 x 3000mm mock-up, see section 01 45 00 – Quality Control

    2. The mock-up must indicate customized metal flashings, joining methods and joint placement, fastening methods and placement of fasteners, and installation details required by project conditions.

    3. Once approved, the mock-up will establish minimum standard to be respected for the project, and may be incorporated into completed work. Provide all primary roofing products including shingles, underlayment, and leak barrier by a single manufacturer.

2. Provide all primary roofing products including shingles, underlayment, and leak barrier by a single manufacturer.

3. Work is to be executed only by those skilled to perform it expeditiously and who has been responsible for satisfactory installations similar to that specified during a period of at least the immediate three (3) years.

1.7 DELIVERY, STORAGE AND HANDLING

1. All materials shall arrive on site with their original containers or wrappings carrying the manufacturer’s seal and labels intact. Packing is to have the manufacturer’s name, product brand name, and standards pertaining thereof.

2. Provide a dry, weatherproof area, in order to store products and materials; do not store materials directly on the ground and maintain these conditions throughout storing period.

3. Remove materials and supplies from storage only in quantities required for same day use.

1.8 WASTE MANAGEMENT AND DISPOSAL

1. Remove all packing materials from worksite send them to the appropriate facilities.

2. Place substances defined as toxic or dangerous in designated containers.

3. Fold metal strips, flatten them then, place them in designated area to be recycled.

1.9 REPLACEMENT MATERIALS/SUPPLIES

1. Provide replacement materials corresponding to 5% of total roofing surface.

1.10 WARRANTY SUPPLEMENT

1. Provide a written and signed document issued in the name of the Owner, certifying that the works in this section meet all performance requirements established in the site's normal usage conditions, for a period of five (5) years.

2. Provide a written and signed document issued in the name of the Owner, certifying that the asphalt shingles are guaranteed for a period of fifteen (15) years.

3. Warranties against damages caused by winds of 175 to 210 km/h.

PART 2 - PRODUCTS

2.1 MATERIALS/SUPPLIES

1. Asphalt Shingles: must meet requirements of following standards: D3161, class F. D7158 class H, UL 997, UL790 class A, ASTM E 108 class A, CSA A123.

    1. Type: strips as existing.
    2. Minimal surface mass : 2 000 g/m. ca.
    3. Colours: According to Departmental Representative's choice, to match existing roof.
    4. Texture: According to Departmental Representative's choice, to match existing roof.

2. Roof Eave Protection: must meet requirements of following standards: CSA A123.22, ASTM D1970 and CCMC#13273-R

3. Synthetic Underlayment: must meet requirements of following standards: ASTM D5601 and ICC-ES AC207

4. Ridge Cap Shingles: must meet requirements of following standards: ASTM D3018, ASTM D3161 class F, ASTM D3462, ASTM E108 class A and CSA A123.5

5. Asphalt Cement

    1. Plastic Cement: Meeting the requirements of CAN/CGSB-37.5-M standard.
    2. Asphalt Cement: Meeting the requirements of CAN/CGSB-37.4 standard.
    3. Roofing Cement or Plastic: Compliant with ASTM D4586 standard type I or II.

6. Metal Flashings: Aluminum sheet, meeting the requirements of ASTM B 209 standard and compliant with local building codes. See plans for specifications.

7. Nails: Meeting the requirements of CSA B111 standard, galvanized steel and long enough to penetrate at least 19 mm into roof deck (backing).

8. Triangular Attic Ventilator: Galvanized Steel, pre-painted black. 305x610mm

9. White polyurethane, octagonal shape, Gable Ventilator, 460mm wide.

PART 3 - EXECUTION

3.1 REMOVAL OF EXISTING ROOF

1. Remove existing roof, flashings and underlayer in order to expose roof deck.

2. Extract existing shingle and flashing nails; completely hammer in those that break. Sweep surface clean of dirt or any material that isn't securely attached.

3. Departmental Representative will inspect roof deck.

4. Replace parts of lining with lining elements of same size and grade. Lay ends of new lining elements onto rafters, for a width of 25 mm, and secure to the latter.

3.2 EXAMINATION

1. Do not begin installation until the roof deck has been properly prepared.

2. If another installer is responsible for roof deck preparation, notify Departmental Representative of unsatisfactory preparation before proceeding.

3. The roof deck must be smooth, firm, dry, and securely nailed.

4. Do not install asphalt shingles on dimensional lumber (including shiplap/board decks).

5. Roof slope should be 1:3 or steeper. For slopes 1:3 to 1:6, see special underlayment requirements outlined below. Follow the more stringent of the CAN3 A 123.52 Asphalt Shingle Application on Roof Slopes 1:6 to Less than 1:3 instructions or those of the local building code.

3.3 PREPARATION

1. Remove all existing roofing down to roof deck.

2. Verify that the deck is dry, sound, clean, and smooth. It shall be free of any depressions, waves, and/or projections. Cover with sheet metal, all holes over 25 mm in diameter, cracks over 12 mm in width, loose knots, and excessively resinous areas.

3. Replace damaged deck with new materials.

4. Clean deck surfaces thoroughly prior to installation of ice and water protector membranes used for eaves protection and before installation of underlayment.

3.4 INSTALLATION OF UNDERLAYMENTS

1. General:

    1. Install underlayment using methods recommended by the manufacturer.

    2. Install an ice dam protection underlayment of self-adhesive membrane directly onto the plywood at all eaves and roof edges as well as at all penetrations and to vertical walls. Add one ply of underlayment over the entire deck surface except where ice and water protector membrane has been installed.

3. Follow manufacturer's instructions for primer application.

2. Eaves

    1. Install using methods recommended by the manufacturer.

    2. Install eaves edge metal flashing tight with fascia boards; lap joints 50 mm and seal with plastic cement; nail at the top of the flange.

    3. Base flashing should be in place before the shingles are applied. Cap flashings of sheet metal and base flashing of metal or mineral surfaced roofing should be used at chimneys, skylights, vents, walls and other vertical surfaces and sealed with asphalt plastic cement. Flashing shall conform to the requirements of applicable building codes and good roofing practice.

    4. Overhang eaves with underlayment by a nominal 6 mm minimum and extending up the roof at least 600 mm beyond the interior wall line.

    5. Install eaves protection using an ice and water protector product, up the slope from eaves edge a full 900 mm or at least 600 mm beyond the interior "warm wall". Lap ends 160mm and bond.

3. Valleys

    1. Install eaves protection at least 900 mm wide and centered on the valley, Lap ends 150 mm and seal.

    2. Where valleys are indicated to be « open valleys », install metal flashing over ice and water protector membrane before roof deck underlayment is installed; DO NOT nail through the flashing. Secure flashing by nailing at 450 mm on center just beyond edge of flashing so that nail heads hold down the edge of the flashing.

    3. Instructions on additional details for valley installations can be found in the ARMA's Residential Asphalt Roofing Manual and/or NRCA's Roofing and Waterproofing Manual.

4. Roof Deck :

    1. Install one layer of roof deck underlayment over the entire area not protected by the ice and water membrane. Install sheets horizontally so water sheds.

    2. On roofs sloped at more than 4:12, lap horizontal edges at least 50 mm and at least 50mm over eaves protection membrane.

    3. On roofs sloped between 2:12 and 4:12, lap horizontal edges at least 480 mm over eaves protection membrane.

    4. Lap ends at least 100mm. Stagger end laps of each layer at least 900 mm.

    5. Lay underlayment over valley protection at least 150 mm.

5. Penetrations

    1. Vent pipes: Install a 600 mm square piece of ice and water protector membrane lapping over roof deck underlayment; seal tightly to pipe.

    2. Vertical walls: Install Ice & Water protector membrane for eaves protection extending at least 150

mm up the wall and 300 mm on to the roof surface. Lap the Ice & Water protector membrane over the roof deck underlayment. Sheet metal flashing along the slopes of roof shall be stepped with a minimum of 75 mm head lap in both lower flashing and counter flashing. Where roof slopes downward from wall, flashing shall extend over shingles. Where a roof slopes upward from the wall, flashing shall extend up the slope under the shingles to a point equal in height of 400 mm to the flashing on masonry. Counter flashing shall be embedded approximately 25 mm into the wall with turn back water stop.

3. Chimneys :Intersection of shingle roof and masonry walls or chimneys shall be protected using 24 gauge (or better) galvanized sheet metal to extend no less than 150 mm up the wall and 300 mm on to the roof surface. Lap the ice and water protector membrane over the roof deck underlayment.

4. Rake Edges: Install metal edge flashing over the ice and water protector membrane and roof deck underlayment; set tight to rake boards; lap joints at least 50 mm and seal with asphalt cement; secure with nails.

5. Instructions on additional details for sealing Penetrations can be found in the ARMA's Residential Asphalt Roofing Manual and/or NRCA's Roofing and Waterproofing Manual

3.5 INSTALLATION OF SHINGLES

1. General:

    1. Install shingles in accordance with manufacturer's instructions in conjunction with reference standards.

    2. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.

    3. Minimize breakage of shingles in cold weather (below 4°C or 40°F) by avoiding dropping bundles on edge or by "breaking bundles" over the roof ridge or other bundles. Separating shingles carefully, taking extra precautions in colder temperatures.

    4. Handle shingles carefully in hot weather to avoid scuffing the surfacing or damaging the shingle edges.

    5. Install the asphalt shingles on roof slopes in accordance with CAN3 A 123.51-M85.

2. Placement and nailing :

    1. Use galvanized (zinc coated) roofing nails, 11 or 12 ga, with at least 10 mm diameter heads, long enough to penetrate through plywood or 20 mm into boards.

    2. Use 4, 5, or 6 nails per shingle placed in the nail line per manufacturer's instructions and local codes. Placement of nails varies based on the type of shingle specified, roof slope, and other environmental considerations. Consult the manufacturer's application instructions for the specified shingle for details.

    3. Drive nails straight so that nail head is flush with, but not cutting into shingle surface. Do not overdrive or under drive the nails.

    4. Shingle offset varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.

3. Nailing and sealant:

    1. For high wind areas, or on slopes of 21:12 (60°) or more, use six (6) nails per shingle (consult specific shingle instructions and building code for exact quantity). Ensure that no nail is within 50 mm of a joint/cutout of the underlying shingle.

    2. Seal down each shingle at time of application with three 25mm diameter (approx. size and thickness of a quarter) spots of asphalt cement placed under the shingle 50mm above the bottom edge and equally spaced along the shingle. Apply asphalt cement in moderation since excessive amounts may cause blistering. CAUTION: Shingles should seal to the underlying course when the factory applied asphalt sealant is sufficiently warmed by the heat of direct sunlight.

4. Valleys :

    1. Install valleys using the "closed cut valley" method:

        1. Run the first course of shingles from the higher roof slope across the valley at least 300 mm.

        2. Run succeeding courses of shingles from the lower roof slope across the valley at least 300 mm and nail no closer than 150 mm to the center of valley.

        3. Run shingles from the upper roof slope into the valley and trim 50 mm from the center line.

5. Penetrations

    1. All penetrations are to be flashed according to manufacturer’s instructions, Asphalt Roofing Manufacturers Association (ARMA), Canadian Asphalt Shingle Manufacturers' Association (CASMA), Canadian Roofing Contractors Association (CRCA), and/or National Roofing Contractors Association (NRCA) guidelines as to meet local building codes.

3.6 VENTILATION

1. General

    1. Ventilation must meet or exceed current F.H.A., H.U.D. and local code requirements.

    2. Install attic ventilators as indicated on the plans.

END OF SECTION

1. GÉNÉRAL

1.1 RELATED WORKS SPECIFIED ELSEWHERE

1. Section 01 33 00 – Submittal procedures
2. Section 01 45 00 – Quality control
3. Section 01 61 10 – Common product requirement

1.2 REFERENCES

1. American Society for Testing and Materials International (ASTM (CGSB)
   .1 ASTM C919 – 02, Standard Practice for Use of Sealant in acoustical Applications.

2. Canadian General Standards Board (CGSB)
   .1 CGSB19-GP-5M-1984, Sealing compound, one component, acrylic base, solvent evaporation curing (April 1976 confirmed edition, including amendment number 1).
   .2 CAN/CGSB-19.13-M87, Sealing compound, one component, elastomer, chemical curing.
   .3 CGSB19-GP-14M-76, Sealing compound, one component, polyisobutylene butyl base, solvent evaporation curing (confirmed April 1976).
   .4 CAN/CGSB-19.17-M90, Sealing compound, one component, acrylic emulsion base.
   .5 CAN/CGSB-19.24-M90, Multicomponent sealing compound, chemical curing.

1.3 DOCUMENTS AND SAMPLES

1. Submit product data as directed in section 01 33 00 – Submittal Procedures and in the shop drawings charts, technical data sheets and samples from section – 01 33 01.

1.4 EXECUTION CONDITIONS

1. Sealant and substrate temperature must be maintained at 5°C at least during execution.

1.5 WARRANTIES

1. Provide a written and signed document issued in the name of the Owner, certifying that the works in this section meet all performance requirements established, with no water or air infiltration into the joint sealants.

2. The warranty will cover among other things that the work carried out will be free of flaws, including loss of adhesion or cohesion, cracking, crumbling, fusions, disintegration, withdrawals, runs or stains onto adjacent surfaces for a period of three (3) years.

3. Warranties must include quick rectification of any flaw upon reception of a written notice from Departmental Representative to that effect. Repair work must include workforce, materials, equipment and services required to repair defective parts of work, and, in the case of manufactured elements, supply and installation of new components, all free of charge and to the convenience of the Departmental Representative. Warranties must also include repair or replacement of other building components (and finishes) and any other work belonging to Departmental Representative, damaged or moved during repair of defective parts of work.

2. PRODUCTS

2.1 SEALANT- DESCRIPTION

1. **Primers**: type recommended by sealant manufacturer.

2. **Backing Rod**:

    1. General: Must be compatible with primers and sealants, oversized by 30 to 50%.

    2. Polyethylene: Extruded cellular foam, hardness of 20 according to Shore A scale, 140 to 200 kPa breaking load, DOW CHEMICAL CANADA INC. *Ethafoam SB* or Dow Corning CWS, single component silicone or equivalent.

3. **Anti-adhesion products**: Pressure sensitive, plastic bond breaker tape.

4. **Sealant**:

    1. Product n^{o} 1 :
        1. Polyurethane joint sealing coumpound, single component, low modulus, moisture cured, colour of Departmental Representative's choosing. Must conform to U.S. Federal Specification TT-S-00230C, Type II, Class A, and American standard ASTM C920, Type S, Grade NS, Class 25, and Canadian standard CAN/CGSB 19.13-M87.

        2. Applications :
            1. Joints in contact with metal parts or metal parts openings.
            2. Joint in between sheet metal and wooden elements.

5. Joint cleaner: xylol, methylethylketone or non-corrosive product recommended by sealant manufacturer and compatible with materials composing the joint.

3. EXÉCUTION

3.1 SURFACE PREPARATION

1. Remove dust, paint, inconsistent mortar and other foreign objects and dry joint surfaces.

2. Remove rust, corrosion and other coatings from ferrous metal surfaces using a metal brush, grinder or sandblast.

3. With joint cleaner, remove oil, grease stains and other coatings from non-ferrous metal surfaces.

4. Prepare concrete and brick surfaces as well as glazed and glassy surfaces in accordance with manufacturer's directions.

5. Examine joint size and make the necessary corrections so its depth is equal to half its width for a minimum depth and length of 6 mm and a maximum width of 25 mm.

6. Install backing rod to achieve correct joint depth recommended for caulking product.

7. Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.

8. Apply bond breaker tape where required to manufacturer's instructions.

9. Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.2 APPLICATION

1. Apply sealant, joint filler and/or bond breaker tape in accordance to manufacturer's instructions. Apply sealant with a caulking gun equipped with a proper size nozzle. Use sufficient pressure to fill voids and

joints solid. Sealing with a simple bead to form a skin is forbidden. Determine joint depth according to its width as per manufacturer's most recent recommendations.

2. Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities; tool exposed surfaces before skinning begins to give slightly concave shape. Respect fire resistance level required by the code.

3. Apply sealant to joints separating window and door frames and adjacent building elements, around each window and door leading to the exterior and interior and other areas indicated in the plans.

4. Clean adjacent surfaces promptly and leave work clean and in perfect condition.

5. For angle joints, give caulking a slightly convexe shape. Insure good adherence on both sides of joint by leaving an air pocket at center of joint under caulking.

6. For flat joints, give caulking a slightly concave surface by covering joint completely.

END OF SECTION

PART 1 - GÉNÉRAL

1.1 RELATED SECTIONS

1. Section 06 10 00 Carpentry

1.2 REFERENCES

1. Canadian General Standards Board (CGSB)
   .1 CGSB series 85-GP.

2. The Master Painters Institute (MPI)
   .1 Architectural Painting Specification Manual - February 2004.
   .2 Standard GPS-1-05, MPI Green Performance Standard for Painting and Coatings

3. National Fire Code of Canada – 2005 (NFC)

4. Health Canada/Workplace Hazardous Materials Information Systems (WHMIS)
   .1 Material Safety Data Sheet (MSDS).

1.3 INCLUDED WORK

1. Perform paint work and finishes according to ONGC-85 GP standard, appendix A and manufacturer's instructions. Paint following items:
   .1 Without limitation, paint all visible surfaces of wood siding, mouldings, frames, roof overhang, window sills, doors, visible structures and existing railings.
   .2 Any other element indicated in the plans.

1.4 EXAMINATION OF DRAWINGS

1. Examine all plans, drawings, specifications and requirements and understand clearly all conditions related to the execution of the work.

2. No claim will be taken into account for works omitted in contractor's estimation, either by neglect or by failing to review and coordinate finishing work thoroughly

1.5 DOCUMENTS AND SAMPLES

1. Submit product data as directed in section 01 33 00 – Submittal Procedures and in the shop drawings charts, technical data sheets and samples from section – 01 33 01.

2. Submit required product data as well as manufacturer's specifications and documentation. The product data must indicate product characteristics, performance criteria, dimensions, restrictions and finish.

3. Submit product data required by WHMIS.

4. If paint manufacturer is different from the one referred for choice of colour, provide a sample of colour equivalencies to be approved by the Departmental Representative, before starting work.

5. Once approved, the samples will establish the standard regarding work quality for the surfaces to be painted on site. A control sample for each type of product or colour must be kept on site.

1.6 QUALITY ASSURANCE

1. Painting must be done by workers qualified in accordance to existing regulations in local area of expertise.

2. Apprentices may also be hired on the condition that their work is done under direct supervision of a qualified worker, in accordance to the regulations of the trade.

3. Comply with most recent MPI requirements concerning exterior painting.

   .1 Products used must appear on the MPI Painting Specification Manual list of approved products and all products composing chosen paint system must come from the same manufacturer.

   .2 Painting products such as linseed oil, shellac and turpentine oil must be of highest quality and compatible with other coating materials used, as required. They must be purchased from an approved manufacturer listed in the MPI Painting Specification Manual.

   .3 Save purchase slips, invoices and documents permitting to establish, as per professional's request, that the work is compliant with the specified MPI requirements.

4. Standard of Acceptance

   .1 Walls: No defects visible from a distance of 100 mm, at 60 degrees to surface.

   .2 Ceilings, floors and drop ceilings: 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.

1.7 SHIPPING, STORAGE AND HANDLING

1. Pack, ship, handle and unload materials in accordance with section 01 61 00 – Common Product Requirements and following requirements.

   .1 Deliver and store materials on site in sufficient quantity to avoid any delay in work execution.

   .2 Materials are subject to be inspected by professional at all times. The latter can have them analyzed and demand they be replaced if they differ from the approved materials.

   .3 Transport and store paint products in their original containers, sealed and with labels intact.

   .4 Remove damaged, opened and rejected materials from site.

   .5 Provide and maintain dry, temperature controlled, secure storage.

   .6 Handle and store products according to manufacturer's instructions.

   .7 Store materials and supplies away from heat generating devices.

   .8 Store materials and supplies in well ventilated area with temperature range of 7 °C to 30 °C.

   .9 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

   .10 Keep areas used for storage, cleaning and preparation clean and orderly, as is satisfactory to the professional. After completion of operations, return areas to clean condition, as is satisfactory to the professional.

   .11 Remove paint materials from storage only in quantities required for same day use.

   .12 Comply with WHMIS requirements for use, storage, handling and disposal of hazardous materials.

   .13 Provide one (1) 9 kg dry chemical fire extinguisher adjacent to storage area.

.14 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.

.15 Handle, store, use and dispose of flammable and combustible materials in accordance with National Fire Code of Canada (NFC) requirements.

1.8 WASTE MANAGEMENT AND DISPOSAL

1. Paint, stain and wood preservative finishes and related materials (thinners, solvents, etc) are regarded as hazardous products and are subject to regulations for disposal. Information on these controls can be obtained from Provincial Ministries of Environment and Regional levels of Government.

.2 Materials which cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.

.3 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.

.4 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into ground follow these procedures:

.1 Retain cleaning water for paints and other water-based materials to allow sediments to be filtered out.

.2 Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.

.3 Return solvent and oil soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.

.4 Dispose of contaminants in approved legal manner in accordance with hazardous waste regulations.

.5 Empty paint cans are to be dry prior to disposal or recycling (where available).

.6 Where paint recycling is available, collect waste paint by type and provide for delivery to recycling or collection facility.

.7 Set aside and protect surplus and uncontaminated finish materials. Deliver to or arrange collection by individuals, or organizations for verifiable re-use or re-manufacturing.

.8 Make sure partially used sealant and adhesive tubes are well sealed and stored in a moderate temperature, well ventilated and fire proof area.

1.9 SITE CONDITIONS

1. Heating, Ventilation and Lighting.

.1 Ventilate enclosed spaces in accordance. Provide heating facilities to maintain ambient air and substrate temperatures above 10 degrees C for 24 hours before, during and after paint application until paint has cured sufficiently.

.2 As required, provide continuous ventilation for seven (7) days after completion of application of paint

.3 Coordinate use of existing ventilation system with the professional and ensure its operation during and after application of paint as required.

.4 Provide temporary ventilating and heating equipment where permanent facilities are not available or supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.

.5 Before starting paint application, make sure lighting level is at least 323 Lux on surfaces to be painted. Contractor must provide adequate lighting systems or devices.

.6 Do not start finishing work prior to having inspected related surfaces and having deemed them suitable for execution of work. Starting work implies an unconditional acceptance of condition of related surfaces and contractor will be held responsible if final finish conditions are not top quality. Contractor will need to reapply paint wherever repair, improvement, transformation work or others have caused markings, stains, etc.

2. Temperature, Humidity and Substrate Moisture Content Levels:

.1 Unless pre-approved written approval by contracting authority responsible for specification, by Paint Inspection Agency Authority and product manufacturer, perform no painting when:

1. Ambient air and substrate temperatures are below 10 degrees C;
2. Substrate temperature is above 32 degrees C unless paint is specifically formulated for application at high temperatures; substrate and ambient air temperatures are expected to fall below MPI or paint manufacturer's prescribed limits;
3. The relative humidity is over 85% or when the dew point is less than a 3 degrees C variance between the air/surface temperature;
4. Rain or snow is forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.

.2 Perform painting work in order to guarantee respect of the conditions and maximum moisture content of substrate indicated below:

1. 15 % for wood; 12% for masonry, 12% for metallic surface.

.3 Test for moisture content of substrate using calibrated electronic Moisture Meter.

3. Surface and Environmental Conditions

.1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.

4. Surfaces must be properly finished, clean, dry, with an even appearance and texture, free from imperfections.

.1 Apply paint to adequately prepared surfaces and to surfaces within moisture limits as specified in present section.

.2 Apply paint when previous coat of paint is dry or adequately cured.

.3 Apply paint finishes when temperature at location of installation can be satisfactorily maintained within manufacturer's recommendations throughout work process.

5. Perform no painting in the presence of the following conditions:

.1 Ambient temperature is expected to fall below 10 degrees Celsius before paint has had time to cure completely.

.2 Substrate and ambient air temperatures are expected to fall below MPI or manufacturer’s prescribed limits.

.3 Substrates are humid, wet or frosted.

6. Provide and maintain a shelter when paint application is executed during cold or humid temperatures. Warm substrates and ambient air in order to follow manufacturer's temperature and humidity recommendations. Protect surfaces until paint has had time to dry or until weather conditions are suitable.

7. Organize paint work in order for surfaces exposed to direct sunlight to be entirely painted early in the morning.

8. Remove paint from surfaces having been exposed to frost, excessive humidity, rain, snow or condensation. Prepare these surfaces again and resume paint application.

1.10 MAINTENANCE MATERIALS

1. Provide one (1) four (4) litre can of each type and colour of primer and top coat. Identify colour and paint type of each container in relation to established colour schedule and finishing paint system.

2. Identify each paint container with labels indicating following information: company, type of paint or coating, finish, base and color number.

3. Use replacement materials from same production batch as materials already in use.

PART 2 - PRODUCTS

2.1 MATERIALS

1. All materials required for paint application must be of highest quality and comply with specified standards. All paint products must be delivered in sealed containers identified with undamaged manufacturer's label. All necessary, unspecified materials must be approved by Departmental Representative.

2. Top coat colours will be chosen or approved by Departmental Representative; he must provide contractor with duplicates. Departmental Representative can request that control samples of finishes or colours with specified materials be submitted for his approval.

3. Provide materials for each paint system from single manufacturer.

4. For the work in this section, the products used must be compatible, both together and with the underlying products. Compatibility must be verified before starting the work.

5. Choose low odour paint products when possible.

2.2 COLOURS

1. Departmental Representative will provide the list of colors after awarding of contract. For bid purposes, specialized contractor will have to plan the following number of colours:

   - One colour for all buildings.(white as the existing building)

2. Selection of colours from manufacturer's full range of colours.

2.3 MIXING AND TINTING

1. Perform colour tinting operations prior to delivery of paint to site. Colour tinting operations cannot be performed on site without written permission from Departmental Representative.

2. Mix paste, powder or catalyzed paint mixes in accordance with manufacturer's written instructions.

3. Use and add thinner in accordance with paint manufacturer's recommendations. Do not use kerosene or similar organic solvents to thin water-based paints.

4. Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4 FINISHING PAINT SYSTEMS

1. **SYSTEM # 1:** for new panelling surfaces and new door.
   - One (1) coat of exterior alkyd emulsion primer-sealer to following standards: ASTM D4060, ASTM D4587, ASTM D4541, ASTM D5894, ASTM D4585, ASTM B117, 500h.
   - Two (2) coats of ambient curing top coat, one component acrylic compliant to following standards: ASTM D5894, ASTM D2794, ASTM D522, ASTM D4585, ASTM D3363 AND ASTM D2246.
   - Semi-gloss finish.
   - Surface Preparation: Mechanically remove all loose paint. Clean all surfaces. Sand lightly in between each coat as to level surface imperfections. Follow manufacturer’s instructions for topcoat.

2. **SYSTEM # 2 :** For metallic surfaces and steel frames:
   - Apply one (1) coat latex primer for galvanized metal.
   - Apply two (2) coats of urethane reinforced 100% latex acrylic top coat.
   - Surface Preparation: Mechanically remove all loose paint. Grind all traces of rust. Clean all surfaces. Sand lightly in between each coat as to level surface imperfections.

3. **SYSTEM # 3 :** For concrete surfaces:
   - Apply locally, to bare areas, one (1) coat of alkyd emulsion primer-sealer.
   - Two (2) coats of 100% latex acrylic topcoat for exterior surfaces.
   - Surface Preparation: Mechanically remove all loose paint. Clean all surfaces. Sand lightly in between each coat as to level surface imperfections. Follow manufacturer’s instructions for topcoat.

4. **CLEANER AND GREASE REMOVER**
   - Alkaline, concentrated, water based cleaner and grease remover, biodegradable, 0% COV.
   - If product is concentrated, dilute as recommended by manufacturer (1 :3) depending on elements to be cleaned.
   - Use clean and **warm** drinking water, free of contaminants to dilute cleaning product. Also use clean, contaminant free water for cleaning and rinsing.
   - Use appropriate cleaning product depending on the condition of surface to be cleaned and always respect the environment.
   - Rinsing of cladding may be done with a ***low pressure*** water spray (do not use a compressor).

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

1. Comply with manufacturer's requirements, recommendations and written specifications, including technical bulletins, handling, storage and installation instructions, and data sheet.

3.2 PROTECTION

1. Protect work from humidity or other damages, of any cause whatsoever. Also protect adjacent structures from damages caused by workers, materials, tools or equipment used to carry out the work. Take responsibility for the adequate protection of structures against any potential damages caused by the work carried out within this section.

3.3 SURFACE INSPECTION

1. Do not apply paint until prepared surfaces have been inspected and deemed suitable for work to start.

2. If surfaces are deemed unacceptable, send written notification to general contractor and professional.

3. Starting work implies an unconditional acceptance of condition of surfaces to be painted and contractor will be held responsible if final finish conditions are not top quality.

4. Do not apply paint until surfaces to be painted have been properly prepared. All surfaces must be sound, dry, clean, free of any dirt, dust, oil, rust, mortar spots, salts and any foreign materials that can potentially compromise the proper appearance of the paint layers.

3.4 SURFACE PREPARATION

1. Unless otherwise specified, prepare exterior surfaces and apply paint according to the requirements stated in MPI Maintenance Repainting Manual.

2. Apply paint products according to manufacturer's written instructions.

3. Clean and prepare exterior surfaces that need to be repainted according to requirements stated in MPI Maintenance Repainting Manual. Refer to that document regarding particular requirements added to the following instructions:

   .1 Remove dust, dirt and foreign materials by wiping down surfaces with clean and dry rags, by vacuuming or by sweeping them away with compressed air.

   .2 Wash surfaces with a biodegradable detergent and clean water, using a stiff bristle brush to rid surfaces of dirt, oil and other contaminants.

      1. Wet surfaces prior to cleaning when required by level of grime. Proceed from bottom to top.
      2. Soften and disengage significant dirt accumulations by extended water spray, then brush grimed surfaces. Remove thick residue using wooden and/or plastic scrapers.
      3. Apply cleaner and grease remover on surfaces to be cleaned. Dilute as specified by manufacturer.
      4. Leave product on surfaces from 1 to 5 minutes or longer when contamination is significant.
      5. Scrub and brush all surfaces with a soft nylon bristle brush.
      6. Rinse with clean water until foam disappears completely.
      7. As needed, use heated rinsing water that has been authorized for use.
      8. Avoid dampening of surfaces for a prolonged period and too much water penetration.

.3 Rinse brushed surfaces with clean water until no foreign material remains. Rinse from bottom to top, then from top to bottom.

.4 Leave surfaces to drain completely and dry thoroughly. Allow an adequate drying time and test surface moisture content using a calibrated electronic Moisture Meter before starting work.

.5 Do not apply paint until prepared surfaces have been accepted by Departmental Representative.

.6 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance of 1000 mm or less.

4. Prepare primed metal, galvanized steel and zinc plated surfaces according to ONGC 85-GP-16M standard:

.1 Touch up factory primed steel surfaces with a product compliant with ONGC 1-GP-40M standard, according to ONGC 85-GP- 14M standard.

3.5 APPLICATION

1. Do not apply another coat of paint before previous coat has been examined by Departmental Representative. The contractor is solely responsible for notifying the Departmental Representative for approval to apply next coats of paint. The contractor risks having to re-paint if he does not comply with these recommendations.

2. Apply paint to surfaces that are smooth, dry, clean, free from dust, dirt, oil and rust.

3. Starting work implies an acceptance of condition of underlying surfaces to be painted and no claim can be filed in this area.

4. Place « WET PAINT » signs during drying period.

5. Place « NO SMOKING » signs in areas where volatile materials are being used.

6. Apply paint to mouldings using a brush or roller. No paint should be applied with a spray gun. Comply with paint manufacturer's instructions.

7. Apply required number of coats of paint according to specifications; however, contractor himself will have to estimate the number of coats necessary and provide a bid accordingly. No extra will be charged by the contractor should supplemental coats of paint be required in order to obtain specified results.

8. Brush Application :
   .1 Work paint into cracks, crevices and corners. Paint surfaces not accessible by brush using daubers.
   .2 Wipe runs with brush.
   .3 Remove runs and brush marks from finished work and repaint.

9. Roller Application :
   .1 Pour paint into tray halfway up sloping part.
   .2 Dip roller into deepest part of tray and soak it with paint using back and forth motion.
   .3 Remove excess paint by rolling sleeve on ribs in shallowest part of tray.
   .4 Make sure to have a uniform quantity of paint on sleeve while painting.
   .5 Apply moderate pressure on sleeve and do not paint too quickly to avoid paint splatters.

10. Apply coats of paint to obtain a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.

11. Sand and dust in between paint coats to remove defects visible from a distance of 1,5 m.

12. Paint systems, as specified, must fully cover surfaces.

13. A minimum of one (1) base coat and two (2) top coats is required for all surfaces to be painted. Regardless of this requirement, apply all necessary coats of paint in order to obtain a quality finish according to paint systems.

14. Remove electrical cover plates, signage, bulletin boards and all other items that could hinder work process.

15. Unless otherwise specified on the drawings, do not paint following elements and surfaces :
    .1 Glass, porcelain, ceramic.
    .2 Weather stripping, sound seals hardware.
    .3 Plaques, seals, labels and other identification markers on any product or piece of equipment (for example: fire resistance labels on frames and doors).
    .4 Valves and other mechanical or electrical controls.

3.6 REPAIR AND CLEANUP

1. Repair any damages to the work from other trades, by persons in charge of carrying out the work from this section.

2. Repair defective work as work progresses as is satisfactory to Departmental Representative.

3. Clean and re-install hardware items removed before undertaking painting operations.

4. Remove protective coverings and warning signs as soon as practical after painting operations.

5. Remove paint splatters on exposed surfaces that were not painted. Remove smears and spatters as operations progress, using compatible solvents.

6. Protect freshly completed surfaces from paint droppings and dust as is satisfactory to Departmental Representative.

7. Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as is satisfactory to Departmental Representative.

8. Dispose of rags, waste and debris on a daily basis prior to employees leaving the site.

9. Ensure that all movable parts that have been painted can move freely.

10. On completion of work, remove from site surplus materials and supplies, waste products and tools.

11. Avoid splashing paint on exposed surfaces not to be painted. Clean stains and spatters immediately with a compatible solvent.

END OF SECTION