

# **Port-Cartier Institution**

Glazing replacement  
Phase 1 - Mirador

**For tender**

## **SPECIFICATIONS**

Architecture

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**BGLA architecture + design urbain**

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## **PARTIE 1 - GENERAL**

### **1.1 CONTENTS OF THE SECTION**

- .1 Shop drawings and product data.
- .2 Product samples and mock-ups.

### **1.2 PRIORITY**

- .1 In the case of work carried out for the federal government, the sections of Division 1 have priority over the technical sections of the other divisions of the project specifications.

### **1.3 RELATED SECTIONS**

- .1 Section 01 78 00 - Closeout Submittals

### **1.4 ADMINISTRATIVE REQUIREMENTS**

- .1 Within a reasonable time and in a predetermined order in order not to delay the execution of the work, submit the documents and samples required for the approval of the Departmental Representative. A delay in this regard cannot constitute a sufficient reason for obtaining an extension for the execution of the works and no request in this direction will be accepted.
- .2 Work for which the filing of documents and samples is required should not be undertaken until the verification of all submitted parts is fully completed.
- .3 The characteristics indicated on shop drawings, product data, and product and structure samples must be expressed in metric units.
- .4 When items are not produced or manufactured in metric units, or specifications are not given in SI units, converted values may be accepted.
- .5 Notify the Departmental Representative in writing, when submitting documents and samples, of any deviations from the requirements of the Contract Documents, and explain the reasons for the deviations.
- .6 Examine documents and samples before handing them over to the Departmental Representative. By this prior verification, the Contractor confirms that the requirements applicable to the work have been or will be determined and verified, and that each of the documents and samples submitted has been examined and found to comply with the requirements of the work and the Contract Documents. Documents and samples which are not stamped, signed, dated, and identified in connection with this specific project will be returned without being examined and will be considered rejected.

- .7 Ensure the accuracy of measurements taken on site in relation to adjacent structures affected by the work.
- .8 The fact that the documents and samples submitted are examined by the Departmental Representative in no way releases the Contractor from his responsibility to send complete and accurate documents.
- .9 The fact that the documents and samples submitted are examined by the Departmental Representative in no way relieves the Contractor from his responsibility to send documents that comply with the requirements of the Contract Documents.
- .10 Keep a verified copy of each document submitted on site.

## **1.5 SHOP DRAWINGS AND PRODUCT DATA**

- .1 The expression "shop drawings" means the drawings, diagrams, illustrations, tables, performance graphs, brochures and other documentation that the Contractor must provide to show in detail a part of the structure concerned.
- .2 The shop drawings must indicate the materials to be used as well as the methods of construction, fastening or anchoring to be employed, and they must contain assembly diagrams, details of connections, relevant explanatory notes, and any other necessary information for the execution of the work. When structures or elements are connected or connected to other structures or elements, indicate on the drawings that there has been coordination of the requirements, regardless of the section under which the adjacent structures or elements are to be supplied and installed. Make references to the specifications and to the preliminary design drawings.
- .3 Allow 15 working days for the Departmental Representative to review each batch of documents submitted.
- .4 Changes made to shop drawings by the Departmental Representative are not intended to change the Contract Price. If so, however, notify the Departmental Representative in writing before starting the work.
- .5 Make changes to shop drawings as requested by the Departmental Representative, in accordance with the requirements of the Contract Documents. When resubmitting the drawings, notify the Departmental Representative in writing of any changes that have been made in addition to those required.
- .6 The documents submitted must be accompanied by a cover letter, in duplicate, containing the following information:
  - .1 The date
  - .2 The name and number of the project
  - .3 The name and address of the Contractor
  - .4 The designation of each drawing, product data and sample as well as the number submitted
  - .5 Any other relevant data



- .7 The documents submitted must bear or indicate the following:
  - .1 The date of preparation and the dates of revision
  - .2 The name and number of the project
  - .3 The name and address of the following persons:
    - .1 The subcontractor
    - .2 the supplier
    - .3 the manufacturer
  - .4 Relevant details for the affected portions of the work:
    - .1 Materials and manufacturing details
    - .2 The arrangement or configuration, with dimensions, including those taken on site, as well as clearances
    - .3 Details regarding assembly and adjustment
    - .4 Characteristics such as power, flow or capacity
    - .5 Performance characteristics
    - .6 Reference standards
    - .7 The operational mass
    - .8 Wiring diagrams
    - .9 Single line diagrams and block diagrams
    - .10 Links with adjacent structures
- .8 Submit 2 printed copies or one version.PDF of the shop drawings prescribed in the technical sections of the specifications.
- .9 The Departmental Representative will return 1 copy. The contractor must then print 7 copies for distribution at the required locations.
- .10 Distribute copies of the shop drawings and product data after the Departmental Representative has completed verification.
- .11 Delete information that does not apply to the work.
- .12 In addition to the current information, provide any additional details that apply to the work.
- .13 When the shop drawings have been verified by the Departmental Representative and no errors or omissions have been detected or only minor corrections have been made, the printouts are returned, and fabrication and installation work can then be undertaken. If the shop drawings are rejected, the annotated copy(s) will be returned and the corrected shop drawings must be resubmitted as indicated above before any fabrication and installation work can be undertaken.

## **1.6 PRODUCT SAMPLES**

- .1 Submit two product samples for verification, as specified in the technical sections of the specifications. Label the samples with their origin and intended destination.
- .2 Ship samples prepaid to the Departmental Representative's business office.
- .3 When submitting product samples, notify the Departmental Representative in writing of any deviations from the requirements of the Contract Documents.

- .4 Where colour, pattern or texture is prescribed, submit the full range of samples required.
- .5 Changes made to the samples by the Departmental Representative are not intended to change the Contract Price. If so, however, notify the Departmental Representative in writing before starting the work.
- .6 Make any modifications to the samples that may be requested by the Departmental Representative while respecting the requirements of the Contract Documents.
- .7 The examined and approved samples will become the benchmark against which the quality of materials and the quality of workmanship of finished and installed structures will be assessed.

END OF SECTION

**PARTIE 1 - General**

**1.1 CONTENTS OF THE SECTION**

- .1 Quality, ease of obtaining, storage, handling, protection and transport of products
- .2 Manufacturer's instructions
- .3 Implementation, coordination and fixing parts
- .4 Existing installations

**1.2 PRIORITY**

- .1 In the case of work carried out for the federal government, the sections of Division 1 have priority over the technical sections of the other divisions of the project specifications.

**1.3 RELATED SECTIONS**

- .1 Section 01 73 03 - Execution requirements

**1.4 REFERENCE STANDARDS**

- .1 References to relevant standards can be made in each section of the specifications.
- .2 Comply with the standards indicated above, in whole or in part, according to the specifications.
- .3 In cases where there is any doubt as to the conformity of certain products with the relevant standards, the Departmental Representative reserves the right to verify it by tests.
- .4 If the products or systems comply with the Contract Documents, the costs incurred by these tests will be borne by Her Majesty, otherwise they will be borne by the Contractor.
- .5 If no specific date or edition is mentioned, comply with the most recent standards in force at the time of submission of the tender.

**1.5 QUALITÉ**

- .1 The products, materials, equipment, devices, and parts (referred to as "products" in the specifications) used for the execution of the work must be new, in perfect condition, and of the best quality (in accordance with the terms of the specifications) for the purposes for which they are intended. If necessary, provide proof establishing the nature, origin and quality of the products supplied.
- .2 Products found to be defective before the end of the work will be refused, regardless of the conclusions of previous inspections. The purpose of the inspections is not to relieve the Contractor of his responsibilities, but simply to reduce the risk of omission or error. The Contractor will ensure the removal and replacement of defective products at his own expense, and he will be responsible for any delays and costs arising as a consequence.

- .3 In the event of a dispute as to the quality or suitability of the products, only the Departmental Representative may decide the issue based on the requirements of the Contract Documents.
- .4 Unless otherwise indicated in the specifications, promote a certain uniformity by ensuring that the materials or elements of the same type come from the same manufacturer.
- .5 Labels, trademarks and permanent nameplates affixed prominently to products used are not acceptable unless they give operating instructions or are affixed to equipment installed in mechanical or electrical installation rooms.

## **1.6 EASE OF OBTAINING THE PRODUCTS**

- .1 Immediately after signing the contract, find out the requirements for product delivery and plan for any delays. If delays in the delivery of the products are foreseeable, notify the Departmental Representative so that measures can be taken to replace them with replacement products or to make the necessary corrections, and this, sufficiently in advance not to delay the work.
- .2 If the Departmental Representative has not been notified of foreseeable delivery delays at the start of the work, and if it seems probable that the execution of the work will be delayed, the Departmental Representative reserves the right to substitute the planned products with other comparable products which can be delivered more quickly without increasing the contract price.

## **1.7 PRODUCT STORAGE, HANDLING AND PROTECTION**

- .1 Handle and store products without damaging, altering, or dirtying them, and following the manufacturer's instructions, if applicable.
- .2 Store products grouped or in batches in their original packaging; leave the packaging, label, and manufacturer's seal intact. Do not unwrap or untie the products until it is time to incorporate them into a structure.
- .3 Products liable to be damaged by the elements must be stored in a weatherproof enclosure.
- .4 Hydraulic binders must not be placed directly on the ground or on a concrete floor, nor be in contact with the walls.
- .5 Sand intended for incorporation into mortars and grouts must be kept dry and clean. Store it on wooden platforms and cover it with waterproof tarpaulins in bad weather.
- .6 Place construction lumber and sheet or panel material on rigid, flat supports so that they do not rest directly on the ground. Give a low slope in order to favor the flow of the condensed water.
- .7 Store and mix paint products in a heated and well-ventilated room. Daily, remove oily rags and other flammable waste from work areas. Take all the necessary precautions to avoid the risk of spontaneous combustion.

- .8 Replace damaged products at no additional cost to the satisfaction of the Departmental Representative.
- .9 Touch up damaged factory finished surfaces to the satisfaction of the Departmental Representative. Use products identical to those used for the original finish for touch-ups. It is forbidden to apply a finishing or touch-up product to the nameplates.

## **1.8 TRANSPORTATION**

- .1 Pay the transport costs of the products required for the execution of the work.

## **1.9 MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise specified in the estimate, install or implement the products according to the manufacturer's instructions. Do not rely on the indications written on the labels and containers supplied with the products. Obtain a copy of its written instructions directly from the manufacturer.
- .2 .Notify Departmental Representative in writing of any discrepancy between specification requirements and manufacturer's instructions, so that appropriate action can be taken.
- .3 If the manufacturer's instructions have not been followed, the Departmental Representative may require, without increasing the contract price, the removal and reinstallation of products that have been fitted or installed incorrectly.

## **1.10 QUALITY OF WORK EXECUTION**

- .1 Implementation must be of the best possible quality, and the work must be carried out by trades workers, qualified in their respective disciplines. Notify the Departmental Representative if the work to be performed is such as to make it unlikely that the expected results will be obtained.
- .2 Do not hire people who are unqualified or do not have the necessary dispositions to perform the work assigned to them. The Departmental Representative reserves the right to demand the dismissal of any person deemed incompetent, negligent, insubordinate, or whose presence cannot be tolerated on the site.
- .3 Only the Departmental Representative can settle disputes concerning the quality of execution of the work and the skills of the workforce, and their decision is irrevocable.

## **1.11 COORDINATION**

- .1 Make sure that the workers collaborate with each other in carrying out the work. Exercise close and constant supervision of their work.
- .2 It is the responsibility of the Contractor to ensure the coordination of the work and the installation of the crossings, sleeves, and accessories.

## **1.12 ELEMENTS TO CONCEAL**

- .1 Unless otherwise specified, conceal pipes, conduits, and electrical wires in floors, walls, and ceilings in rooms and finished areas.

- .2 Before hiding items, inform the Departmental Representative of any abnormal situation. Install as directed by the Departmental Representative.

### **1.13 REMEDIAL WORK**

- .1 Perform remedial work required to repair or replace parts or elements of the work found to be defective or unacceptable. Coordinate adjacent affected work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of the work.

### **1.14 LOCATION OF FIXTURES**

- .1 Consider the location of fixtures, outlets, and mechanical and electrical items indicated as approximate, unless otherwise indicated on the plans.
- .2 Inform the Departmental Representative of conflicting installation. Install as directed.
- .3 Collaborate with the Departmental Representative in establishing work schedules in order to reduce conflicts and facilitate the use of the premises by CSC.

### **1.15 FASTENINGS - GENERAL**

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

### **1.16 FASTENINGS - EQUIPMENT**

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.

- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use stainless steel washers for stainless steel elements.

**1.17 PROTECTION OF WORKS IN PROGRESS**

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

**1.18 EXISTING UTILITIES**

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

END OF SECTION





**1. General**

**1.1. CONTENTS OF THE SECTION**

1. Requirements and restrictions on cutting and patching work.

**1.2. PRIORITY**

1. In the case of work carried out for the federal government, the sections of Division 1 have priority over the technical sections of the other divisions of the project specifications.

**1.3. RELATED SECTIONS**

1. Section 01 33 00 - Submittal Procedures
2. The relevant technical sections of the specifications, with regard to the cutting and leveling work relating to the work concerned. It is important to warn the other trades concerned in advance.

**1.4. REQUEST FOR EXECUTION OF CUTTING AND PATCHING WORK**

1. Submit a written request before proceeding with any cutting and patching work that may affect the following:
  1. The structural integrity of any element of the work
  2. The integrity of elements exposed to bad weather or water-repellent elements
  3. The efficiency, maintenance or safety of any functional element
  4. The aesthetic qualities of the visible elements
2. The request must specify or include the following:
  1. The name of the project
  2. The location and description of the affected items
  3. A statement explaining why it is necessary to perform the cutting and patching work requested
  4. A description of the proposed work and the products that will be used
  5. Alternatives to cutting and patching work
  6. Written permission from the Contractor concerned
  7. The date and time when the work will be performed

**1.5. MATERIALS**

1. Materials allowing an identical installation.
2. Any modification concerning the materials must be the subject of a substitution request in accordance with the prescriptions of section 01 33 00 - Submittal Procedures.

**1.6. PREPARATION**

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

**1.7. EXECUTION**

1. Execute cutting, fitting, and patching required to complete the work.
2. Fit several parts together, to integrate with other the work.
3. Uncover structures to complete work that was, for one reason or another, ill-timed.
4. Remove and replace defective and non-conforming elements.
5. Provide openings in non-structural elements of Work for penetrations of mechanical and electrical work.
6. Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
7. Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
8. Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
9. Restore work with new products in accordance with requirements of Contract Documents.
10. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
11. When passing through walls, ceilings or fire-rated floors, completely seal the voids around the openings with a fire-resistant material, over the entire thickness of the element crossed.
12. Refinish surfaces to match adjacent finishes. Refinish continuous surfaces to the nearest intersection. Refinish assemblies by refinishing the entire unit.
13. Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

END OF SECTION

**1. General**

**1.1. CONTENTS OF THE SECTION**

1. Project cleanliness
2. Final cleaning

**1.2. PRIORITY**

1. In the case of work carried out for the federal government, the sections of Division 1 have priority over the technical sections of the other divisions of the project specifications.

**1.3. RELATED SECTIONS**

1. Section 01 77 00 - Closeout Procedures.

**1.4. PROJECT CLEANLINESS**

1. Maintain work site in tidy condition, free from accumulation of waste products and debris.
2. Remove waste materials from site at daily regularly scheduled times or dispose of as directed by the Departmental Representative.
3. Clear snow and ice from access to building. Bank/pile snow in designated areas only.
4. Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
5. Provide on site, closed containers for the collection of debris and waste materials.
6. Provide and use marked separate bins for recycling.
7. Evacuate debris and waste materials off the work site and place them in waste containers at the end of each working day.
8. Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
9. Store volatile waste in covered metal containers, and remove from premises at end of each working day.
10. Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
11. Use only cleaning materials recommended by the manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
12. Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

**1.5. FINAL CLEANING**

1. Remove waste products and debris and leave area clean and suitable for occupancy.
2. Prior to final inspection remove surplus products, tools, construction machinery and equipment.
3. Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
4. Remove dust, stains, marks and scratches found on decorative work, mechanical and electrical appliances, furniture, walls, and floors.
5. Clean lighting reflectors, lenses, and other lighting surfaces.
6. Vacuum clean and dust building interiors, behind grilles, louvres, and screens.
7. Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.
8. Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
9. Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
10. Remove dirt and other disfiguration from exterior surfaces.
11. Clean and sweep roofs and gutters.
12. Sweep and clean hard coated surfaces.
13. Thoroughly clean equipment and devices and clean filters of mechanical systems.
14. Clean roofs, downspouts, and drainage systems.
15. Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
16. Remove snow and ice from access to building.

END OF SECTION

**1. General**

**1.1. CONTENTS OF THE SECTION**

1. Administrative procedures prior to preliminary and final inspections of the work.

**1.2. PRIORITY**

1. In the case of work carried out for the federal government, the sections of Division 1 have priority over the technical sections of the other divisions of the project specifications.

**1.3. RELATED SECTIONS**

1. Section 01 78 00 - Closeout Submittals.

**1.4. INSPECTION AND DECLARATION OF SUBSTANTIAL COMPLETION**

1. Contractor's Inspection: the Contractor and sub-contractors must inspect the work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
  1. Notify the Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
  2. Request inspection by the Departmental Representative.
2. Departmental Representative Inspection: Departmental Representative and Contractor to inspect the work and identify defects and deficiencies. Contractor to correct the work as directed.
3. Completion Tasks: Submit written certificates that tasks have been performed as follows.
  1. Work: completed and inspected for compliance with Contract Documents.
  2. Defects: defects and deficiencies found during inspections are corrected.
  3. Equipment and systems: tested, adjusted, and balanced and fully operational.
  4. Certificates required by the Boiler Inspection Branch and relevant Utility companies: submitted.
  5. Operation of systems: demonstrated to the CSC personnel.
  6. Maintenance and operations manuals and fully completed as-built plans: Submitted to the Departmental Representative.
  7. Work: complete and ready for final inspection.
4. Final inspection: When completion tasks are done, request final inspection of the work by the Departmental Representative and the Contractor. When the work is incomplete according to the Departmental Representative, complete outstanding items and request re-inspection.

END OF SECTION



## **PARTIE 1 - General**

### **1.1 CONTENTS OF THE SECTION**

- .1 Project file, samples and quotes
- .2 Equipment and devices
- .3 Product data, materials, equipment and finishing products, and related information
- .4 Operating and maintenance data and manuals
- .5 Replacement materials, special tools and spare parts
- .6 Guarantees and sureties of the premises

### **1.2 PRIORITY**

- .1 In the case of work carried out for the federal government, the sections of Division 1 have priority over the technical sections of the other divisions of the project specifications.

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 The instructions must be prepared by competent persons having the required knowledge in the operation and maintenance of the products described.
- .2 The submitted copies will be returned after the final inspection of the work, along with the comments of the Departmental Representative.
- .3 If necessary, review the content of documents before resubmitting them.
- .4 Two weeks before the substantial completion of the work, submit to the Departmental Representative two (2) final copies of the operation and maintenance manuals, in French.
- .5 Provide spare parts, maintenance materials and special tools of same quality and manufacture as products provided used for the work.
- .6 Provide evidence, if requested, for type, source and quality of products supplied.
- .7 Defective products will be rejected, even if they have been previously inspected, and must be replaced at no additional cost.
- .8 Bear the cost of transporting these products.
- .9 When existing equipment is dismantled or replaced, the existing blue lamicoïds plates on the equipment must be returned to the Departmental Representative.

### **1.4 FORMAT**

- .1 Organize data as instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf [219 x 279] mm with spine and face pockets.
- .3 When multiple binders are used correlate data into related consistent groupings. Identify contents of each binder on spine.
- .4 Cover: identify each binder with type or printed title 'Project Record Documents'. List title of project and identify subject matter of contents.
- .5 Arrange content by systems under Section numbers and sequence of Table of Contents.

- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

## **1.5 CONTENTS OF EACH VOLUME**

- .1 Table of contents: indicate the name of the project.
  - .1 The name, address and telephone number of the Consultant and the Contractor as well as the names of their representatives.
  - .2 A list of products and systems, indexed according to the contents of the volume.
- .2 For each product or system:
  - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

## **1.6 AS-BUILT DOCUMENTS AND SAMPLES**

- .1 In addition to the documents mentioned in the General Conditions, keep on site, for the Departmental Representative, a copy or a set of the following documents:
  - .1 Contract Drawings
  - .2 Specifications
  - .3 Addenda
  - .4 Change Orders and other modifications to Contract
  - .5 Reviewed shop drawings, product data, and samples
  - .6 Field test records
  - .7 Inspection certificates
  - .8 Manufacturer's certificates



- .2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of the project file. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by the Departmental Representative.

## **1.7 RECORDING INFORMATION ON FIELD CONDITIONS**

- .1 Record information on two (2) sets of opaque drawings and retain one copy in the project file.
- .2 Record information using red felt tip markers.
- .3 Record information concurrently with work progress. Do not conceal work until required information is recorded.
- .4 Contract Drawings and shop drawings: mark each item to record actual construction, including:
  - .1 Changes made on site with regard to the dimensions and details of the structures.
  - .2 Changes made by change orders.
  - .3 Details not on original Contract Drawings.
  - .4 Referenced Standards to related shop drawings and modifications.

## **1.8 HARDWARE AND SYSTEMS**

- .1 For each item of equipment and each system include description of unit or system, and component parts. Give function, normal operation characteristics and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- .2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.
- .3 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- .4 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- .5 Provide servicing and lubrication schedule, and list of lubricants required.

- .6 Include manufacturer's printed operation and maintenance instructions.
- .7 Include sequence of operation by controls manufacturer.
- .8 Provide installed control diagrams by controls manufacturer.
- .9 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- .10 Additional requirements: according to the requirements of the various technical sections of the estimate.

## **1.9 MATERIALS AND FINISHES**

- .1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering special products as needed.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Additional requirements: according to the requirements of the various technical sections of the estimate.
- .4 Collaborate with the Departmental Representative in establishing work schedules in order to reduce conflicts and facilitate the use of the premises by CSC.

## **1.10 STORAGE, HANDLING AND PROTECTION**

- .1 Store equipment in a manner that prevents damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store items subject to damaged from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and for review by the Departmental Representative.

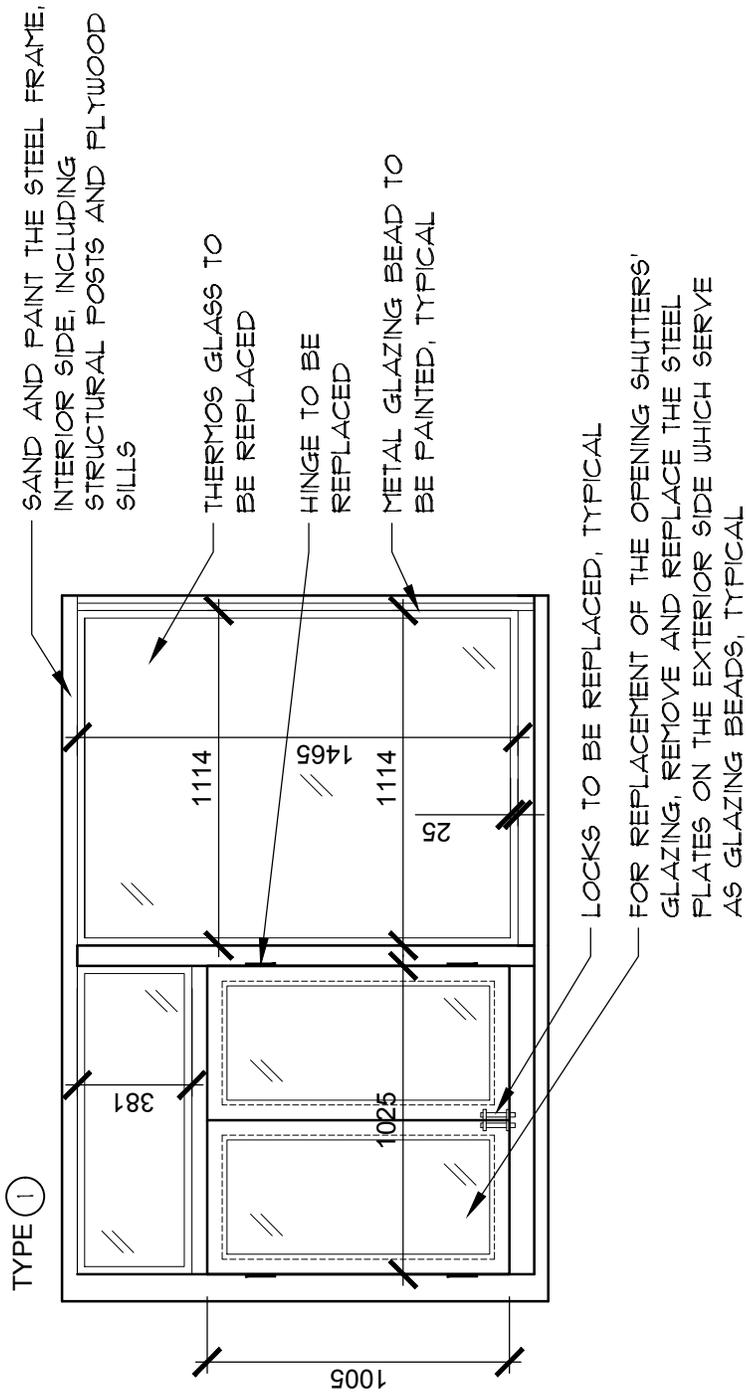
## **1.11 WARRANTIES**

- .1 Separate each warranty with index tab sheets keyed to Table of Contents listing. All guarantees must be found in the Maintenance and Operations Manual.
- .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

- .3 Except for items put into use with Departmental Representative's permission, leave date of beginning of time of warranty until Date of Substantial Completion is determined.
- .4 Make sure that the documents are in good order and contain all the necessary information.

END OF SECTION

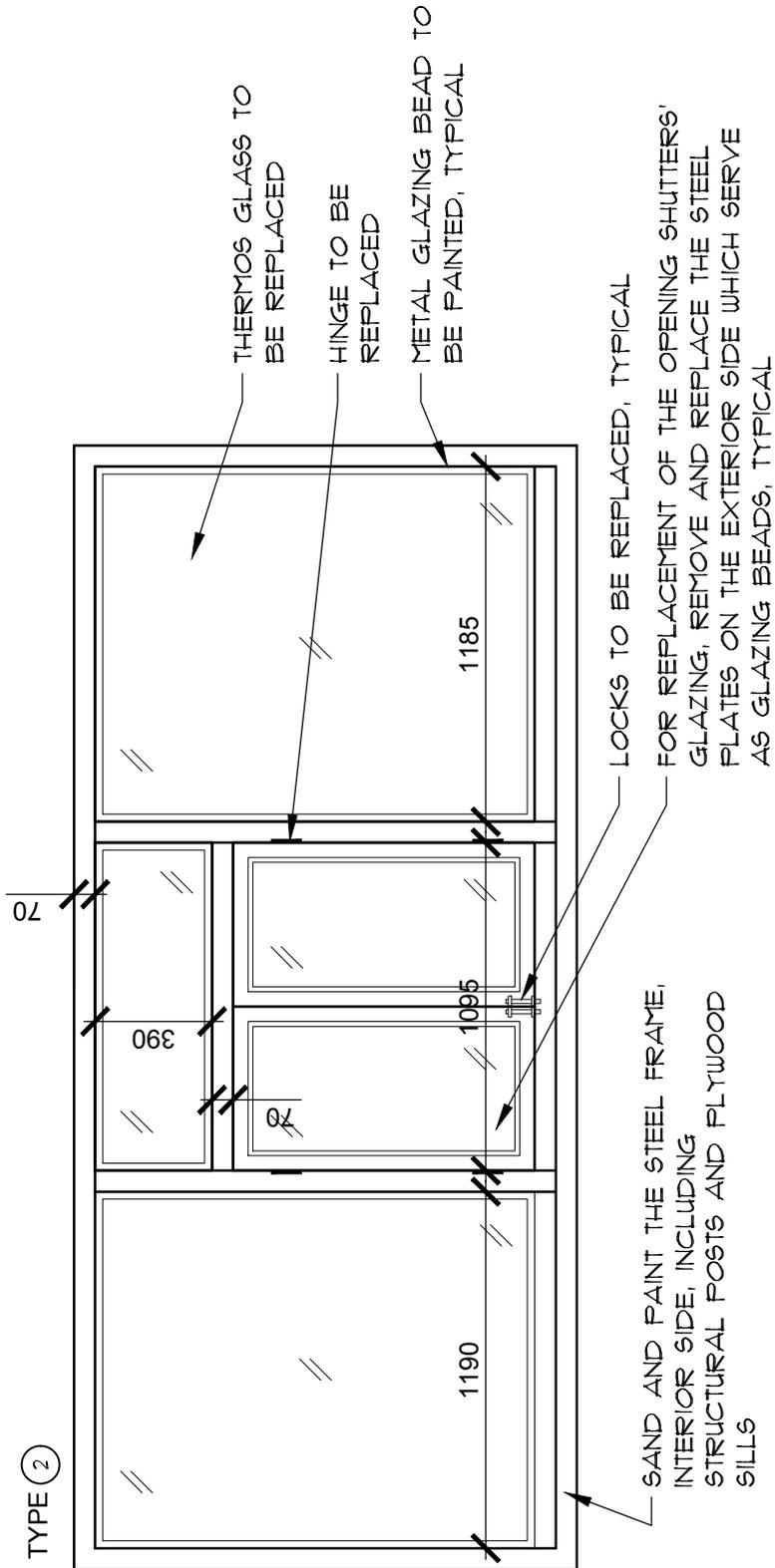




**MIRADOR TYPE WINDOW**  
 INSIDE VIEW

SCALE: 1:25

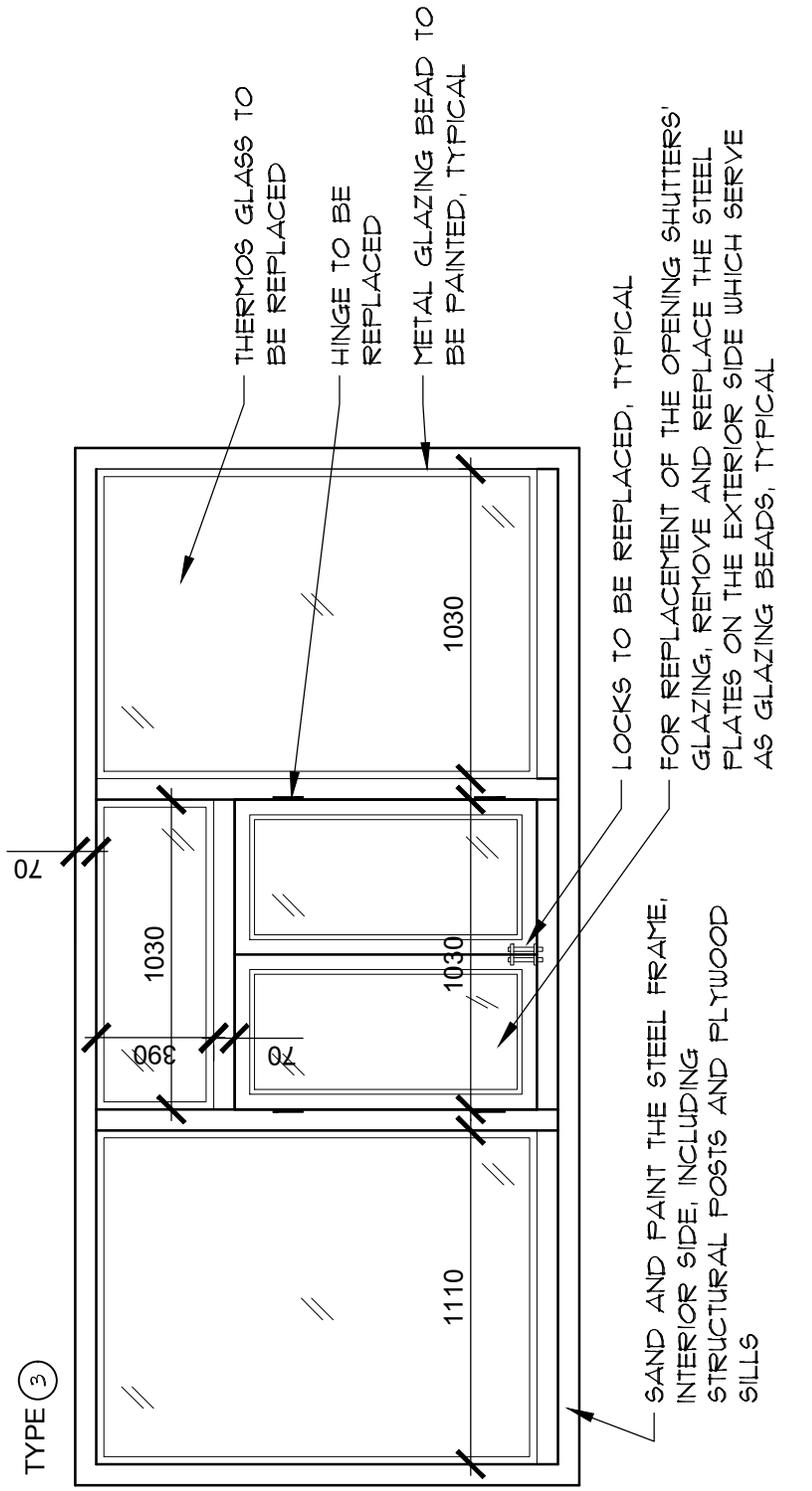
**GENERAL NOTE:**  
 APPROXIMATE DIMENSIONS TAKEN ON GLAZING  
 PANEL, TO BE CHECKED ON SITE.



SCALE: 1: 25

**MIRADOR TYPE WINDOW**  
 INSIDE VIEW

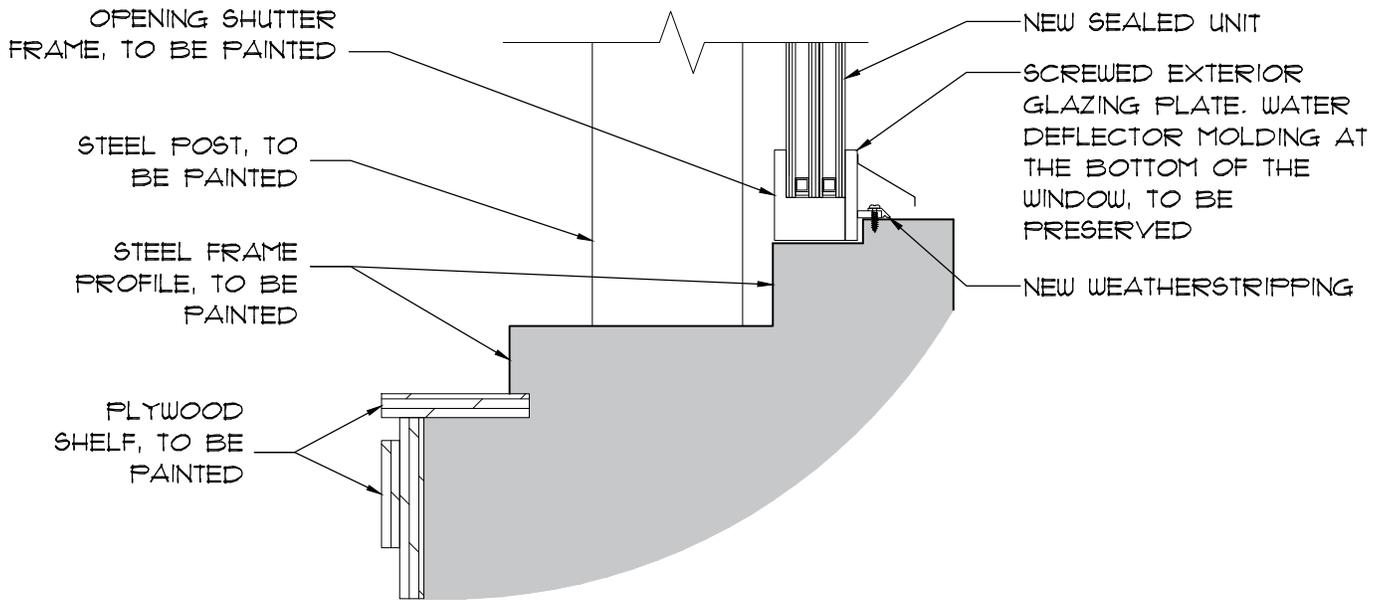
**GENERAL NOTE:**  
 APPROXIMATE DIMENSIONS TAKEN ON GLAZING  
 PANEL, TO BE CHECKED ON SITE.



SCALE: 1:25

**MIRADOR TYPE WINDOW**  
 INSIDE VIEW

**GENERAL NOTE:**  
 APPROXIMATE DIMENSIONS TAKEN ON GLAZING PANEL, TO BE CHECKED ON SITE.

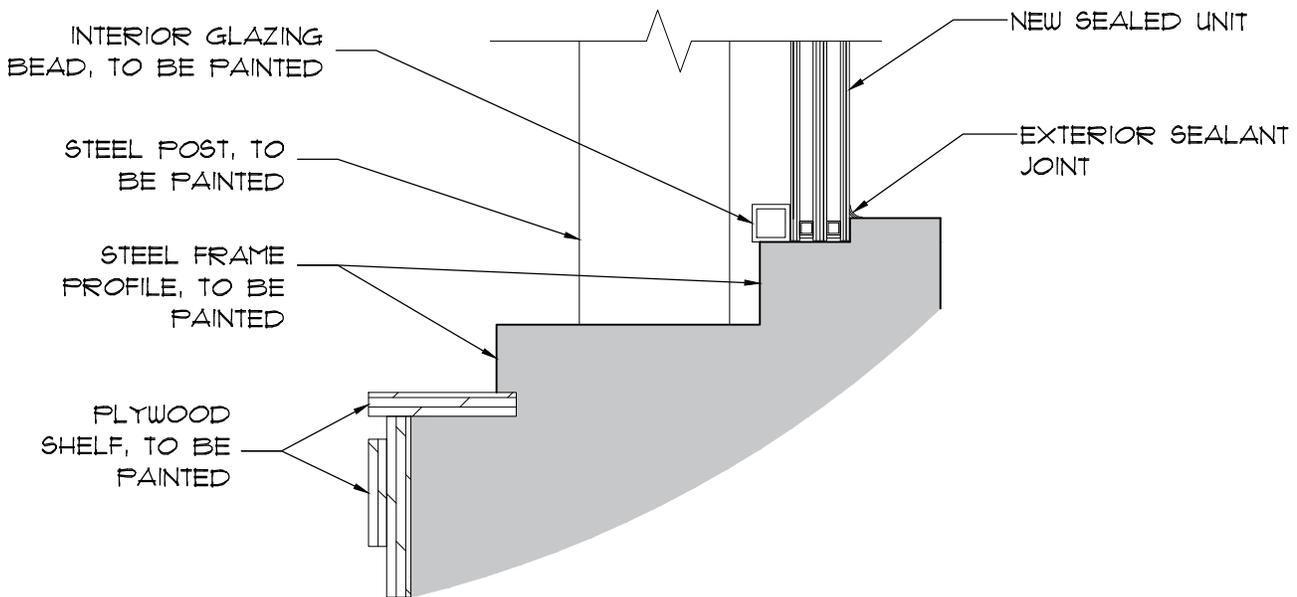


OPENING SHUTTER SECTION

MIRADOR

SCALE 1:5

NOTE: EXTERIOR SAFETY BARS, 25X25 AT 150 C/C NOT SHOWN FOR CLARITY OF THE DRAWING.



FIXED SHUTTER SECTION

MIRADOR

SCALE 1:5







## **1. General**

### **1.1. SCOPE OF WORK**

1. The work described in this section includes the replacement of the glazing of the interior observation windows of all sectors of the penitentiary or as otherwise indicated in the Correctional Service Canada Contract Documents.

### **1.2. RELATED SECTIONS**

1. Section 08 10 00 - Table of Windows, Frames and Hardware
2. Section 09 91 23 - Painting - Interior work

### **1.3. REFERENCES**

1. American Society for Testing and Materials International (ASTM)
  1. ASTM C 542-94 (1999), Specification for Lock-Strip Gaskets.
  2. ASTM D 790-99, Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
  3. ASTM D 1003-97e1, Test Method for Haze and Luminous Transmittance of Plastics.
  4. ASTM D 1929-96, Test Method for Determining Ignition Properties of Plastics.
  5. ASTM D 2240-97e1, Test Method for Rubber Property - Durometer Hardness.
  6. ASTM E 84-99, Test Method for Surface Burning Characteristics of Building Materials.
  7. ASTM F 1233-98, Test Method for Security Glazing Materials and Systems.
2. Canadian Door and Window Manufacturers, Certification Program.
3. Canadian General Standards Board (CGSB)
  1. CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.
  2. CAN/CGSB-12.2-M91, Flat, Clear Sheet Glass.
  3. CAN/CGSB-12.3-M91, Flat, Clear Float Glass
  4. CAN/CGSB-12.6-M91, Transparent (One Way) mirrors
  5. CAN/CGSB 12.8, Insulating Glass Units.
  6. CAN/CGSB-12.12-M90, Plastic Safety Glazing Sheets.
4. Laminators Safety Glass Association, Standards Manual.

#### **1.4. PERFORMANCE CHARACTERISTICS**

1. Comply with the following requirements relating to glass materials in order to ensure the continuity of the air and water vapor barrier system of the building envelope.
  1. The inner pane of multiple sealed glazings must ensure the continuity of the air and water vapor barrier system.
2. Glass sized to withstand permanent loads, wind loads and wind pressure and suction forces overloads acting perpendicularly to the glazing plane, at nominal pressure in accordance with calculations performed according to ANSI/ASTM E330.
3. Maximum inflection of glazing must not exceed 1/200 of bending strength of the glass, and this deformation must not in any way alter the physical properties of glass materials.

#### **1.5. SHOP DRAWINGS**

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

#### **1.6. SAMPLES**

1. Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
2. Submit a 305mm x 305mm sample of a sealed unit, including sealants and accessories.
3. Submit a 100mm x 100mm sample of a 12.7mm thick polycarbonate panel, including the one-way viewing film.
4. Affix prominently on each sample a label indicating the project, product and manufacturer names.

#### **1.7. GUARANTEE**

1. Provide a written document, signed and issued on behalf of the Government of Canada, stipulating that the insulating glass panels are guaranteed against any loss of airtightness of the enclosed air space and that all the products prescribed in this section are guaranteed against any defect that could affect vision for a period of ten (10) years from the date of signing of the Final Acceptance Certificate.

#### **1.8. WASTE MANAGEMENT AND DISPOSAL**

1. Rather than taking scrap metal to a landfill, transport it to the nearest recycling facility.
2. Route materials that can be reused to the nearest building material salvage facility.
3. Send unused caulking and sealing materials to a special waste collection point.

## **1.9. PACKAGING MATERIALS**

1. Remove all packaging materials from the site and forward to appropriate recycling facilities.
2. Place all corrugated cardboard, polystyrene and plastic packaging materials in appropriate bins installed on site for recycling, in accordance with the site waste management program.

## **2. Products**

### **2.1. GLASS**

1. Clear mirror glass: according to CAN/CGSB-12.6-M91, annealed float glass, tinted gray, with reflective coating on one side, 6 mm thick. Reference product: "Mirrorpane" from the company Pilkington or approved equivalent.
2. Annealed tinted glass: according to CAN/CGSB-12.3, gray tinted float glass, annealed, window glass quality, 6 mm thick. Reference product: "Optifloat Gray" from the company Pilkington or approved equivalent.
3. Clear tempered glass: According to CAN/CGSB-12.3, clear float glass, tempered, quality pane glass, 6mm thick.
4. Polycarbonate panels, in accordance with CAN/CGSB-12.1 M90, treated against UV rays and against abrasion, clear, 6mm thick. Reference product: Lexan MR10-112 with Sabic Margard II surface or equivalent.
5. One way viewing film: outer side silver, inner side 5% black.

### **2.2. SEALED UNITS**

1. Insulating glazing (for watchtower windows), according to CAN/CGSB-12.8, with three panels, 46 mm overall thickness (approximate), having the following characteristics:
  1. Exterior panel: clear tempered glass, 6 mm
  2. Coating applied to the panel: low emissivity (Low-E), surface #2
  3. Air knife: 9.5 mm thick, argon filled, black stainless steel spacer
  4. 3.2 mm clear RAC (heat strengthened) +1.27 spacer
  5. Central panel: 6 mm polycarbonate (laminated to 3.2 mm glasses)
  6. 3.2 mm clear RAC (heat strengthened) +1.27 spacer
  7. Air knife: 9.5 mm thick, argon filled, black stainless steel spacer
  8. Interior panel: 6 mm gray tempered glass Coating applied to the glass: one way viewing film with #5 side.

### **2.3. LAMINATED UNITS**

1. Glazing of observation windows (walkways): laminated glass panel with the following characteristics:
  1. "Inmate side" panel: transparent mirror glass, reflecting side towards the inmates.
  2. Laminating film: 1.52 mm PVB film, conforming to CAN/CGSB-12.1 M90.
  3. "Gateway side" panel: annealed tinted glass.

### **2.4. UNITS WITH INTEGRATED PERSIANES**

1. Glazing of observation windows (walkways) with integrated louvers: 2 panels of clear tempered glass, with a space between the two to accommodate the existing louvers.

### **2.5. ACCESSORIES**

1. Only products that are on the list of approved products published by the CGSB are acceptable for work covered by this section.
2. Setting blocks: in neoprene, with a Shore A 50 hardness measured with a durometer according to standard ASTM D 2240, with a width appropriate to the thickness of the glass, adapted to the method of mounting the glazing as well as to the weight and the dimensions of the panes.
3. Peripheral shims: in neoprene, with a Shore A 50 hardness measured with a durometer according to standard ASTM D 2240, self-adhesive on one side, 75 mm long over half the height of the glazing beads on the appropriate thickness for the glazing placed square.
4. Preformed adhesive tapes for glazing:
  1. Pre-molded butyl compound with continuous internal shim, with a Shore A hardness of 10 to 15 measured with a durometer according to standard ASTM D 2240, coiled on backing paper, 3 mm x 10 mm, black in colour.
5. Glazing beads: in neoprene or polyvinyl chloride of current manufacture, designed for glazing to be mounted in dry rebate, suitable for aluminum profiles, colour chosen by the Ministerial Representative.
6. Glaziers pliers: of the standard type recommended by the manufacturer.
7. Extruded seals with locking tabs: according to ASTM C 452.
8. Hinges (Mirador): as the existing hinges, in stainless steel.
9. Locks (Mirador): as the existing locks, in stainless steel.
10. Weatherstripping: dark bronze anodized aluminum molding with neoprene sponge flange. Reference product: Pemko Model 332DR or approved equivalent.

11. Numbering plates: in plastic plate with black face, white core, engraved according to the numbering of the window.
12. Screws: tamper proof type, such as the existing ones.
13. Sealant for exterior glazing: type recommended by the manufacturer.

### **3. Execution**

#### **3.1. INSPECTION**

1. Verify that openings for glazing are correctly sized and within tolerance.
2. Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

#### **3.2. PREPARATORY WORK**

1. Clean the contact surfaces with solvent and dry with cloth.
2. Seal rebates and other porous recesses with primer paint or sealant compatible with the substrate.
3. Prime surfaces scheduled to receive sealant.

#### **3.3. HARDWARE**

1. All fixings must be made with tamper proof type screws.

#### **3.4. MIRADOR WINDOWS**

1. Opening shutters:
  1. Remove the bolted plates from the outside.
  2. Remove existing glazing.
  3. Remove existing weather stripping.
  4. Install new insulating glass.
  5. Replace the screwed plates.
  6. Around the opening of the shutters (all four sides), install new weatherstripping on the outside of the existing frame, so that the shutter rests on the neoprene bead in the closed position.
2. Hardware: when replacing the glazing of the opening shutters of the Mirador windows, remove the existing hinges and bolts and replace them with new ones of the same type.
3. Fixed shutters:
  1. Remove interior glazing beads.

2. Remove existing glazing.
  3. Install new insulating glass.
  4. Put the glazing beads back in place.
4. Painting: plan the interior painting of the Mirador window frames, including the steel posts installed in front of the frames and the plywood bottom wall. See Section 09 91 23.

### **3.5. OBSERVATION WINDOWS WITH INTEGRATED SLANTED SHUTTERS**

1. Remove the screwed plate on the outside of the shutter.
2. Remove the exterior polycarbonate panel.
3. Install the new clear tempered glass panel.
4. Replace the screwed plate.
5. Repeat the same procedure for the panel on the gateway side, taking care of the operating mechanism of the integrated louver. Check the proper functioning of the mechanism before screwing the plate in place.

### **3.6. OBSERVATION WINDOWS WITHOUT INTEGRATED SLANTED SHUTTERS**

1. Remove the glazing bead.
2. Remove the exterior polycarbonate panel.
3. Install the new laminated glass panel with the reflective side facing the inmates.
4. Replace the glazing bead.

### **3.7. INSTALLATION**

1. Installation in dry rebate/self-adhesive strip:
  1. Cut adhesive strips to the appropriate length and press them against the permanent glazing beads, so that they extend up to 6 mm above sightline. First lay the horizontal strips and cover the entire width of the glazing before installing the vertical strips. Seal the corners by butting the adhesive strips and covering the joints with sealant.
  2. Place setting blocks at intervals corresponding to one quarter the width of glazing, so that the end blocks are at most 150 mm from the corners of the latter.
  3. Place the glazing on the setting blocks and press it against the fixed glazing beads, exerting sufficient pressure to obtain perfect contact with the surfaces.
  4. Place the removable glazing beads without moving the adhesive strips and exerting pressure so as to obtain perfect contact with the surfaces.
  5. Knife trim protruding tape.



### **3.8. CLEANING**

1. Remove sealant and any material used for installing the glazing from finished surfaces.
2. Remove all labels when the work is complete.
3. Any glass scratched, broken or damaged in any way whatsoever must be replaced without delay at no additional cost to the Owner.

### **3.9. GENERAL**

1. The glass must be cut with precision so that the free clearances appropriate and necessary for its installation are provided. The installation of the glass must be such that it will be free of any superimposed load and any stress which may be the cause of warping or twisting prejudicial to the good appearance and which could cause breakage. Where they are intended to remain visible, the edges of the glass should be straight, smooth, polished and not sharp. Any cutting must be regular. The glazing beads of the openings to be glazed must be fixed in place with good alignment and must ensure a good fit of the glass in the openings.
2. Clamp marks required for the glass tempering process should be affixed to surfaces that are concealed after installation. No visible marks will be accepted.
3. The installation of the glass must be rigid and must adapt to the various elements of the building; it must prevent any contact of the glass with metal or wood. Any tape or other similar trim for the glazing must be flush with the face of the glazing bead or other similar element. The glazing beads must be installed to be removable to allow a possible replacement of the glass.
4. Each sheet of glass must clearly bear a removable label, issued by the manufacturer, identifying the latter, the type, and the quality of the glass. Such labels should only be removed with the written authorization of the Departmental Representative.

### **3.10. INSPECTION**

1. Verify that openings for glazing are correctly sized and within tolerances recommended by the manufacturers.
2. Make sure that the recessed surfaces as well as those of the glazing profiles are clean and free from any destruction and that they are ready to receive the glazing.

### **3.11. QUALITY OF EXECUTION**

1. Remove protective coatings, clean contact surfaces with solvent and dry.
2. Apply a coat of sealant primer to contact surfaces.
3. Place the setting blocks according to the manufacturer's instructions.

4. Put the glass in place, press it on the setting blocks and press it against the self-adhesive strip or the sealant with enough firmness to ensure perfect adhesion all around.
5. Place the removable glazing beads, avoiding moving the self-adhesive strip or the sealant, and exert the required pressure to ensure perfect contact all around.
6. Depending on the glass surfaces, leave a gap of at least 3 mm on the edges.
7. Insert the peripheral shims so as to properly center the glass in the frame. Place the wedges 600 mm on center and keep them 6 mm below the sight line.
8. When required, apply a bead of sealant to the outside of the rebate as recommended by the manufacturer.
9. Apply sealant to form an even, level bead, straight up to the sight line and shaped with the appropriate tool or solvent wiped for a smooth finish.
10. Do not cut or lap tempered, heat treated, or coated glass.

END OF SECTION

**1. General**

**1.1. RELATED SECTIONS**

1. Section 08 80 50 - Glazing.

**1.2. REFERENCES**

1. Architectural Painting Specifications Manual, Master Painters Institute (MPI).
2. Systems and Specifications Manual, SSPC Painting Manual, Volume Two, Society for Protective Coatings (SSPC).
3. Test Method for Measuring Total Volatile Organic Content Compound of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).
4. National Fire Code of Canada.

**1.3. QUALITY ASSURANCE**

1. The Contractor must be able to demonstrate that he has at least 5 years of experience in carrying out similar work. Provide, on request, the list of the last three comparable projects, specifying the name and location of the project, the contractual authority responsible for the estimate, and the name of the project manager.
2. Painting work must be carried out by qualified workers holding a "Tradesman Qualification Certificate of Proficiency". Apprentices can be hired on the condition that they work under the direct supervision of a qualified worker, in accordance with the regulations governing this trade.
3. Comply with the latest MPI requirements for interior paint work, including those for surface preparation and the application of primers and sealers.
4. The products used, either primers or printing products, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents and others, must appear on the List of approved products given in the MPI Architectural Painting Specification Manual and all the products forming the chosen paint system must come from the same manufacturer.
5. Other paint products such as linseed oil, shellac and turpentine must be compatible with the other coating products used, as required, and of very high quality. They must be from an approved manufacturer listed in the MPI Painting Specification Manual.
6. Keep the purchase slips, invoices, and other documents allowing to establish, at the request of the Engineer, the conformity of the work with the requirements of the specified MPI.
7. Quality standard

1. Walls: no visible defects at a 1000 mm distance, at 90° angle to the surface examined.
2. The colour and gloss of the topcoat should be uniform over entire examined surface.

#### **1.4. ENVIRONMENTAL PERFORMANCE REQUIREMENTS**

1. The paint products used must comply with the requirements governing obtaining the “Environmental Choice” designation from the MPI “Green Performance Standard MPI GPS-1”, granted according to the content of volatile organic compounds (VOCs) determined according to method #24 of the Environmental Protection Agency (EPA).

#### **1.5. SCHEDULING**

1. Submit the schedule of the various stages of the painting for approval by the Institution at least 48 hours before the start of the planned work.
2. Obtain written authorization from the Institution for any modification of the work schedule.
3. Establish the work schedule so as not to disturb the occupants of the building or those in the vicinity.

#### **1.6. ACTION AND INFORMATIONAL SUBMITTALS**

1. Submit the required product data and manufacturer's instructions for the application or processing of paints and products used in accordance with section 01 33 00 - Submittal Procedures.
2. Submit a complete file for all products used. Indicate all the products that make up each system, specifying the following information for each:
  1. The name, type and use of the product.
  2. Product number of the Manufacturer.
  3. Colour numbers.
  4. Product grade according to the MPI Environmental Choice program classification.
  5. Manufacturer's Material Safety Data Sheets (MSDS) for each product.

#### **1.7. ADDITIONAL MATERIALS**

1. Provide the materials/equipment for maintenance/replacement required as per section 01 78 00 - Closeout Submittals.
2. Submit a four liter container of each type and colour of primer. Identify the colour and type of paint according to specified colour list and paint system.
3. Deliver maintenance / replacement equipment to the Institution and store it in the location indicated.

## **1.8. DELIVERY, STORAGE AND HANDLING**

1. Deliver, store and handle paint products and maintenance / replacement material in accordance with Section 01 61 00 - General Product Requirements.
2. Labels must indicate clearly:
  1. Name and address of the Manufacturer
  2. Type of paint or coating
  3. Compliance with relevant standards and requirements
  4. Colour number, according to the list of colours specified
3. Remove damaged, opened or refused products and equipment from the site.
4. Provide a safe storage area, kept dry and kept at a controlled temperature, and maintain it properly.
5. Observe the manufacturer's recommendations for storage and handling.
6. Store products and materials away from heat sources.
7. Store products and equipment in a well-ventilated area with a temperature between 7°C and °C.
8. The storage temperature of heat-sensitive products and equipment should never be lower than the minimum temperature recommended by the manufacturer.
9. Keep areas used for storage, cleaning, and preparation clean and in order, to the satisfaction of the Institution. Once the operations are completed, return these areas to their initial state, to the satisfaction of the Institution.
10. Remove from the storage area only the quantities of products that will be used on the same day.
11. Comply with WHMIS requirements for the use, storage, handling and disposal of hazardous materials.
12. Fire safety requirements
  1. Provide one (1) 9 kg ABC portable chemical powder fire extinguisher and place near storage area.
  2. Place oily rags, waste materials, empty containers, and materials subject to spontaneous combustion in ULC-certified containers and remove these containers from the work site daily.
  3. Handle, store, use and dispose of flammable and combustible products and materials in accordance with the requirements of the National Fire Code of Canada.

## 1.9. APPLICATION REQUIREMENTS

1. Heating, ventilation and lighting
  1. Before the start of painting, check whether adequate and continuous ventilation can be ensured and whether suitable heating installations allow the temperatures of the ambient air and of the substrate to be raised to more than 10°C at least 24 hours before the start of the work and to maintain these temperatures during their execution and for the same number of hours after their completion.
  2. If necessary, provide continuous ventilation for seven (7) days following completion of the work.
  3. Coordinate the use of the existing ventilation system with the Engineer and, if necessary, make the necessary arrangements for its operation during and after the execution of the work.
  4. Supply and temporarily install the necessary heating and ventilation equipment if the permanent systems cannot be used; if the building's permanent systems do not meet the minimum requirements, supply and install the additional equipment required to meet them.
  5. Before the start of painting, check whether the lighting level of the surfaces to be painted is at least 323 lux. Adequate lighting devices or systems must be provided by the General Contractor.
2. Ambient temperature, relative humidity and moisture content of the substrate
  1. Unless a specific authorization has been given in advance by the contractual authority responsible for the estimate and by the manufacturer of the product applied, do not proceed with painting work in the presence of the following conditions:
    1. Ambient air and substrate temperatures are below 10°C.
    2. The temperature of the substrate is above 32°C, unless the formulation of the paint to be applied requires a high temperature during application.
    3. Ambient air and substrate temperatures should drop below the range recommended by MPI or the paint manufacturer.
    4. The relative humidity is greater than 85% or the dew point corresponds to a difference of less than 3°C between the temperature of the air and that of the substrate.
  2. Do not carry out painting work if the maximum moisture content of the substrate is greater than the following values:
    1. 15% for wood
  3. Using a properly calibrated electronic moisture meter, perform tests to determine the moisture content of substrates.
3. Condition of surfaces and conditions of use
  1. Carry out painting work only in areas where the ambient air is free from airborne dust generated by construction work or dust blown by the wind or the ventilation system and, therefore, likely to alter the finished surfaces.

2. Paint only on properly prepared surfaces with moisture content within the range specified in this section.
3. Apply paint only when the previous coat is dry or sufficiently hardened.
4. Additional requirements for the application of paint to interior surfaces
  1. Apply paint products only when the temperature on the work site can be maintained within the limits recommended by the manufacturer of the products used.
  2. In occupied buildings, all painting work must be done after closing hours. The work schedule must be approved by the Engineer and must provide for sufficient drying and curing time before the occupants return.

#### **1.10. WASTE MANAGEMENT AND DISPOSAL**

1. Sort and recycle waste according to Section 01 74 21 - Waste Management and Disposal.
2. Paints and other products used during the application of these coatings (thinners, solvents, etc.) must be treated as hazardous materials, the disposal of which is subject to various regulations. Information on relevant legislative provisions can be obtained from provincial departments responsible for the environment and government agencies in the region.
3. Products that cannot be reused should be treated as hazardous waste and disposed of properly.
4. Place materials and equipment designated as hazardous or toxic, including used tubes and containers of adhesive and sealant, in areas or containers intended to receive hazardous waste.
5. To reduce the amount of contaminants likely to enter the soil or be discharged into waterways and sanitary and storm sewer systems, the following guidelines must be strictly observed.
  1. Store the water used for washing paints and other water-based products so as to allow the collection by filtration of deposited materials.
  2. Store cleaning products, thinners, solvents and excess paint in designated containers and dispose of them properly.
  3. Keep rags soaked in oil and solvent during painting for the recovery of contaminants and proper disposal or cleaning, as appropriate.
  4. Arrange for the disposal of contaminants in accordance with the regulations for hazardous waste.
  5. Allow empty paint containers to dry before disposal or recycling (in areas with suitable facilities).
6. Where there is a paint recycling service, collect surplus paint, classify it by type of product and arrange for it to be sent to a collection or recycling facility.
7. Tightly close and seal partially used adhesive and sealant containers, and store at moderate temperature in a well-ventilated, fireproof area.

## **1.11. SCOPE OF WORK**

1. The work covered by this section includes the interior painting of the steel frames of the "Mirador" windows, including the opening shutters, the fixed frames, the structural steel posts installed in front of the windows, the glazing beads and the plywood shelves.

## **2. Products**

### **2.1. MATERIALS**

1. Certified Materials: for the performance of this work, use only paint materials from the list of approved products issued by the CGSB.
2. All the products making up the paint system used must come from the same manufacturer.
3. Only approved products having obtained the Environmental Choice "Green Performance Standard MPI GPS-1" may be used in the context of this work.

### **2.2. COLOURS**

1. The Institution will provide the list of colours after the contract has been awarded. Submit the list of proposed colours for approval by the Institution.
2. The colour list will be based on the selection of an unlimited number of base colours and an unlimited number of accent colours.
3. The colours will be chosen from the full range of colours and tints offered by the manufacturers.
4. If particular products are offered in a limited range of colours, the colours of the products actually implemented will be selected from this restricted range.

### **2.3. MIXING AND TINTING**

1. Perform colour tinting operations prior to delivery of paint to site. Obtain written approval from the Engineer for tinting of painting materials.
2. 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. GLOSS/SHEEN RATINGS**

1. The sheen rating of painted surfaces must comply with the nomenclature of finishing products.

### **2.5. INTERIOR PAINTING SYSTEMS**

1. Existing painted metal surfaces to be repainted



1. Phosphoric acid treatment, Sico Product 635-104 or approved equivalent.
  2. One coat of anti-corrosion alkyd resin primer, Product 922-260 or approved equivalent.
  3. Two coats anti-rust enamel, Corrostop 635 series from Sico or approved equivalent.
2. Choice and number of paint coats
1. Notwithstanding what is described for the paint systems to be used, use a sufficient number of additional coats of paint to obtain complete and uniform masking (in order to avoid transparency) to the satisfaction of the Institution.

### **3. Execution**

#### **3.1. GENERAL**

1. Prepare interior surfaces and paint according to the requirements of the MPI Architectural Painting Specifications Manual, unless otherwise specified.
2. Apply paint products according to Manufacturer's written instructions.

#### **3.2. EXISTING CONDITIONS**

1. Examine existing substrates to check if their condition may compromise adequate preparation of the surfaces to be painted. Report to the Engineer any damage, defect or unsatisfactory or unfavourable condition detected, before proceeding with work.
2. Perform tests to check the humidity of the surfaces to be painted using a properly calibrated electronic moisture meter. Then communicate the results to the Engineer. Do not begin work until the condition of the substrates is deemed acceptable, within the range of values recommended by the Manufacturer.

#### **3.3. PROTECTION**

1. Protect existing building surfaces and adjacent structures from paint splatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore surfaces as directed by the Institution.
2. Protect items that are permanently attached such as Fire Labels on doors and frames.
3. Protect factory finished products and equipment.
4. Ensure the protection of building occupants inside or near the building.
5. Remove electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Identify and store items in secure location and re-installed after painting is completed.

6. Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.
7. Place "WET PAINT" signs in occupied areas as painting operations progress. Signs to approval of the Engineer.

### **3.4. CLEANING AND PREPARATION**

1. Clean and prepare interior surfaces in accordance with the requirements of the MPI Architectural Painting Specification Manual. Refer to this document for specific requirements to be added to the instructions below.
  1. Remove dust, dirt and other foreign matter by wiping surfaces with clean, dry rags and vacuuming. Remove dust, dirt, and other surface debris by vacuuming and wiping with dry, clean cloths.
  2. Wash surfaces with biodegradable detergent, with additional bleaching agent if necessary, and clean warm water, using a stiff bristle brush to clean the surfaces of dirt, oil and other contaminants.
  3. After having thoroughly brushed the surfaces, rinse them with clean water until no foreign matter remains.
  4. Allow surfaces to drain completely and allow to dry thoroughly.
  5. Fit spray hoses with trigger sprayers.
2. Before applying primer or sealer and between subsequent coats, prevent cleaned surfaces from being contaminated by salts, acids, alkalis, corrosive chemicals, grease, oil and solvents. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.
3. Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.
4. Clean metal surfaces to be painted by removing rust, rolling flakes, welding slag, dirt, oil, grease and other foreign matter in accordance with the requirements of the MPI. Remove traces of blast products from surfaces, pockets and corners to be painted by brushing with clean brushes.
5. Do not apply paint until prepared surfaces have been accepted by the Institution.

### **3.5. APPLICATION**

1. Apply the paint with a brush or a spray gun. Apply the product according to the manufacturer's instructions, unless otherwise indicated.
2. Brush application
  1. Apply paint in uniform layer using a brush type suitable for application.
  2. Work paint into cracks, crevices and corners.

3. Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins.
4. Remove sags, drips and paint brush and brush marks on finished surfaces, and touch-up these surfaces.
3. Spray application
  1. Provide equipment designed for the intended purpose, capable of spraying the product correctly and equipped with appropriate pressure regulators and pressure gauges. Keep this equipment in good condition.
  2. During paint application, ensure adequate mixing of ingredients in the container by continuous mechanical agitation or repeated intermittent agitation as often as necessary.
  3. Apply a coat of even paint, overlapping the surface covered on the previous pass.
  4. Immediately remove drips and sags with a brush.
  5. Use paint brushes or brushes to penetrate paint into cracks, crevices, and other spots hard to reach with gun spray.
4. Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access and this only with the authorization of the Engineer.
5. Apply each coat of paint to obtain a continuous film of uniform thickness. Rework surfaces that are bare or covered with a film that is too thin before applying the next layer.
6. Allow surfaces to dry and cure properly after cleaning and between each successive coat, waiting for the minimum time recommended by the manufacturer.
7. Rub down and dust off surfaces between each layer to eliminate visible defects to a distance of 1,5 m.
8. Finish surfaces above and below the sight lines in accordance with the requirements for adjacent surfaces, including areas such as the tops of cupboards and wardrobes, and projecting edges.
9. Finish the interior of cabinets and closets according to the indications provided for exposed surfaces.
10. Finish alcoves and storage areas as indicated for adjacent rooms.
11. Finish the top, bottom, edges and openings of doors in accordance with the requirements applicable to the facing surfaces of doors, after these have been adjusted.

### **3.6. FIELD QUALITY CONTROL**

1. Notify the Institution when a surface and a product applied on the job site are ready to be inspected. Do not apply the next coat until the previous coat has been approved.

**3.7. SITE CLEANING**

1. Clean and reinstall all removed hardware items to facilitate painting.
2. Remove guards and warning signs as soon as possible after completion of work.
3. Remove spills from exposed surfaces that have not been painted. Remove burrs and speckles as work progresses, using a compatible solvent.
4. Protect freshly painted surfaces from drips and dust, to the satisfaction of the Institution, and avoid scratching new coatings.
5. Return the premises used for the storage, mixing and handling of paints and for cleaning the tools and equipment used to their initial state of cleanliness, to the satisfaction of the Institution.

END OF SECTION

