Part 1 General

1.1 TAXES

.1 Pay all taxes properly levied by law (including Federal, Provincial and Municipal).

1.2 FEES, PERMITS and CERTIFICATES

.1 Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.

1.3 REGULATORY REQUIREMENTS

.1 References and Codes:

.1 Materials shall be new and work shall conform to the minimum applicable standards of the “References” indicated in the specification sections, the National Building Code of Canada 2010 (NBC) and all applicable Provincial and Municipal codes. In the case of conflict or discrepancy the most stringent requirement shall apply.

.2 Building Smoking Environment:

.1 Smoking is not permitted in the Building. Obey smoking restrictions on building property.

.3 Hazardous Material Discovery:

.1 Stop work immediately when material resembling spray or trowel-applied asbestos, Polychlorinated Biphenyl (PCB), mould or other designated substance is encountered during demolition work.

.1 Take preventative measure and promptly notify Departmental Representative.

.2 Do not proceed until written instructions have been received from Departmental Representative.

1.4 FIRE SAFETY REQUIREMENTS

.1 Comply with both the National Building Code of Canada 2015, the National Fire Code of Canada 2010 and all provincial and municipal regulations for safety of persons in buildings in the event of a fire and the protection of buildings from the effects of fire, as follows;

.1 The National Building Code (NBC): for fire safety and fire protection features that are required to be incorporated in a building during construction.

.2 The National Fire Code (NFC):

.1 The on-going maintenance and use of the fire safety and fire protection features incorporated in buildings.

.2 The conduct of activities that might cause fire hazards in and around buildings.

.3 Limitations on hazardous contents in and around buildings.

.4 The establishment of fire safety plans.

.5 Fire safety at construction and demolition sites.

.2 Welding and cutting:

.1 At least one week prior to commencing cutting, welding or soldering procedure, provide to Departmental Representative:

.1 Notice of intent, indicating devices affected, time and duration of isolation or bypass.

.2 Completed welding permit as defined in NFC.

.3 Return welding permit to Departmental Representative immediately upon completion of procedures for which permit was issued.

.2 “Fire Watchers” as described in NFC shall be assigned when welding or cutting operations are carried out in areas where combustible materials within 15m may be ignited by conduction or radiation.

.3 Where work requires interruption or cause activation of fire alarms or fire suppression, extinguishing or protection systems:

.1 Retain services of manufacturer for fire protection systems on daily basis or as approved by Departmental Representative, to isolate and protect all devices relating to:

.1 modification of fire alarms, fire suppression, extinguishing or protection systems; and/or

.2 cutting, welding, soldering or other construction activities that might activate fire protection systems.

.2 Immediately upon completion of work, restore fire protection systems to normal operation and verify that all devices are fully operational.

.3 Inform fire alarm system monitoring agency and local Fire Department immediately prior to isolation and immediately upon restoration of normal operation.

1.5 EXAMINATION and PREPARATION

.1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.

.2 Before commencing work, establish location and extent of services lines in area of work and notify Departmental Representative of findings.

.3 Before commencing work, establish the location for the crane and notify the Departmental Representative of the location and dates that the crane will be in operation and/or occupy the site.

.4 Obtain all necessary municipal permits for work, including road closure.

1.6 EXECUTION

1.7 WASTE MANAGEMENT

.1 Dispose of all waste according to provincial and municipal regulations.

.2 Submit complete records of all removals from site for both "materials designated for alternative disposal" and "general waste" including:

.1 time and date of removal;

.2 description of material and quantities; and

.3 proof that materials have been received at an approved Waste Processing Site or certified Waste Disposal Site as required.

1.8 CLOSEOUT SUBMITTALS

.1 Operational and Maintenance Manuals:

.1 Submit to Departmental Representative four (4) copies of approved Operations Data and Maintenance Manual in both official languages, compiled as follows:

.1 Bind data in vinyl hard cover 3 "D" ring type loose-leaf binders for 212 x 275mm size paper. Binders must not exceed 75mm thick or be more than 2/3 full.

.2 Enclose title sheet labelled "Operation Data and Maintenance Manual," project name, date and list of contents. Project name must appear on binder face and spine.

.3 Organize contents into applicable sections of work to parallel project specifications breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.

.2 Include following information plus data specified:

.1 Maintenance instruction for finished surface and materials.

.2 Copy of hardware and paint schedules.

.3 Description: operation of the equipment and systems defining start-up, shut-down and emergency procedures, and any fixed or adjustable set points that affect the efficiency of the operation. Include nameplate information such as make, size, capacity and serial number.

.4 Maintenance: use clear drawings, diagrams or manufacturers' literature which specifically apply and detail the following:

.1 lubrication products and schedules;

.2 trouble shooting procedures;

.3 adjustment techniques; and

.4 operational checks.

.5 Suppliers’ names, addresses and telephone numbers and components supplied by them must be included in this section. Components must be identified by a description and manufacturers part number.

.6 Guarantees showing:

.1 name and address of projects;

.2 guarantee commencement date (date of Interim Certificate of Completion);

.3 duration of guarantee;

.4 clear indication of what is being guaranteed and what remedial action will be taken under guarantee; and

.5 signature and seal of Guarantor.

.7 Additional material used in project listed under various Sections showing name of manufacturer and source of supply.

.3 Spare parts: list all recommended spares to be maintained on site to ensure optimum efficiency. List all special tools appropriate to unique application. All parts/tools detailed must be identified as to manufacturer, manufacturer part number and supplier (including address).

.4 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

.2 Records:

.1 As work progresses, maintain accurate records to show deviations from contract drawings. Just prior to Departmental Representative's inspection for issuance of final certificate of completion, supply to the Departmental Representative one (1) set of white prints with all deviations neatly inked in. The Departmental Representative will provide two sets of clean white prints for this purpose.

.2 Contractor to markup contract drawings during construction to show existing and new conditions in detail.

.3 Demolition Report:

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

.4 Guarantees and Warranties:

.1 Before completion of work collect all manufacturer's guarantees or warranties and deposit with Departmental Representative.

1.9 CLEANING

.1 Perform cleaning in accordance with Section 01 74 11 – Cleaning.

.2 Clean up as work progresses. At the end of each work period, and more often if ordered by the Departmental Representative, remove debris from site, neatly stack material for use, and clean up generally.

.3 Upon completion remove scaffolding, temporary protection and surplus materials. Make good defects noted at this stage.

.4 Clean and polish glass, mirrors, ceramic tile, aluminum, chrome, stainless steel, baked or porcelain enamel, plastic laminate and other plastic surfaces, floors, hardware and washroom fixtures. Clean manufactured articles in accordance with manufacturer's written instructions.

.5 Clean areas under contract to a condition equal to what previously existed and to approval of Departmental Representative.

1.10 SECURITY CHECK

.1 Personnel will be checked daily at start of work shift and given a pass, which must be worn at all times. Pass must be returned at end of work shift and personnel checked out.

1.11 SITE SAFETY TRAINING

.1 Prior to starting work, the Contractor must provide the Departmental Representative with a written Health and Safety plan in accordance with Section 01 35 29 .06.

1.12 COST BREAKDOWN

.1 Before submitting first progress claim, submit breakdown of Contract Amount in detail as directed by Departmental Representative and aggregating the Contract Amount. After approval by Departmental Representative cost breakdown will be used as the basis of progress payments.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 WORK SEQUENCE

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

.2 Coordinate Progress Schedule and co-ordinate with Owner Occupancy during construction.

.3 Maintain fire access/control at all times

1.2 CONTRACTOR USE OF PREMISES

.1 Contractor must organize premises for Work, to allow:

.1 Owner access.

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

.3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

.4 Remove or alter existing work to prevent injury or damage to portions of existing work which is to remain.

.5 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.

.6 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

.7 Work requiring crane use, street closures, alteration to exterior circulation, or impact on tenant or street activity is not to take place from Monday to Friday between 7:00AM and 18:00PM.

.8 Coordinate with Departmental Representative for all interior work proposed to take place between Monday to Friday 7:00 to 18:00.

.9 Carry out noise generating work and other work disruptive to building use and occupants during "off hours", Monday to Friday from 18:00 to 07:00 hours and on Saturdays, Sundays, and statutory holidays.

.10 Provide Departmental Representative minimum 48 hours notice for work to be carried out during "off hours".

1.3 OWNER OCCUPANCY

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

.1 The floor levels subject to the work of this contract will not be occupied:

.1 Level 15

.2 Building entrances and exits to remain safe and operational at all times. Provide Departmental Representative minimum 5 working days notice should any entrances or exits require interruption.

.3 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.4 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

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

1.5 EXISTING SERVICES

.1 Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.

.2 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.

.3 Provide independent temporary services for all project requirements. No building or site utilities are permitted to be used.

.4 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

.5 Coordinate with Departmental Representative for shutdown of adjacent 15th floor air handling units for any activities which will create fumes or smoke.

1.6 EXISTING CONDITIONS

.1 All existing surfaces and finishes, including roadways and landscaping, impacted or damaged by work must be repaired to match existing conditions.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

PART 1 – GENERAL

1.1 REFERENCES

1. Federal Legislation
    1. *Canada Labour Code, Part II, section 124 and 125. Canada Occupational Health and Safety Regulations*
    2. *Transportation of Dangerous Goods Act, 1992 (TDGA)*
    3. *Canada Consumer Product Safety Act*
        1. *Surface Coating Materials Regulations SOR/2005-109.*
    4. *Canadian Environmental Protection Act, 1999 (CEPA)*
        1. *PCB Regulations (SOR/2008-273)*
        2. *Federal Halocarbon Regulations, 2003 (SOR/2003-289)*
2. Provincial Legislation
    1. *Québec's An Act Respecting Occupational Health and Safety.*
        1. *Regulation Respecting Occupational Health and Safety.*
        2. *Safety Code for the Construction Industry.*
    2. *Quebec's Environmental Quality Act,*
        1. *Regulation Respecting Hazardous Materials.*
3. *Canadian General Standards Board (CGSB).*
4. *Canadian Standards Association (CSA International). CAN/CSA-Z94.4-11 Respiratory Protection*
5. Underwriters' Laboratories of Canada (ULC).

1.2 DEFINITIONS

Asbestos-Containing Materials (ACMs): means material that contains 0.1 per cent or more asbestos by dry weight as per the Quebec's Safety Code for the Construction Industry.

Friable Material: material that when dry can be crumbled, pulverized or powdered by hand pressure and includes such material that is crumbled, pulverized or powdered.

Time-weighted average exposure limit (TWAEL): the time-weighted average airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day or work week as prescribed by *O.Reg. 490/09* Designated Substances, as amended.

1.3 RELATED SECTIONS

Not used

1.4 DESIGNATED SUBSTANCES

Refer to the following "Designated Substances Report, LTDLC Building Envelope Rehabilitation – Panel Investigation Project, Les Terrasses de La Chaudière Complex, Gatineau, Quebec, October 2015." for the description of the methodology used to assess the designated substances within the project areas.

The purpose of the project is to investigate the panels, and determine how easy it is to remove a panel with a crane, and replace it with cladded metal.

Confirm with the Departmental Representative that no additional designated substances have been brought to the project area prior to beginning work.

Additional designated substances and hazardous materials may exist outside the accessible survey area but are beyond the scope of this project.

Should any additional material, suspected to be a designated substance, be encountered within the project area, any disturbance of such material must be stopped, precautionary measures taken, and the Departmental Representative must be notified immediately. Do not proceed until written instructions have been received.

1. ACRYLONITRILE: Not Identified
2. ARSENIC: Not Identified
3. ASBESTOS: **Identified**

   Bulk sampling and subsequent laboratory analysis has determined that the drywall joint compound in the Executive office on the 15th floor of the 25 Eddy Tower contains 1% of non-friable Chrysotile asbestos.
4. BENZENE: Not Identified
5. COKE OVEN EMISSIONS: Not Identified
6. ETHYLENE OXIDE: Not Identified
7. ISOCYANATES: Not Identified
8. LEAD: **Identified**

   Bulk sampling and subsequent laboratory analysis has determined that the light grey paint on the north wall of the Executive office on the 15th floor of the 25 Eddy Tower contains more than 90 ppm of lead. This paint is considered as a lead-based paint as per the *Surface Coating Materials Regulations SOR/2005-109*.
9. MERCURY: Not Identified
10. SILICA: **Identified**

    Free crystalline silica is present in the drywall in the project area.
11. VINYL CHLORIDE MONOMER: Not Identified
12. POLYCHLORINATED BIPHENYLS (PCBS): Not Identified
13. OZONE DEPLETING SUBSTANCES (ODS): Not Identified

1.5 RECOMMENDATIONS

1. Asbestos
   1. All work must be done in accordance with the *Québec Safety Code for the Construction Industry*.
   2. Based on the *Québec Safety Code for the Construction Industry*, work involving ACMs is categorised into three categories: low; moderate and high risk, depending on whether the ACMs are friable or non-friable and how the material will be manipulated or removed. The following recommendations are provided for identified ACMs.

3. Type 1 work procedures can be used for the removal of drywall installed with asbestos joint-filling compounds.
4. Requirements for allowable asbestos exposure levels (depending on asbestos type), as outlined in *Regulation c. S-2.1, r. 13 of An Act respecting occupational health and safety,* must be met.
5. Handling and packaging of asbestos waste must comply with the requirements of section 3.23.10 of the Québec *Safety Code for the construction industry* and and the Regulation Respecting Occupational Health and Safety (Québec R.S.Q., Chapter S-2.1, r.13)
6. .The *Federal Transportation of Dangerous Goods Act* controls the transport of the waste to a disposal site.
7. Although there is no specific legislation on the disposal of asbestos waste in Québec, it is recommended in terms of best management practices, to inform the waste *transporter* and waste disposal site of the nature of the asbestos waste before transport.

2. LEAD

1. Regulatory limits have been established under the Quebec's *Regulation respecting the quality of the work environment* for occupational exposure to airborne lead that may be present in a workplace. The Time Weighted Average Exposure Values (TWAEV) to airborne lead dust or fumes should not exceed 0.05 milligram per cubic metre (mg/m^3) limit during the removal of paints and surface coating products containing any concentration of lead.
2. Appropriate personal protective equipment (i.e., respirators, gloves and eye protection should be worn to reduce the risk of lead-dust inhalation to any workers when painted surfaces, above the applicable criteria, are being disturbed.
3. It is recommended that the Ontario Ministry of Labour's Guideline "Lead on Construction Projects", September, 2004 and CSST "Guide de Prévention – L'exposition au plomb" be followed if lead-containing material is being disturbed. The Ontario Guideline document classifies all disturbances of lead-containing materials as Type 1, Type 2a, Type 2b, Type 3a or Type 3b work, based on presumed airborne concentrations of lead generated during the work each of which will have defined work practices.
4. The disposal of construction waste containing lead is controlled by the *Regulation Respecting Hazardous Materials (O.C. 1310-97)*, under the *Environmental Quality Act, R.S.Q., c. Q-2 - (21).* Any material that produces a leachate containing lead in a concentration higher than 5 mg/L is considered as a hazardous material and should be handled accordingly.

3. SILICA

1. The Québec *Regulation Respecting Occupational Health and Safety* defines crystalline silica in the form of respirable dust as a suspected carcinogen.

2. Silica dust can be generated through such processes as blasting, grinding, crushing, and sandblasting silica-containing material. Since silica is present in select materials in the project area appropriate respiratory protection and ventilation must be donned during the demolition and modifications of these structures, as per the "*Guide des appareils de protection respiratoire utilisés au Québec"*, published by the *Institut de recherche Robert-Sauvé en santé et en sécurité du travail*. Personal protective equipment shall be selected, adjusted, used and cared for in accordance with the *CSA Standard Z94.4-93* entitled "*Selection, Use and Care of Respirators"*.

3. It is recommended that the Ontario Ministry of Labour's Guideline "Silica on Construction Projects", September, 2004 and CSST "Prévention de l'exposition des travailleurs à la silice" be followed if silica containing material is being disturbed. The Ontario Guideline document classifies all silica disturbances as Type 1, Type 2 or Type 3 work, and assigns different levels of respiratory protection and work procedures for each classification.

1. The exposure of workers to silica should be reduced to a minimum as defined under the Québec *Regulation Respecting Occupational Health and Safety*.

END OF SECTION

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

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Designated Substances Report for LTDLC Building Envelope Rehabilitation – Panel Investigation Project, Les terrasses de La Chaudière Complex, Gatineau, Quebec (R.068114.320)

Summary Report

2015-10-02

Public Works and Government Services Canada
Professional and Technical Services
NCA Operations
Real Property Branch

Prepared for: James Bruce
Project Manager, PWGSC

Prepared by: El Houcine Faouzi
Professional and Technical Services
Environmental Services
NCA Operations
Real Property Branch

On September 24, 2015 the Canada Labour Code – Building Environment Unit (CLC-BE) of Public Works and Government Services Canada (PWGSC) was retained by James Bruce, Project Officer at PWGSC's Real Property Branch (RPB), to conduct a site-specific Designated Substance Report (DSR) for the LTDLC Building Envelope Rehabilitation – Panel Investigation Project, Les terrasses de La Chaudière Complex, Gatineau, Quebec.

The DSR scope of work included the assessment of all project areas to meet the requirements of the Act Respecting Occupational Health and Safety, (Quebec R.S.Q., Chapter S-2.1), the Safety Code for the Construction Industry and the Regulation Respecting the Quality of the Work Environment as well as the requirements outlined in sections 124 and 125 of Part II of the Canada Labour Code (CLC) with respect to select hazardous substances.

For any designated substance not listed in Quebec, and for the purpose of this report, Section 30 of the Ontario Occupational Health and Safety Act and WHMIS Regulation (formerly Bill 208) was used. The purpose of the investigation was to identify any potential designated substances or hazardous materials present in the project area.

Designated Substances, as identified in the Ontario Regulation Ontario 490/09 "Designated Substances", as amended, under the Ontario Occupational Health and Safety Act are:

- Acrylonitrile;
- Arsenic;
- Asbestos (both friable and non-friable);
- Benzene;
- Coke Oven Emissions;
- Ethylene Oxide;
- Isocyanates;
- Lead;
- Mercury;
- Silica; and
- Vinyl Chloride.

Other Hazardous Materials, which are not classified as Designated Substances, but included as part of the DSR scope of work are:

- Polychlorinated Biphenyls (PCBs); and
- Halocarbons.

On March 24, 2014, a CLC-BE specialist completed a visual inspection of building materials for the presence of suspected designated substances within the project area. The following is a summary of findings from the designated substances investigation.

ASBESTOS

In Quebec, a material is defined as an Asbestos-Containing Material (ACM) if the material has minimum asbestos content of 0.1 per cent by dry weight as per Québec's *Safety Code for the Construction Industry*.

Three (3) bulk samples of the drywall joint compound were collected from the project areas and submitted for analysis to the Paracel Laboratory, an accredited laboratory by the Canadian Association for Laboratory Accreditation (CALA) and the National Voluntary Laboratory Accreditation Program (NVLAP). The samples were analyzed using the PLM method.

The results from the sampling indicate non-friable Chrysotile asbestos was detected in the drywall joint compound sampled from the North West corner of the Executive office on the 15th floor of the 25 Eddy Tower (see appendix A).

Table 1 summarizes the analytical results of building material samples collected from the project area that were analyzed **for asbestos content.**

Table 1: Asbestos Sample Results by the PLM method (0.1%)

Sample ID	Material	Location	Asbestos Type	Asbestos content (%)
25EDDY-AS-1A	**Drywall joint compound**	**Executive office, wall NW corner, 15th floor, 25 Eddy**	**Chrysotile**	**1%**
25EDDY-AS-1B			Note analyzed	
25EDDY-AS-1C				

Recommendations:

The removal of drywall installed with asbestos joint-filling compounds can be conducted using low risk work procedures. Appropriate precautionary measures must be used, as outlined in the Quebec's *Safety Code for the construction industry (R.Q. c. S-2.1, r.6)*.

As per the Quebec's *Safety Code for the construction industry*, asbestos waste must be sealed in double containers resistant to puncture and tears, and appropriately labelled. The waste must be disposed at a licensed waste disposal site.

The *Federal Transportation of Dangerous Goods Act* controls the transport of the waste to a disposal site.

LEAD

One (1) bulk paint sample suspected of containing lead was collected from the project areas and submitted for analysis using inductively coupled plasma mass spectrometry (ICP-MS), in accordance with U.S. EPA Method 6010-C.

Laboratory analysis results indicate that lead content in the light grey paint sample collected from the north wall of the Executive office on the 15th floor of the 25 Eddy Tower contains more than 90 ppm of lead. This paint is considered as a lead-based paint as per the *Canada Consumer Product Safety Act's Surface Coating Materials Regulations SOR/2005-109* (as amended).

Table 2 summarizes the analytical results of the paint sample collected from the project area that was analyzed for lead content.

Table 2: Lead Paint Sample Results

Sample Number	Description	Location	Lead Content (ppm)
25EDDY-Pb-1	**Light grey paint**	**Executive office, wall NW corner, 15th floor, 25 Eddy**	**233**

Recommendations:

In Québec, there is no guideline regarding lead disturbances on construction projects. It is recommended to follow recommendations of the Ontario guideline "*Guideline: Lead on Construction Projects*". This document classifies the disturbance of materials containing lead as Type 1, Type 2a/2b or Type 3a/3b work, and assigns different levels of respiratory protection and work procedures for each classification. These procedures shall be followed when performing work involving the disturbance of lead-containing materials.

The exposure of workers to lead should be reduced to a minimum as defined under Schedule 1 of the Québec Regulation Respecting Occupational Health and Safety.

The *Federal Transportation of Dangerous Goods Act* controls the transport of the waste to a disposal site.

SILICA

Free crystalline silica is present in drywall in the project areas.

Recommendations:

In Quebec, there is no regulation for crystalline silica. The guidance document or *the O.Reg 490/09* is only introduced as a reference document. Based on this reference, appropriate work practices including adequate ventilation and respiratory protection must be utilized during the demolition and modification of these structures as per "Designated Substances" *O.Reg 490/09* (as amended) .

The OHS Branch of the Ontario MoL has published the document entitled "*Guideline: Silica on Construction Projects"*. This document classifies the disturbance of materials containing silica as Type 1, Type 2 or Type 3 work, and assigns different levels of respiratory protection and work procedures for each classification. These procedures should be followed when performing work involving the disturbance of silica-containing materials.

The exposure of workers to crystalline silica should be reduced to a minimum as defined under Schedule 1 of the Québec Regulation Respecting Occupational Health and Safety.

The following other substances are not suspected to be present in forms or quantities that would impact the project**:**

- Acrylonitrile,
- Arsenic,
- Benzene,
- Coke Oven Emissions,
- Ethylene Oxide,
- Mercury,
- Isocyanates,
- Vinyl Chloride,
- Halocarbons
- Polychlorinated Biphenyls

SURVEY LIMITATIONS

The visual inspection and sampling g was limited to readily accessible areas. Destructive testing was not included in the investigation; therefore, it is possible that designated substances are present in non-accessible areas and/or concealed. Should such spaces be demolished or disturbed during project activities, it is recommended that additional sampling and/or inspection be performed. Likewise, should any designated substance be encountered in the course of demolition or renovation work, work shall be stopped, preventative measures taken, and the Departmental Representative notified immediately. Do not proceed until written instructions have been received.

The Designated Substance Specification Report is provided in a separate document for your tender package

This final report titled:

Designated Substances Report for the LTDLC Building Envelope Rehabilitation – Panel Investigation Project, Les terrasses de La Chaudière Complex, Gatineau, Quebec

has been reviewed by Member(s) in accordance with
the following Environmental Services Quality Management System criteria:

Criteria	**Reviewer Signature/Date:**
ES Project Leader Meets quality for clarity, grammar and tone	*El Houcine Faouzi* *October 2, 2015*
ES Senior Technical Advisor or Equivalent ☒ Meets quality for technical content and methodology ☒ Meets quality for clarity, grammar and tone ☒ Approval of recommendations	*Cyprien Amani* *October 5, 2015*
ES Client Advisor, or Equivalent Verify On time, on scope, and on budget	*Laurent Lavergne* **October 5, 2015**

Environmental Services Directorate
Professional and Technical Service Management
Real Property Branch

Appendix A
Select Photographs

Photo 1: Drywall joint compound from the North West corner of the Executive office on the 15th floor of the 25 Eddy Tower (Samples: 25EDDY-AS-1A-C) confirmed ACM

Appendix B
Laboratory Certificates

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Certificate of Analysis

PWGSC (Hunt Club)

2720 Riverside Dr. A200-07
Ottawa, ON K1A 0S5
Attn: El Houcine Faouzi

Client PO: 700317613
Project: HAZ15-1095
Custody:

Report Date: 1-Oct-2015
Order Date: 29-Sep-2015

Order #: 1540090

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1540090-01	25EDDY-Pb-1

Approved By: Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liabilty in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-OES	based on MOE E3470, ICP-OES	1-Oct-15	1-Oct-15

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.

Sample Results

Lead				Matrix: Paint Sample Date: 28-Sep-15
Paracel ID	**Client ID**	**Units**	**MDL**	**Result**
1540090-01	25EDDY-Pb-1	ug/g	20	233

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	ND	20	ug/g						
Matrix Duplicate									
Lead	ND	20	ug/g	ND			0.0	30	
Matrix Spike									
Lead	306		ug/L	6.9	120	70-130			

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Chain of Custody
(Lab Use Only)

Page 1 of 1

Client Name:	PWGSC	Project Reference:	HAZ15-1095
Contact Name:	El Houcine Faouzi	Quote #	
Address:	2720 Riverside Drive, Ottawa, Ontario K1A 0S5	PO #	700317613
Telephone:	613-736-3191	Email Address:	elhoucine.faouzi@pwgsc.gc.ca

TAT: ☐ Regular ☐ 3 Day ☑ 2 Day ☐ 1 Day

Date Required: _____

Criteria: ☐ O. Reg. 153 (As Amended) Table __ ☐ RSC Filing ☐ O. Reg. 558/00 ☐ PWQO ☐ CCME ☐ SUB (Storm) ☐ SUB (Sanitary) Municipality: _____ ☐ Other: _____

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Paracel Order Number: 1540090

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	Lead ICP										
1	25EDDY-Pb-1	Paint	N/A	1	2015-09-28		✓										
2																	
3																	
4																	
5																	
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Required Analyses

Comments:

Method of Delivery: Paracel

Relinquished By (Sign):	Received by Driver/Depot:	Received at Lab:	Verified By:
Relinquished By (Print): El Houcine Faouzi	Date/Time: 29/09/15 9:30 AM	Date/Time: SEP 29, 2015 09:50	Date/Time: Sept 29/15
Date/Time: 2015-09-28	Temperature: ____ °C	Temperature: ____ °C	pH Verified [ ] By: N/A

10:30a

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300-2319 St. Laurent Blvd.
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Certificate of Analysis

PWGSC (Hunt Club)
2720 Riverside Dr. A200-07
Ottawa, ON K1A 0S5
Attn: El Houcine Faouzi

Phone: (613) 736-3191
Fax:

Client PO: 700317613
Project: HAZ15-1095
Custody:

Report Date: 1-Oct-2015
Order Date: 29-Sep-2015

Order #: 1540099

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID	Client ID
1540099-01	25EDDY-AS-1A
1540099-02	25EDDY-AS-1B
1540099-03	25EDDY-AS-1C

Approved By:

Emma Diaz For Heather S.H. McGregor, BSc
Laboratory Director - Microbiology

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work

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Client:	PWGSC (Hunt Club) 2720 Riverside Dr. A200-07 Ottawa, ON K1A 0S5	**Attn:**	El Houcine Faouzi Tel: (613) 736-3191 Fax:
Project:	HAZ15-1095	**Received Date:**	29-Sep-15
Paracel Report No.:	1540099	**Report Date:**	01-Oct-15

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1540099-01	28-Sep-15	sample homogenized	Grey	Drywall Joint Compound	**Yes**	Client ID: 25EDDY-AS-1A	
						Chrysotile	1
						Non-Fibers	99
1540099-02	28-Sep-15					Client ID: 25EDDY-AS-1B	
						not analyzed	
1540099-03	28-Sep-15					Client ID: 25EDDY-AS-1C	
						not analyzed	

MMVF: Man Made Vitreous Fibers: Fiberglass, Mineral Wool, Rockwool, Glasswool

Analytes in bold indicate asbestos content which may include:

Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite and/or Tremolite.

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code *	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	Ottawa West Lab	200812-0	29-Sep-15

** Reference to the NVLAP term does not permit the user of this report to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.*

Work Order Revisions / Comments

None

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Chain of Custody
(Lab Use Only)

Page 1 of 1

Client Name	PWGSC	Project Reference:	HAZ15-1095
Contact Name:	El Houcine Faouzi	Quote #	
Address:	2720 Riverside Drive, Ottawa, Ontario K1A 0S5	PO #	700317613
Telephone:	613-736-3191	Email Address:	elhoucine.faouzi@pwgsc.gc.ca

TAT: ☐ Regular ☐ 3 Day ☑ 2 Day ☐ 1 Day

Date Required: _____

ASBESTOS ANALYSIS

Matrix Type: A (Air) O (Other) Regulatory/Guideline Requirements: IRSST

Required Analyses: ☐ PCM ☐ PLM ☐ PLM 400PC ☐ PLM 1000PC ☐ Chatfield

Paracel Order Number: 1540099

	Sample ID	Matrix	Matrix Description	Sampling Date	Air Volume (L)	Positive Stop?	Is the Sample Layered?	If Yes, Describe Sample Layer(s) to be Analysed Separately
1	25EDDY-AS-1A-C		Drywall joint compound	2015-09-28		☑	No	
2						☐		
3						☐		
4						☐		
5						☐		
6						☐		
7						☐		
8						☐		
9						☐		
10						☐		
11						☐		
12						☐		
13						☐		
14						☐		
15						☐		

Comments: Please use IRSST for asbestos testing. Samples were collected in Quebec

Method of Delivery: Paracel Courier

Relinquished By (Sign):	Received by Driver/Depot: M. Brouse	Received at Lab: Karen Cull	Verified By: Karen Cull
Relinquished By (Print): El Houcine Faouzi			
Date/Time: 2015-09-28	Date/Time: 29/09/15 9:30 AM	Date/Time: Sept 29/15 10:45	Date/Time: Sept 29/15 11:05

Part 1 General

1.1 ADMINISTRATIVE

.1 Departmental Representative to schedule and administer project meetings throughout the progress of the work.

.2 Departmental Representative to prepare agenda for meetings.

.3 Departmental Representative to distribute written notice of each meeting four days in advance of meeting date.

.4 Departmental Representative to set location for meetings.

.5 Departmental Representative to preside at meetings.

.6 Departmental Representative to record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.

.7 Departmental Representative to reproduce and distribute copies of minutes within three days after meetings and transmit to meeting participants affected parties not in attendance.

.8 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.2 DEMOLITION PLAN MEETING

.1 The contractor will present the demolition plan in accordance with Section 01 33 00 – Submittals:

.1 the time and location of the demolition plan meeting will be set by the Departmental Representative.

1.3 PROGRESS MEETINGS

.1 During course of Work schedule progress meetings bi-weekly

.2 Agenda to include the following:

.1 Review, approval of minutes of previous meeting.

.2 Review of Work progress since previous meeting.

.3 Field observations, problems, conflicts.

.4 Problems which impede construction schedule.

.5 Review of off-site fabrication delivery schedules.

.6 Corrective measures and procedures to regain projected schedule.

.7 Revision to construction schedule.

.8 Progress schedule, during succeeding work period.

.9 Review submittal schedules: expedite as required.

.10 Maintenance of quality standards.

.11 Review proposed changes for affect on construction schedule and on completion date.

.12 Other business.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Definitions:

.1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.

.2 Bar Chart (Gantt chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars.

.3 Baseline: original approved plan (for Project, work package, or activity), plus or minus approved scope changes.

.4 Cash Flow: projection of progress payment requests based on cash loaded construction schedule.

.5 Completion Milestones: are Substantial Completion.

.6 Constraint: applicable restriction or limitation, either internal or external to project, that will affect performance of Project. Factors that affect activities can be scheduled.

.7 Control: process of comparing actual performance with planned performance, analyzing variances, evaluating possible alternatives, and taking appropriate corrective action as needed.

.8 Critical Activity: any activity on a critical path.

.1 Most commonly determined by using critical path method.

.9 Critical Path: sequence of activities that determines duration of Project. Generally, it is the longest path through Project.

.1 Usually defined as those activities with float less than or equal to specified value, often zero.

.10 Critical Path Method (CPM): network analysis technique used to determine the amount of scheduling flexibility (amount of float) on various logical network paths in Project schedule network, and to determine the minimum total Project duration.

.11 Data Date: date through which project status and progress were last determined and reported for analyses, such as scheduling and performance measurements.

.12 Duration: total number of work periods (not including holidays or other non-working periods) required to complete activity or other Project element.

.1 Usually expressed as workdays or work weeks.

.13 Early Finish Date: in critical path method, earliest possible point in time on which uncompleted portions of activity (or Project) can finish, based on network logic and schedule constraints.

.1 Early finish dates can change as Project progresses and changes are made to Project plan.

.14 Early Start Date: in critical path method, earliest possible point in time on which uncompleted portions of activity (or Project) can start, based on network logic and schedule constraints.

.1 Early start dates can change as Project progresses and changes are made to Project Plan.

.15 Finish Date: point in time associated with activity's completion.

.1 Usually qualified by one of following: actual, planned, estimated, scheduled, early, late, baseline, target, or current.

.16 Float: amount of time that activity may be delayed from its early start without delaying Project finish date.

.1 This resource is available to both PWGSC and Contractor.

.17 Impact Analysis: schedule analysis technique that adds a modeled delay to an accepted construction schedule to determined possible outcome of that delay on project completion.

.18 Lag: modification of logical relationship that directs delay in successor activity.

.19 Late Finish Date (LF): in critical path method, latest possible point in time that activity may be completed without delaying specified milestone (usually Project finish date).

.20 Late Start Date (LS): in critical path method, latest possible point in time that activity may begin without delaying specified milestone (usually Project finish date).

.21 Lead: modification of logical relationship that allows acceleration of successor task.

.22 Logic Diagram: see Project network diagram.

.23 Master Schedule: summary-level schedule that identifies major deliverable; work breakdowns structure and key milestones.

.24 Milestone: significant point or event in Project, usually completion of major deliverable.

.25 Monitoring: capture, analysis, and reporting of Project performance, usually as compared to plan.

.26 Non-Critical Activities: activities which when delayed, do not affect specified Contract duration.

.27 Project Control System: fully computerized system utilizing commercially available software packages.

.28 Project Network Diagram: schematic display of logical relationships of Project activities.

.1 Always drawn from left to right to reflect Project chronology.

.29 Project Plan: formal, approved document used to guide both Project execution and Project control.

.1 Primary uses of Project plan are to document planning assumptions and decisions, facilitate communication among stakeholders, and document approved scope, cost, and schedule baselines.

.2 Project plan may be summary or detailed.

.30 Project Planning: development and maintenance of Project Plan.

.31 Project Planning, Monitoring and Control System: overall system operated to enable monitoring of Project Work in relation to established milestones.

.32 Project Schedule: planned dates for performing activities and planned dates for meeting milestones.

.33 Quantified days duration: working days based on 5 day work week, discounting statutory holidays.

.34 Risk: uncertain event or condition that, if it occurs, has positive or negative effect on Project's objectives.

.35 Start Date: point in time associated with activity's start, usually qualified by one of following: actual, planned, estimated, scheduled, early, late, target, baseline, or current.

.36 Work Breakdown Structure (WBS): deliverable-oriented hierarchical decomposition of Work to be executed by contractor to accomplish project objectives and create required deliverables. It organizes and defines total scope of Project. Each descending level represents an increasingly detailed definition of Project Work. WBS is decomposed into Work packages.

1.2 ADMINISTRATIVE REQUIREMENTS

.1 Project Meeting:

.1 Meet with Departmental Representative within 10 working days of Award of Contract date, to establish Work requirements and approach to project construction operations.

.2 Participate in regular project progress meetings with Departmental Representative specifically intended to discuss update of detailed schedule and contract changes.

.2 Scheduling:

.1 Planning: ensure that planning process is iterative and results in generally top-down processing with more detail being developed as planning progresses, and decisions concerning options and alternatives are made.

.2 Ensure project schedule efficiencies through monitoring of Project in detail to ensure integrity of Critical Path, by comparing actual completions of individual activities with their scheduled completions, and review progress of activities that has started but are not yet completed..

.3 Monitor sufficiently often so that causes of delays can immediately be identified and removed.

.3 Project monitoring and reporting:

.1 Keep team aware of changes to schedule, and possible consequences as project progresses.

.2 Use narrative reports to provide advice on seriousness of difficulties and measures to overcome them.

.3 Begin narrative reporting with statement on general status of Project followed by summarization of delays, potential problems, corrective measures and Project status criticality.

.4 Critical Path Method (CPM) Requirements:

.1 Ensure Master Plan and Detail Schedule are practical and remain within specified Contract duration.

.2 Revise Master Schedule and Detail Schedule deemed impractical by Departmental Representative and resubmit for approval.

.3 Change to Contract Duration:

.1 Acceptance of Master Schedule and Detail Schedule showing scheduled Contract duration shorter than specified Contract duration does not constitute change to Contract.

.2 Duration of Contract may only be changed through bilateral Agreement.

.4 Consider Master Schedule and Detail Schedule deemed practical by Departmental Representative, showing Work completed in less than specified Contract duration, to have float.

.5 First Milestone on Master Schedule and Detail Schedule will identify start Milestone with an "ES" constraint date equal to Award of Contract date.

.6 Calculate dates for completion milestones from Plan and Schedule using specified time periods for Contract.

.7 Do not use float suppression techniques such as imposed dates other than required by Contract.

.8 Allow for and show Master Plan and Detail Schedule adverse weather conditions normally anticipated.

.1 Specified Contract duration has been predicated assuming normal amount of adverse weather conditions.

.9 Provide necessary crews and manpower to meet schedule requirements for performing Work within specified Contract duration.

.1 Simultaneous use of multiple crews on multiple fronts on multiple critical paths may be required.

.10 Arrange participation on and off site of subcontractors and suppliers, as required by Departmental Representative, for purpose of network planning, scheduling, updating and progress monitoring.

.1 Approvals by Departmental Representative of original networks and revisions do not relieve Contractor from duties and responsibilities required by Contract.

1.3 SUBMITTALS

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

.2 Submit to Departmental Representative Project Control System for planning, scheduling, monitoring and reporting of project progress.

.3 Submit Project Control System to Departmental Representative for approval.

.4 Include costs for execution, preparation and reproduction of schedule submittals in bid documents.

.5 Submit letter ensuring that schedule has been prepared in co-ordination with major sub-contractors.

.6 Refer to article "PROGRESS MONITORING AND REPORTING" of this specification Section for frequency of Project control system submittals.

.7 Submit Project planning, monitoring and control system data as part of initial schedule submission and monthly status reporting in following form.

.1 Master Schedule Bar Chart.

.2 Construction Detail schedule Bar Chart.

.3 Listing of project activities including milestones and logical connectors, networks (sub-networks) from Project start to end. Sort activities by activity identification number and accompany with descriptions. List early and late start and finish dates together with durations, codes and float.

.4 Criticality report listing activities and milestones with zero total float used as first sort for ready identification of critical paths through entire project. List early and late starts and finishes dates, together with durations, codes and float for critical activities.

.5 Progress report in early start sequence, listing for each trade, activities or finished within 2 months from monthly update date. List activity identification number, description and duration. Provide columns for entry of actual start and finish dates, duration remaining and remarks concerning action required.

1.4 QUALITY ASSURANCE

.1 Use experienced personnel, fully qualified in planning and scheduling.

1.5 WORK BREAKDOWN STRUCTURE (WBS)

.1 Prepare construction Work Breakdown Structure (WBS) within 15 working days of Award of Contract date.

.1 Develop WBS through at least five levels: project, stage, element, sub-element and work package.

1.6 MASTER SCHEDULE

.1 Structure and base CPM construction networks system on WBS coding in order to ensure consistency throughout Project.

.2 Prepare comprehensive construction Master Schedule (CPM logic diagram) within 15 working days of finalizing Agreement to confirm validity or alternates of identified milestones.

.1 Master Schedule will be used as baseline.

.1 Revise baseline as conditions dictate and as required by Departmental Representative.

.2 Departmental Representative as Project progresses will review and return revised baseline within 7 work days.

.3 Reconcile revisions to Master Schedule and Cash Flow Projections with previous baseline to provide continuous audit trail.

.4 Initial and subsequent Master Schedule will include:

.1 Bar chart identifying coding, activity durations, early/late and start/finish dates, total float, completion as percentile, current status and budget amounts.

.2 Network diagram showing coding, activity sequencing (logic), total float, early/late dates, current status and durations.

1.7 DETAIL SCHEDULE

.1 Provide detailed project schedule (CPM logic diagram) within 15 working days of Award of Contract date showing activity sequencing, interdependencies and duration estimates. Include listed activities as follows:

.1 Shop drawings.

.2 Samples.

.3 Approvals.

.4 Construction.

.5 Installation.

.6 Site works.

.7 Testing.

.8 Commissioning and acceptance.

.2 Relate Detail Schedule activities to basic activities and milestones developed and approved in Master Schedule.

.3 Clearly show sequence and interdependence of construction activities and indicate:

.1 Start and completion of all items of Work, their major components, and interim milestone completion dates.

.2 Activities for delivery, installation and completion of each major piece of equipment, materials and other supplies, including:

.1 Time for submittals, resubmittals and review.

.2 Time for fabrication and delivery of manufactured products for Work.

.3 Include sufficient detail to assure adequate planning and execution of Work. Activities should generally range in duration from 3 to 15 workdays each.

.4 Provide level of detail for project activities such that sequence and interdependency of Contract tasks are demonstrated and allow co-ordination and control of project activities. Show continuous flow from left to right.

.5 Ensure activities with no float are calculated and clearly indicated on logical CPM construction network system as being, whenever possible, continuous series of activities throughout length of Project to form "Critical Path". Increased number of critical activities is seen as indication of increased risk.

.6 Insert Change Orders in appropriate and logical location of Detail Schedule. After analysis, clearly state and report to Departmental Representative for review effects created by insertion of new Change Order.

1.8 PROGRESS MONITORING AND REPORTING

.1 On ongoing basis, Detail Schedule on job site must show "Progress to Date". Arrange participation on and off site of subcontractors and suppliers, as, and when necessary, for purpose of network planning, scheduling, updating and progress monitoring. Inspect Work with Departmental Representative at least once monthly to establish progress on each current activity shown on applicable networks.

.2 Update and reissue project Work Breakdown Structure and relevant coding structures as project develops and changes.

.3 Perform Detail Schedule update monthly with status dated (Data Date) on last working day of month. Update to reflect activities completed to date, activities in progress, logic and duration changes.

.4 Do not automatically update actual start and finish dates by using default mechanisms found in project management software.

.5 Submit to Departmental Representative copies of updated Detail Schedule.

.6 Requirements for monthly progress monitoring and reporting are basis for progress payment request.

.7 Submit monthly written report based on Detail Schedule, showing Work to date performed, comparing Work progress to planned, and presenting current forecasts. Report must summarize progress, defining problem areas and anticipated delays with respect to Work schedule, and critical paths. Explain alternatives for possible schedule recovery to mitigate any potential delay. Include in report:

.1 Description of progress made.

.2 Pending items and status of: shop drawings,.

.3 Status of Contract completion date and milestones.

.4 Current and anticipated problem areas, potential delays and corrective measures.

.5 Review of progress and status of Critical Path activities.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE

.1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work.

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

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

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

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

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

.7 Verify field measurements and affected adjacent Work are coordinated.

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

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

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

1.2 SHOP DRAWINGS AND PRODUCT DATA

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

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

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

.4 Allow 10 days for Departmental Representative's review of each submission.

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

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

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

- .1 Date.
- .2 Project title and number.
- .3 Contractor's name and address.
- .4 Identification and quantity of each shop drawing, product data and sample.
- .5 Other pertinent data.

.8 Submissions include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .1 Subcontractor.
  - .2 Supplier.
  - .3 Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Details of appropriate portions of Work as applicable:
  - .1 Fabrication.
  - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
  - .3 Setting or erection details.
  - .4 Capacities.
  - .5 Performance characteristics.
  - .6 Standards.
  - .7 Operating weight.
  - .8 Wiring diagrams.
  - .9 Single line and schematic diagrams.
  - .10 Relationship to adjacent work.

.9 After Departmental Representative's review, distribute copies.

.10 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.

.11 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.

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

.2 Testing must have been within 8 years of date of contract award for project.

.12 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.

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

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

.13 Submit electronic copies of manufacturer’s instructions for requirements requested in specification Sections and as requested by Departmental Representative.

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

.14 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.

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

.16 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.

.17 Delete information not applicable to project.

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

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

.20 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.

.1 This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.

.2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.3 SAMPLES

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

.2 Deliver samples prepaid to Departmental Representative's business address.

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

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

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

.6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.

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

1.4 MOCK-UPS

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

1.5 PHOTOGRAPHIC DOCUMENTATION

.1 Submit electronic colour digital photography in jpg format, fine resolution, monthly with progress statement.

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

.3 Number of viewpoints: 2 locations.

.1 Viewpoints and their location as determined by Departmental Representative.

.4 Frequency of photographic documentation: monthly.

1.6 CERTIFICATES AND TRANSCRIPTS

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

1.7 DEMOLITION PLAN

.1 Contractor is to submit to the Departmental Representative a detailed plan for the removal of the precast panel a minimum of 10 days before scheduled start of work.

.1 Contractor will be required to present the plan to the Departmental Representative in accordance with Section 01 31 19 – Project Meetings

1.8 DEMOLITION REPORT

.1 Contractor is to submit to the Departmental Representative a detailed report of the precast panel removal process.

.1 This report shall be formatted chronologically in accordance with the panel removal process.

.2 This report shall include a written description of each step required to remove the precast panels, with supporting high resolution photography of each step.

.1 Set-up and layout of construction area.

.2 Removal of exterior roofing and flashings.

.3 Removal of interior finishes and ceiling.

.4 Installation of hoisting brackets.

.5 Visual assessment of all existing panel connections.

.6 Installation of temporary bracing/shoring measures.

.7 Breaking of existing connections and burning of existing welds.

.8 Hoisting process.

.9 All other required and executed steps necessary to the removal of panels.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 REFERENCES

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

.2 Province of Quebec:

.1 An Act Respecting Occupational Health and Safety, updated to 1 September 2015; and

.2 Safety Code for the Construction Industry (chapter S-2.1, s. 223 of the Occupational Health and Safety Act).

.3 All other applicable provincial regulations.

1.2 SUBMITTALS

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

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

.1 Results of site specific safety hazard assessment.

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

.3 Proof that all employees have met the safety training requirements necessary to perform the Work.

.3 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to authority having jurisdiction,.

.4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

.5 Submit copies of incident and accident reports.

.6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 5 days after receipt of comments from Departmental Representative.

.7 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

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

1.3 FILING OF NOTICE

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

.2 Contractor shall be responsible and assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility with 3 weeks of contract award.

.3 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.4 SAFETY ASSESSMENT

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

1.5 SITE SPECIFIC SAFETY TRAINING

.1 All personnel must attend a mandatory site specific safety training session. Provide minimum 72 hours notice to Departmental Representative requesting site training.

1.6 MEETINGS

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

1.7 REGULATORY REQUIREMENTS

.1 Do Work in accordance with Section 01 00 10 - General Instructions.

1.8 GENERAL REQUIREMENTS

.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

.2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.9 RESPONSIBILITY

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

.2 Contractor will be responsible and assume the role Constructor / Constructeur as described in the Commission de la Santé et de la Sécurite du Travail in Quebec.

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

1.10 UNFORESEEN HAZARDS

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

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

1.11 HEALTH AND SAFETY COORDINATOR

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

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

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

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

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

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

1.12 POSTING OF DOCUMENTS

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

1.13 CORRECTION OF NON-COMPLIANCE

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

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

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

1.14 BLASTING

.1 Blasting or other use of explosives is not permitted.

1.15 POWDER ACTUATED DEVICES

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

1.16 WORK STOPPAGE

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

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 INSPECTION

.1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.

.2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative, instructions or law of Place of Work.

.3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

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

1.2 ACCESS TO WORK

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

.1 Schedule a minimum of 1 inspection of all off site pre-fabricated elements prior to transport and installation.

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

1.3 PROCEDURES

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

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

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

1.4 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

.2 Make good other Contractor's work damaged by such removals or replacements promptly.

1.5 REPORTS

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

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

1.6 TESTS AND MIX DESIGNS

.1 Furnish test results and mix designs as requested.

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

1.7 MOCK-UPS

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

.2 Construct in locations as specified in specific Section.

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

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

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

1.8 MILL TESTS

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

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 INSTALLATION AND REMOVAL

.1 Provide temporary utilities and controls in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.2 WATER SUPPLY

.1 Coordinate with Departmental Representative for use of building's water supply.

1.3 TEMPORARY HEATING AND VENTILATION

.1 Provide temporary heat and ventilation in enclosed areas as required to:

- .1 Facilitate progress of Work.
- .2 Protect Work and products against dampness and cold.
- .3 Prevent moisture condensation on surfaces.
- .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
- .5 Provide adequate ventilation to meet health regulations for safe working environment.

.2 Ventilating:

- .1 Coordinate with Departmental Representative for shutdown of adjacent air handling units prior to all venting of fumes, vapours or gases.
- .2 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
- .3 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
- .4 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
- .5 Ventilate storage spaces containing hazardous or volatile materials.
- .6 Ventilate temporary sanitary facilities.
- .7 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.

.3 Maintain strict supervision of operation of temporary heating and ventilating equipment to:

- .1 Conform with applicable codes and standards.
- .2 Enforce safe practices.
- .3 Prevent abuse of services.
- .4 Prevent damage to finishes.
- .5 Vent direct-fired combustion units to outside.

.4 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.4 TEMPORARY POWER AND LIGHT

.1 Contractor is allowed use of building's 120V power at no charge.

.1 Verify power capacity prior to use.

.2 Contractor will be responsible for any damage.

.2 Contractor to provide and pay for any additional required connections to building electrical panel.

1.5 TEMPORARY COMMUNICATION FACILITIES

.1 Any communication facilities and services required by Contractor must be independent of the site and building communication services.

1.6 FIRE PROTECTION

.1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction, governing codes, regulations and bylaws.

.2 Burning rubbish and construction waste materials is not permitted on site.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 SUBMITTALS

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

.2 Scaffolding shop drawings:

.1 Provide complete scaffolding shop drawings of all building scaffolding indicating components and connectors, platforms, load capacity, attachment to existing building and imposed load on existing structure

.2 Shop drawings to bear seal of professional engineer licensed to practice in the province of Quebec, Canada.

.3 Roof staging and work plan:

.1 Submit drawings demonstrating maximum imposed loads, work areas, loading areas, storage areas and staging areas for work to be performed on and adjacent to existing roofs. All roof activities must not exceed standard snow load capacity of 2.4 kPa.

.4 Site layout plan:

.1 Submit site layout plan indicating all items as indicated in paragraph 1.2 of this Section

1.2 INSTALLATION AND REMOVAL

.1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation, scaffolding, crane, storage areas and location of waste and recycling bins.

.1 Identify areas which have to be graveled to prevent tracking of mud.

.2 Indicate use of supplemental or other staging area.

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

.3 Remove from site all such work after use.

1.3 SCAFFOLDING

.1 Scaffolding in accordance with CAN/CSA-S269.2 and reviewed shop drawings.

.2 Provide and maintain scaffolding.

.3 Installation and use of scaffolding is not to permanently or visibly impact existing building and finishes to remain.

.4 Do not exceed structural capacity of existing building components.

1.4 SWING STAGE

.1 Roof anchors can be used.

.2 Building swing may not be used. Contractor responsible for procuring stage swing for project. Contractor responsible for operation of stage swing. Contractor must confirm certification prior to use.

.3 Do not exceed swing stage capacity.

.4 Contractor is responsible for all damage.

1.5 ROOF ANCHORS

.1 Contractor to request written confirmation from Departmental Representative of current certification of existing roof anchors prior to start of work.

.1 All other safety equipment to be supplied by Contractor in accordance with Section 01 35 29.06 – Health and Safety Requirements.

1.6 HOISTING

.1 Provide, operate and maintain hoists cranes required for moving of workers, materials and equipment.

.2 Hoists cranes to be operated by qualified operator.

1.7 ELEVATORS

.1 Coordinate with Departmental Representative for use of building elevators.

.2 Do not exceed capacity of elevators.

.3 Contractor is responsible for all damage.

1.8 SITE STORAGE/LOADING

.1 Confine work and operations of employees to work staging area as indicated in contract documents. Do not encumber premises with products.

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

1.9 CONSTRUCTION PARKING

.1 Parking will be permitted on site provided it does not disrupt building occupants and normal building operations.

.2 Do not restrict any access lanes and fire routes on property.

.3 Provide and maintain adequate access to project site.

1.10 OFFICES

.1 Provide site offices of sufficient size to accommodate contractor's own needs.

.2 Restrict location of site offices to staging areas as indicated in contract documents.

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

1.11 EQUIPMENT, TOOL AND MATERIALS STORAGE

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

.2 Obtain approval from the Departmental Representative for interior storage of tools and equipment on the 15th floor, adjacent to the area of work.

1.12 SANITARY FACILITIES

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

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

.3 Contractor to coordinate with Departmental Representative for use of building sanitary facilities.

.1 Contractor is responsible for cleaning in accordance with Section 01 74 11 - Cleaning

.2 Contractor to pay for all damages.

1.13 CONSTRUCTION SIGNAGE

.1 No signs or advertisements, other than warning and safety signs, are permitted on site.

.2 Signs and notices for safety and instruction in both official languages Graphic symbols to CAN/CSA-Z321.

.3 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Departmental Representative.

1.14 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Maintain and protect traffic on any roads during construction period except as otherwise specifically directed by Departmental Representative.

.2 Do not restrict or inhibit regular use and access of all roads and access routes.

.3 Protect building occupants and public from damage to person and property.

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

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

.6 Construct access and haul roads necessary.

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

.8 Consult with Departmental Representative for locations of buried site services prior to impacting site. Do not construct haul loads over buried services.

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

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

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

.12 Provide snow removal during period of Work.

.13 In the event that a road closure is necessary, Contractor shall liaise with the City of Gatineau to obtain all relevant permits and/or notifications to complete the relevant work.

1.15 CLEAN-UP

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

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

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

.4 Stack stored new or salvaged material not in construction facilities.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 INSTALLATION AND REMOVAL

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

.2 Remove from site all such work after use.

1.2 HOARDING

.1 Erect temporary interior hoarding protection in areas of the building exposed to weather for more than 10 hours using the following:

.1 Steel stud back-up wall, installed from floor to underside of slab above.

.1 Coordinate stud location to conserve existing t-bar drop ceiling.

.2 13 mm plywood installed on steel studs to extend to underside of existing drop ceiling

.1 Install temporary access door.

.3 Waterproof sheeting to protect all exposed interior elements, including exposed joints at edges of panel removal area;

.2 Erect fencing to prohibit all unauthorized access to construction staging area and to separate public from dangerous areas of work.

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

1.3 GUARD RAILS AND BARRICADES

.1 Provide secure, rigid guard rails and barricades at open edges of floors and roofs.

.2 Provide as required by governing authorities.

.3 Provide temporary barricades and pedestrian and vehicle traffic control measures for all exterior work including crane operation.

1.4 WEATHER ENCLOSURES

.1 Provide weather tight closures to all unprotected openings in floors, walls and roofs.

.2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.

.3 Design enclosures to withstand wind pressure and exterior elements.

1.5 DUST TIGHT SCREENS

.1 Provide dust tight screens to localize dust generating activities and for protection of workers, finished areas of Work and public.

.2 Maintain and relocate protection until such work is complete.

1.6 ACCESS TO SITE

.1 Provide and maintain existing and proposed access roads as may be required for access to Work.

.2 All personnel must sign-in at security kiosk prior to accessing site.

1.7 FIRE ROUTES

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

1.8 PROTECTION OF BUILDING AND SITE FINISHES

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

.2 Provide necessary screens, covers and hoardings.

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCES

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

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

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

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

1.2 QUALITY

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

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

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

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

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

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

1.3 STORAGE, HANDLING AND PROTECTION

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

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

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

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

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

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

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

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

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

1.4 TRANSPORTATION

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

1.5 MANUFACTURER'S INSTRUCTIONS

.1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.

.2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.

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

1.6 QUALITY OF WORK

.1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.

.2 Do not employ anyone unskilled in their required duties.

1.7 CO-ORDINATION

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

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

1.8 CONCEALMENT

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

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

1.9 REMEDIAL WORK

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

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

1.10 LOCATION OF FIXTURES

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

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

1.11 FASTENINGS

.1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.

.2 Prevent electrolytic action between dissimilar metals and materials.

.3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.

.4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.

.5 Keep exposed fastenings to a minimum, space evenly and install neatly.

.6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.12 FASTENINGS - EQUIPMENT

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

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

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

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

1.13 PROTECTION OF WORK IN PROGRESS

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

1.14 EXISTING UTILITIES

.1 When working nearby, breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, without disturbance to Work and building occupants.

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SUBMITTALS

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

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

- .1 Structural integrity of elements of project.
- .2 Integrity of weather-exposed or moisture-resistant elements.
- .3 Efficiency, maintenance, or safety of operational elements.
- .4 Visual qualities of sight-exposed elements.
- .5 Work of Owner or separate contractor.

.3 Include in request:

- .1 Identification of project.
- .2 Location and description of affected Work.
- .3 Statement on necessity for cutting or alteration.
- .4 Description of proposed Work, and products to be used.
- .5 Alternatives to cutting and patching.
- .6 Effect on Work of Owner or separate contractor.
- .7 Written permission of affected separate contractor.
- .8 Date and time work will be executed.

1.2 MATERIALS

.1 Required for original installation.

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

1.3 PREPARATION

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

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

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

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

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

1.4 EXECUTION

.1 Execute cutting, fitting, and patching to complete Work.

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

.3 Uncover Work to install ill-timed Work.

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

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

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

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

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

.9 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

1 GENERAL

1.01 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris other than that caused by Owner or other Contractors.

.2 Remove waste materials from site at daily regularly scheduled times or dispose of in accordance with Waste Management Plan.

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

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

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

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

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

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

1.02 FINAL CLEANING

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

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

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

.4 Remove waste products and debris other than that caused by Owner or other Contractors.

.5 Clean and polish interior and exterior glass surfaces, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, mechanical and electrical fixtures and all other exposed finished Work. Replace broken, scratched or disfigured glass.

.6 Remove stains, spots, marks and dirt from exposed finished Work.

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

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

.9 Floors to be inspected by Owner prior to finishing. Finishing of accepted flooring surfaces to include, at minimum:
- .1 Clean and finish firm-surface floorings in accordance with manufacturer's instructions.
- .2 Vacuum and shampoo carpeting.
- .3 Mechanically wash tiled and epoxy surfaces.
- .4 Finishes to be completely dry prior to any foot traffic.

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

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

.12 Remove dirt and other disfiguration from exterior surfaces.

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

.14 Sweep and wash clean paved areas.

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

.16 Clean roofs, downspouts, and drainage systems.

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

.18 Remove snow and ice from access to building.

END OF SECTION