



*Addendum / Addenda*

No./N<sup>o</sup>  
4

Project Description / Description de projet  Halifax Roofing Replacement/ Remplacement de la toiture à Halifax		
Solicitation No./ No de sollicitation  20-58044	Project No./N <sup>o</sup> de projet  HFX01-5848	W.O. No./N <sup>o</sup> d'ordre de travail  A1-011344-10
Project Engineer / Ingénieur de projet  Barry O'Brien		Date  August 25, 2020
<p><b>Notice:</b> This addendum shall form part of the tender documents and all conditions shall apply and be read in conjunction with the original plans and specifications.</p>		<p><b>Nota:</b> Cet addenda fait partie intégrale des dossiers d'appel d'offres; toutes les conditions énoncées doivent être lues et appliquées en conjonction avec les plans et les devis originaux.</p>

Please see below items pertaining to the tender package for the planned renovations at the National Research Council Canada at 1411 Oxford St., Halifax. These items shall be considered as a (Change, Addition, Deletion, or Clarification) to the tender documents and shall form part of the tender.

This Addendum shall be attached to the tender documents at the time of submission and shall be signed by the same person who is signing for the proponent's tender

### 1. General Clarifications - Reference: Additional Tender Specifications

- a. These specifications are to be followed in their entirety when dealing with any Transite panelling encountered on the roof in Phase 1. They are located on the vertical walls where there are elevation changes in this section of the roof.
- b. A copy of the testing for Hazardous Substances will be posted as an attachment.

**Part 1 General**

**1.1 SUMMARY**

- .1 Comply with requirements of this Section when performing the following Work:
  - .1 Removing non-friable, asbestos-containing materials (exterior Transite panels), if the material is re-installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.
  - .2 Break, cut, grind, sand, drill, scrape, vibrate or abrade non-friable, asbestos-containing materials using non-powered hand-held tools, and the material is wetted to control the spread of dust or fibres.
  - .3 Minor (< 1 ft<sup>2</sup>) clean-up of asbestos-containing plaster debris on top of ceiling tiles.

**1.2 RELATED REQUIREMENTS**

- .1 Section 02 82 00.02 Asbestos Abatement - Intermediate Precautions.
- .2 Section 02 83 10 Lead-Containing Paint Abatement - Minimum Precautions.

**1.3 REFERENCE STANDARDS**

- .1 Province of Nova Scotia
  - .1 Occupational Health and Safety Act - NS Reg 52/2013.
  - .2 Nova Scotia Dangerous Goods Management Regulations N.S. Reg. 57/2016.
  - .3 Municipal Solid Waste Landfill Guidelines.
  - .4 A Guide to Removal of Friable Asbestos Containing Material (Nov 2013).
  - .5 Nova Scotia Environmental Act, 1995, Asbestos Waste Management Regulations, N.S. Reg. 53/95.
- .2 Transport Canada (TC)
  - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .3 Health Canada
  - .1 Workplace Hazardous Materials Information System (WHMIS), Safety Data Sheets (SDS).
- .4 Government of Canada
  - .1 Canada Labour Code (R.S.C., 1985, c. L-2).
  - .2 Canada Occupational Health and Safety Regulations (SOR/86-304).

**1.4 DEFINITIONS**

- .1 Amended Water: water with nonionic surfactant Wetting Agent added to reduce water tension to allow thorough wetting of fibres.

- .2 Asbestos-Containing Materials (ACM): materials that contain 0.5 per cent or more asbestos by dry weight and are identified under Existing Conditions including fallen materials and settled dust.
- .3 Asbestos Work Area: area where Work takes place which will, or may, disturb ACM.
- .4 Authorized Visitors: Engineers, Consultants or Consultant and/or Owners, and representatives of regulatory agencies.
- .5 Competent Worker: in relation to specific work, means a worker who:
  - .1 Is qualified because of knowledge, training and experience to perform the work.
  - .2 Is familiar with the provincial / federal laws and with the provisions of the regulations that apply to the work.
  - .3 Has knowledge of all potential or actual danger to health or safety in the work.
- .6 Friable Material: means material that when dry, can be crumbled, pulverized or powdered by hand pressure, or is crumbled, pulverized or powdered.
- .7 HEPA Integrity Test: testing method used to determine integrity of negative pressure unit using dioctyl phthalate (DOP), or suitable alternative, HEPA-filter leak test.
- .8 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency. HEPA vacuum must have passed a HEPA Integrity Test in the past 12 months prior to use.
- .9 Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .10 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.
- .11 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.
- .12 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for work.

**1.5 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit proof satisfactory to the Owner that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.
- .2 Submit proof of Contractor's Asbestos Liability Insurance.
- .3 Submit Worker's Compensation Board status.
- .4 Submit to Owner necessary permits for transportation and disposal of asbestos-containing waste and proof that asbestos-containing waste has been received and properly disposed.
- .5 Submit proof that all asbestos workers and/or supervisor have received appropriate training and education by a competent person in the hazards of asbestos exposure, good personal hygiene and work practices while working in Asbestos Work Areas, and the use, cleaning and disposal of respirators and protective clothing.

- .6 Submit proof satisfactory to the Owner that employees have respirator fitting and testing. Workers must be fit tested (minimum qualitative test) with respirator that is personally issued.
- .7 Submit documentation including test results, fire and flammability data, and SDS for chemicals or materials including:
  - .1 Amended water (Wetting Agent); and
  - .2 Slow-drying sealer

## **1.6 QUALITY ASSURANCE**

- .1 Regulatory Requirements: comply with Federal, Provincial, and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications, more stringent requirement applies. Comply with regulations in effect at time Work is performed.
- .2 Health and Safety:
  - .1 Safety Requirements: worker and Authorized Visitor protection.
    - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:
      - .1 Air purifying half-mask respirator with P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The respirator to have damaged or deteriorated parts replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.

- .2 Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be provided by the employer and worn by every worker who enters the Asbestos Work Area, and the protective clothing shall consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing to include suitable footwear, and to be repaired or replaced if torn.
- .2 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.
- .3 Before leaving Asbestos Work Area, the worker can decontaminate their protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container is to be dust tight, suitable for asbestos waste, impervious to asbestos, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the Asbestos Work Area, and removed from the Asbestos Work Area frequently and at regular intervals.
- .4 Facilities for washing hands and face shall be provided within or close to the Asbestos Work Area.
- .5 Ensure workers wash hands and face when leaving Asbestos Work Area.
- .6 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.
- .7 Authorized Visitor protection:
  - i. Provide protective clothing and approved respirators to Authorized Visitors to Asbestos Work Areas.
  - ii. Instruct Authorized Visitors in the use of protective clothing, respirators and procedures.
  - iii. Instruct Authorized Visitors in proper procedures to be followed in entering into and exiting from Asbestos Work Area.

**1.7 WASTE MANAGEMENT AND DISPOSAL**

- .1 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .2 Disposal of asbestos waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of asbestos waste in sealed double thickness, 0.15 mm (6-mil) bags or leak proof drums. Label containers with appropriate warning labels.
- .3 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

## **1.8 EXISTING CONDITIONS**

- .1 Refer to the REVISED Limited Hazardous Buildings Materials Assessment Report, 1411 Oxford Street, Halifax, Nova Scotia prepared by Pinchin Ltd., dated August 18, 2020 for details on ACM present in the building.
- .2 Notify Owner of ACM discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material pending instructions from Owner.

## **1.9 SCHEDULING**

- .1 Hours of Work: perform work during normal working hours.

## **1.10 PERSONNEL TRAINING**

- .1 Before beginning Work, provide Owner satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.
- .2 Instruction and training related to respirators includes, following minimum requirements:
  - .1 Fitting of equipment.
  - .2 Inspection and maintenance of equipment.
  - .3 Disinfecting of equipment.
  - .4 Limitations of equipment.
- .3 Instruction and training must be provided by a competent, qualified person.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Drop Sheets:
  - .1 Polyethylene: 0.15 mm (6-mil) unless otherwise specified; in sheet size to minimize joints.
  - .2 FR polyethylene: 0.15 mm (6-mil) thick woven fibre reinforced fabric bonded both sides with polyethylene.
- .2 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in a concentration to provide thorough wetting of ACM.
- .3 Waste Containers: contain waste in two separate containers.
  - .1 Inner container: 0.15 mm (6-mil) thick sealable polyethylene waste bag.
  - .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm (6-mil) thick sealable polyethylene bag.
  - .3 Labelling requirements: affix pre-printed cautionary asbestos warning in both official languages that is visible when ready for removal to disposal site.

- .4 Slow-drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual asbestos fibres.
- .5 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under both dry conditions and wet conditions using amended water.

**Part 3 Execution**

**3.1 PROCEDURES**

- .1 Before beginning Work, isolate Asbestos Work Area using, minimum, preprinted cautionary asbestos warning signs in both official languages that are visible at access routes to Asbestos Work Area.
- .2 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
  - .1 Use drop sheets in all cases to collect any debris that may fall from the surface being worked on.
  - .2 Use hanging drop sheets as necessary to prevent dust migration.
- .3 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.
  - .1 Use low - velocity fine - mist sprayers.
  - .2 Use non-powered hand tools to remove material.
  - .3 Perform Work to reduce dust creation to lowest levels practicable.
  - .4 Work may be subject to visual inspection and air monitoring.
  - .5 Contamination of surrounding areas indicated by visual inspection or air monitoring will require clean-up of affected areas.
- .4 Frequently and at regular intervals during Work and immediately on completion of Work:
  - .1 Dust and waste to be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a waste container, and
  - .2 Drop sheets to be wetted and placed in a waste container as soon as practicable.
- .5 Cleanup:
  - .1 Place dust and asbestos containing waste in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, and then place in plastic bags.
  - .2 Clean exterior of each waste-filled bag using damp cloths or HEPA vacuum and place in second clean waste bag immediately prior to removal from Asbestos Work Area.
  - .3 Seal waste bags and remove from site. Dispose of in accordance with requirements of Provincial and Federal Authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of hazardous nature of material to be dumped and that the appropriate guidelines and regulations for asbestos disposal are followed.

- .4 Perform final thorough clean-up of Asbestos Work Areas and adjacent areas affected by Work using HEPA vacuum.

### **3.2 PROCEDURES FOR REMOVING EXTERIOR TRANSITE PANELS**

- .1 Transite panels are to be removed using non-powered hand tools only. Back screws out of the Transite panels while avoiding causing undue damage to the panels. Replace non-asbestos panels in the same fashion.
- .2 Damage to the panels and any holes left from screw removal are to be repaired. Repair can be completed by using a weather resistant silicone or other suitable material.

### **3.3 PROCEDURES FOR DEBRIS CLEAN-UP FROM CEILING TILES**

- .1 Position drop sheet and ladder under ceiling tile to be removed.
- .2 Lift ceiling tile into ceiling plenum and place to the side. Do not remove ceiling tile from the ceiling plenum as debris may slide off the back of the tile.
- .3 Clean the back of the removed ceiling tile by HEPA vacuuming. Once back has been cleaned, stand the ceiling tile on edge and clean the opposite side prior to removing the tile from the ceiling plenum.
- .4 Clean all other ceiling tiles within reach of the accessed point by HEPA vacuum. These ceiling tiles may now be removed from the ceiling plenum if required to access other ceiling tiles for cleaning.
- .5 While tiles are removed, clean the T-bar suspension system.
- .6 Ceiling tiles are to be returned to their position when cleaning is complete unless directed otherwise by the Owner.

**END OF SECTION**