

**Part 1 General**

**1.1 REFERENCE STANDARDS**

- .1 Refer to laws, by laws, ordinances, rules, regulations, and orders of authority having jurisdictions, and other legally enforceable requirements applicable to Work at that area; or become in force during Work performance.
- .2 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.
- .3 Federal Legislation
  - .1 Canada Labour Code, Part II, section 124 and 125.
    - .1 Canada Occupational Health and Safety Regulations
  - .2 Transportation of Dangerous Goods Act, 1992 (TDGA)
  - .3 PSPC Asbestos Management Standard
  - .4 Canada Consumer Product Safety Act
    - .1 Surface Coating Materials Regulations SOR/2016-193
  - .5 Canadian Environmental Protection Act, 1999 (CEPA)
    - .1 PCB Regulations (SOR/2008-273)
    - .2 Federal Halocarbon Regulations (SOR/2003-289)
    - .3 Ozone-depleting Substances and Halocarbon Alternatives Regulations (SOR/2016-137)
    - .4 Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems (2015)
- .4 Provincial Legislation
  - .1 Ontario Occupational Health and Safety Act, R.S.O. 1990
    - .1 Ontario Regulation 490/09, Designated Substances (O.Reg. 490/09).
    - .2 Ontario Regulation 278/05, Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations, (O.Reg. 278/05).
  - .2 Ontario Environmental Protection Act, R.R.O. 1990,
    - .1 Ontario Regulation 347/90, General – Waste Management (O.Reg. 347/90).
    - .2 Ontario Regulation 463/10, Ozone Depleting Substances and Other Halocarbons (O.Reg. 463/10).
    - .3 R.R.O. 1990, Regulation 362, Waste Management - PCB's (R.R.O. 1990, Reg. 362)
- .5 Environmental Abatement Council of Ontario (EACO) Lead Guideline for Construction, Renovation, Maintenance or Repair (2014).
- .6 Environmental Abatement Council of Ontario (EACO) Mould Abatement Guidelines (2015).

- .7 Ontario Ministry of Labour, Training and Skills Development Guideline entitled Lead on Construction Projects
- .8 Ontario Ministry of Labour, Training and Skills Development Guideline entitled Silica on Construction Projects.
- .9 Canadian Standards Association (CSA International). CAN/CSA-Z94.4-18 – Selection, Care and Use of Respirators

## 1.2 DEFINITIONS

Amended Water: water with non-ionic surfactant wetting agent added to reduce water tension to allow wetting of fibres.

Asbestos-Containing Materials (ACMs): 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.

Asbestos Work Area: area where work takes place which will, or may, disturb ACMs.

Authorized Visitors: Visitors provided authorization for site access by the Departmental Representative, and representatives of regulatory agencies.

Competent worker: in relation to specific work, means a worker who:

- Is qualified because of knowledge, training, and experience to perform the work;
- Is familiar with the provincial and federal laws and with the provisions of the regulations that apply to the work; and
- Has knowledge of all potential or actual danger to health or safety in the work.

Friable material: means material that:

- When dry, can be crumbled, pulverized or powdered by hand pressure; or
- is crumbled, pulverized or powdered.

Glove Bag: prefabricated glove bag as follows:

- Minimum thickness 0.25 mm polyvinyl-chloride bag.
- Integral 0.25 mm thick polyvinyl-chloride gloves and elastic ports.
- Equipped with reversible double pull double throw zipper on top and at approximately mid-section of the bag.
- Straps for sealing ends around pipe.

Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities, and hazardous products, including but not limited to: corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

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 dimension at 99.97% efficiency.

Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.

Occupied Area: any area of building or work site that is outside Asbestos Work Area.

Polychlorinated Biphenyls (PCBs): includes chlorobiphenyls referred to in Column I of item 1 of the List of Toxic Substances in Schedule I of Canadian Environmental Protection Act (CEPA).

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.

Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for scope of work.

Toxic: substance is considered toxic if it is listed on Toxic Substances List found in Schedule 1 of CEPA.

Threshold Limit Value (TLV): an airborne concentration which cannot be exceeded as prescribed by the American Conference of Governmental Industrial Hygienists (ACGIH) as adopted in Part II of the Canada Labour Code – Occupational Health and Safety, the Canada Occupational Health and Safety Regulations (COHSR) Part X – Hazardous Substances.

### **1.3 RELATED REQUIREMENTS**

- .1 Section 02 82 00.01 Asbestos Abatement - Minimum Precautions.
- .2 Section 02 82 00.02 Asbestos Abatement - Intermediate Precautions.
- .3 Section 02 82 00.03 Asbestos Abatement - Maximum Precautions.

### **1.4 ADMINISTRATIVE REQUIREMENTS**

- .1 Before start of Work arrange for Site visit with the Departmental Representative to examine existing Site conditions.

### **1.5 RESPONSIBILITY**

- .1 Contractor shall be responsible for reading and evaluating the information provided in DSR, for the Site.

- .2 Contractor shall incorporate any recommendations in the Site DSR as they pertain to the health and safety of workers on Site, and in compliance with authority having jurisdictions for that area.
- .3 Contractor shall ask the Departmental Representative should they have any questions related to the Site specific DSR.
- .4 Contractor shall exercise every reasonable precaution for the protection of each worker on Site.
- .5 Contractor shall furnish the Site specific DSR to all subcontractors who will be performing work on Site.

## **1.6 REGULATORY REQUIREMENTS**

- .1 Do Work in compliance with Federal, Provincial, and local requirements pertaining to the hazardous materials, 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.

## **1.7 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit Site-specific Health and Safety Plan, within 7 days after date of Notice to proceed and before mobilization to Site. List relevant hazardous or contaminated materials or substances required by the authority having jurisdiction which need to be included in the Contractor's Health and Safety Plan.

## **1.8 DESIGNATED SUBSTANCES**

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 areas 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**

The following materials were identified as asbestos-containing based on the laboratory analysis of asbestos content via polarized light microscopy (PLM).

- Sample set CB-PLA-04: Non-friable plaster (1% Chrysotile), observed above the dropped ceiling in the hallway of the 7th floor within the project area.
- Sample Set CB-CT-03; Ceiling Tile; 2' x 4' ceiling tiles (2% Chrysotile), with pinholes and fissures observed in the lobby area of the 7th floor outside of the washroom.

Materials sampled and identified as non-asbestos containing:

- Sample Set CB-PLA-01, Plaster (Rooms 176, 178, 180);
- Sample Set CB-PLA-02, Plaster (Rooms 782, 784, 786);
- Sample Set CB-PLA-03, Plaster (7th floor hallway);
- Sample Set CB-ST-01; Ceiling Stipple (Rooms 782, 784, 786);
- Sample Set CB-CT-01, Ceiling Tile (7<sup>th</sup> floor hallway);
- Sample Set CB-CT-02, Ceiling Tile (7<sup>th</sup> floor hallway); and
- Sample Set CB-BM-01; Brick Mortar (7<sup>th</sup> floor, hallway outside of washroom).

4. BENZENE: Not Identified
5. COKE OVEN EMISSIONS: Not identified
6. ETHYLENE OXIDE: Not Identified
7. ISOCYANATES: Not Identified
8. LEAD: **Identified**

Paint samples were collected for lead analysis, and are considered to be “lead-containing” (lead content between 1,000 – 5,000 ppm) or “lead-based” (lead content > 5,000 ppm) according to the EACO Lead Guideline for Construction, Renovation, Maintenance or Repair dated October 2014. The lead-containing and lead-based materials are summarized below:

Lead-Containing (1,000 – 5,000 ppm)

- Sample CB-P-02; Blue (2,020 ppm) – Doors, frames and walls accents on first floor.

9. MERCURY: Not Identified

Mercury is assumed to be present in the following:

- Fluorescent light tubes were observed throughout the rooms in the project area; however, it is not anticipated that they would be disturbed during the work

10. SILICA: **Identified**

Based on the historic composition of building materials, silica is expected to be present in:

- Plaster;
- Ceiling stipple;
- Concrete;
- Brick and mortar;
- Cinderblock and mortar; and
- Drywall.

11. VINYL CHLORIDE MONOMER: Not Identified

12. POLYCHLORINATED BIPHENYLS (PCBs): Not Identified

Based on the age of the building, PCBs may be present in the following equipment:

- Lamp ballasts (not expected to be impacted by the installation of the automatic door operators)

13. HALOCARBONS: Not Identified

14. MOULD: Not Identified

15. OTHER HAZARDOUS MATERIALS: Not Identified

## 1.9 RECOMMENDATIONS

### .1 ASBESTOS

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.

The hazardous abatement procedures to be followed during the project are based on the scope of impacted area, type of building material, friability, type of work to be undertaken, equipment to be used, wet/dry work procedures, and fibre-release control measures (e.g., power tools equipped with HEPA filters). The classification of asbestos-related work is based on Section 6.2.1. of the Public Services and Procurement Canada Asbestos Management Standard which was developed to supplement the legislative requirements outlined in the Canada Occupational Health and Safety Regulations (COHSR) Part X – Hazardous Substances. Abatement work must comply the legislative requirements as indicated in O.Reg. 278/05 (Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations), and O. Reg. 490/09 (Designated Substances) under the Ontario Occupational Health and Safety Act, R.S.O. 1990, c. O.1.

Refer to the following specification sections for the project requirements for submittals, abatement work classification, personnel training, work procedures / precautions, materials, inspection and air monitoring (if applicable), waste management, disposal, and quality assurance:

- .1 Section 02 82 00.01 Asbestos Abatement - Minimum Precautions.
- .2 Section 02 82 00.02 Asbestos Abatement - Intermediate Precautions.
- .3 Section 02 82 00.03 Asbestos Abatement - Maximum Precautions.

Low risk work includes:

- non-destructive (i.e. without breaking, cutting, drilling, abrading) removal of non-friable asbestos-containing material;
- destructive work (i.e. breaking, cutting, drilling, abrading) on wetted non-friable asbestos-containing material with non-powered hand-held tools;
- removal of one square meter or less of drywall in which joint compounds contain asbestos-containing materials;
- removal or replacement of 7.5 square metres or less of non-friable asbestos-containing compressed-mineral-fibre-type ceiling tiles; and
- collecting samples of materials suspected of containing friable asbestos.

Moderate risk work includes:

- entry into ceiling spaces, crawlspace, pipe tunnels, etc., where friable asbestos debris is or may be present;
- removal or replacement of greater than 7.5 square metres of non-friable asbestos-containing compressed-mineral-fibre-type ceiling tiles;
- removing more than 2 square meters of friable asbestos-containing suspended ceiling tiles that are removed without being broken, cut, drilled, abraded, ground, sanded, or vibrated;

- removal of more than one square metre of drywall where asbestos-containing joint compound materials has been used;
- destructive work (i.e. breaking, cutting, drilling, abrading) on non-wetted, non-friable asbestos-containing material with non-powered hand held tools;
- destructive work (i.e. breaking, cutting, drilling, abrading) on non-friable asbestos-containing material if the work is done by means of power tools that are attached to dust collecting devices equipped with a high efficiency particulate air (HEPA) filters;
- minor removal or disturbance of friable asbestos-containing material. Minor is defined as follows:
  - in British Columbia: up to 0.1 m<sup>2</sup> surface area, or 3 linear metres of pipe insulation
  - in Quebec: up to 0.03 m<sup>3</sup> of debris
  - all others: up to 1 m<sup>2</sup> of surface area
- enclosing friable asbestos-containing material;
- applying tape or cover to asbestos-containing insulation;
- glove bag removal of asbestos-containing material from a pipe, duct or similar structure;
- removing filters in an air handling unit in a building that has sprayed-on asbestos-containing fireproofing; and
- work not otherwise classified as either low or high risk.

High risk work includes:

- major removal or disturbance of friable asbestos-containing material (greater than quantities defined under moderate work);
- destructive work (i.e. breaking, cutting, drilling, abrading) of non-friable asbestos-containing material using power tools not attached to dust-collecting devices equipped with HEPA filters;
- encapsulating friable asbestos-containing material by spray application of an encapsulant or sealant;
- cleaning or removal of ductwork and air handling equipment serving or passing through areas of buildings with sprayed, friable asbestos-containing material; and
- repair, alteration or demolition of a boiler, furnace, kiln, or similar equipment made of asbestos-containing refractory materials.



If new or suspect asbestos-containing materials are encountered during the upcoming Project, work in the immediate area should cease, and the material should be sampled and analyzed for asbestos content.

**.2 LEAD**

- Follow recommendations provided in the Ontario Ministry of Labour (MOL) Guideline titled *Guideline: Lead on Construction Projects*. This guideline classifies all lead disturbances as Type 1, Type 2a, Type 2b, Type 3a or Type 3b work, and assigns different levels of respiratory protection and work procedures for each classification.
- Safe work procedures and personal protective equipment must be used to ensure that workers are not exposed to airborne lead levels that exceed the time weighed average of 0.05 milligram per cubic metre (mg/m<sup>3</sup>) prescribed by COHS Reg Part X and O.Reg. 490/09, and outlined in the EACO Lead Guideline for Construction, Renovation, Maintenance or Repair.
- Paints containing less than 1,000 ppm are considered low-level lead coatings. Regardless of the lead content, aggressive disturbance of paint coatings (e.g. welding, abrasive blasting) may generate lead exposure. Work must be completed in accordance with the procedures listed in Section 7 and in Section 8 of the EACO *Lead Guideline for Construction, Renovation, Maintenance or Repair*.
- Disposal of construction waste containing lead must be done in accordance with O.Reg. 347/90 – General Waste Management. The classification of the waste as hazardous or non-hazardous is dependent upon the results of the Toxicity Characteristic Leaching Procedure (TCLP analysis).

**.3 SILICA**

- Comply with O.Reg. 490/09 when performing work that may disturb silica-containing materials. The regulation outlines Control Program requirements and the exposure limits, TWA, for airborne silica.
- Silica dust can be generated through such processes as blasting, grinding, crushing, and sandblasting silica-containing material. Since silica is present in select materials within the project area, appropriate respiratory protection must be donned during the demolition and modifications of these structures.
- Follow recommendations provided in the Ontario Ministry of Labour, Training and Skills Development Guideline entitled *Silica on Construction Projects*. This guideline outlines the hazards associated with silica in construction and the measures and procedures that should be taken to control those hazards.

**Part 2 Products**

**2.1 NOT USED**

**.1 NOT USED**

**Part 3            Execution**

**3.1            NOT USED**  
      **.1           NOT USED**

**END OF SECTION**