

Part 1 General

1.1 SUMMARY

- .1 Comply with requirements of this Section when performing the following Type-1 operations as defined in Public Works and Government Services Canada (PWGSC) Deputy Minister Directive (DIR:057) *Respecting Asbestos Management in Federal Owned or Leased Buildings or Facilities containing Asbestos*:
 - .1 As per Section 01 35 29 Health and Safety Requirements, the contractor must conduct a hazard assessment of the buildings, inspect/determine the structural integrity of the buildings, and develop safe working procedures to conduct all work including hazardous materials removal and disposal.
 - .2 Removing vinyl floor tiles from Building 18 (2nd Floor Bathroom). Cut floor tiles using heavy duty scrapers. Do not use electric powered scrapers. If required, shape, grind, drill, scrape or abrade materials using hand powered tools, or using power tools equipped with a HEPA filter.
 - .3 Removing vinyl sheet flooring from Building 18 (2nd Floor Offices and Hallway). Cut vinyl sheet flooring in successive strips 100 mm to 200 mm apart. Wet remaining felt underlay as soon as exposed and remove by wet scraping. Remove maximum of three strips before wet scraping exposed felt underlay. Upon completion of removal of felt underlay, allow floor to dry and vacuum any remaining debris/dirt with HEPA vacuum or wet mop.
 - .4 Removing tar coatings (adhered to cork insulating sheeting) from Building 17 (Walls and Ceiling of Refrigeration Room). Remove using heavy duty scrapers or cutters while keeping tar coating wet. Dispose of cork with adhered tar coating as asbestos waste. Do not use electric powered scrapers. If required, shape, grind, drill, scrape or abrade materials using hand powered tools, or using power tools equipped with a HEPA filter.
 - .5 Removing ceiling board from Building 14 (Main Room). Unscrew and remove asbestos-cement board ceiling panel intact without producing a pulverized or powdered waste. Do not use crow bar or equivalent. If unable to

remove intact, follow "Asbestos Abatement - Intermediate Procedures."

- .2 Asbestos was identified in non-friable building materials located in Buildings 14, 17 and 18. Locations of asbestos containing materials are provided on Figures 3, 4 and 5A of the report *Hazardous Building Materials Survey, AAFC Crops and Livestock Research Centre, 440 University Avenue, Charlottetown, PEI, Buildings 7, 10, 14, 17 and 18*. Prepared by LVM / Maritime Testing, March 6, 2013. (Included in Appendix A).
- .1 Recommend use of Type 1 (Minimum Precautions) for the abatement of vinyl floor tiles and vinyl sheet flooring in 2nd Floor rooms in Building 18.
- .2 Recommend use of Type 1 (Minimum Precautions) for the abatement of tar coating adhered to cork sheeting on walls and ceilings in Basement in Building 17.
- .3 Recommend use of Type 1 (Minimum Precautions) for the abatement of asbestos-cement board on ceiling in Main Room in Building 14.

1.2 RELATED REQUIREMENTS

- .1 01 00 10 - General Instructions.
- .2 01 14 25 - Designated Substances.
- .3 01 35 29 - Health and Safety Requirements.
- .4 01 35 44 - Environmental Procedures.
- .5 02 41 16 - Structure Demolition.
- .6 02 82 00.02 - Asbestos Abatement - Intermediate Precautions
- .7 02 82 00.03-Asbestos Abatement - Maximum Precautions
- .8 02 83 10 - Lead-Based Paint Abatement - Minimum Precautions
- .9 02 85 00.02 - Mould Remediation

1.3 REFERENCES

- .1 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .3 Prince Edward Island Occupational Health and Safety Act.
 - .1 PEI Reg. Part 49 - Asbestos Regulations

- .4 PWGSC Deputy Minister Directive (DIR:057) *Respecting Asbestos Management in Federal Owned or Leased Buildings or Facilities containing Asbestos.*
 - .1 Appendix 5 - Classification of Asbestos-Related Work
 - .2 Appendix 6 - Work Procedures
- .5 LVM Maritime Testing.
 - .1 Hazardous Building Materials Survey, AAFC Crops and Livestock Research Centre, 440 University Avenue, Charlottetown, PEI, Buildings 7, 10, 14, 17 and 18, March 6, 2013.
- .6 Stantec Consulting Limited.
 - .1 Lead-Based Paint Sampling - AAFC Crops and Livestock Research Centre (Buildings #7 and #18), Charlottetown, PEI, August 9, 2013.
 - .2 Summary of Hazardous Materials - Buildings 7, 10, 14, 17 and 18, August 2013.
- .7 AMEC (Available on Request).
 - .1 Soil Sampling Program, Buildings 7, 10, 14, 17, and 18 AAFC Crops and Livestock Research Centre (CLRC), 440 University Avenue, Charlottetown, Queens County, PEI, DFRP # 02024.
- .8 MGI Limited (Available on Request).
 - .1 Hazardous Building Materials Survey with Recommendations for Building Demolition and Petroleum Hydrocarbon Impact Assessment, AAFC Crops and Livestock Research Centre, Building 7 (5 Car Garage), Charlottetown, PEI, June 2004.
 - .2 Hazardous Building Materials Survey with Recommendations for Building Demolition and Petroleum Hydrocarbon Impact Assessment, AAFC Crops and Livestock Research Centre, Building 10 (Pea Viner Storage), Charlottetown, PEI, June 2004.
 - .3 Hazardous Building Materials Survey with Recommendations for Building Demolition and Petroleum Hydrocarbon Impact Assessment, AAFC Crops and Livestock Research Centre, Building 14 (Small Equipment Storage), Charlottetown, PEI, June 2004.
 - .4 Hazardous Building Materials Survey with Recommendations for Building Demolition and Petroleum Hydrocarbon Impact Assessment, AAFC Crops and

Livestock Research Centre, Building 17 (Apple House),
Charlottetown, PEI, January 2005.

- .5 Hazardous Building Materials Survey with
Recommendations for Building Demolition and Petroleum
Hydrocarbon Impact Assessment, AAFC Crops and
Livestock Research Centre, Building 18 (Horticulture
Building), Charlottetown, PEI, January 2005.

1.4 DEFINITIONS

- .1 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.
- .2 Amended Water: water with nonionic surfactant wetting agent
added to reduce water tension to allow thorough wetting of
fibres.
- .3 Asbestos-Containing Materials (ACMs): materials that
contain 1.0 per cent or more asbestos by dry weight and are
identified under Existing Conditions including fallen
materials and settled dust.
- .4 Asbestos Work Area: area where work takes place which will,
or may, disturb ACMs.
- .5 Authorized Visitors: Public Works and Government Services
Canada (PWGSC), Agriculture and Agri-Food Canada (AAFC),
Environmental Consultant, representatives of regulatory
agencies and any visitor approved by PWGSC and/or AAFC.
- .6 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 provincial and 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.
- .7 Friable material: means material that:
 - .1 When dry, can be crumbled, pulverized or powdered by
hand pressure, or
 - .2 is crumbled, pulverized or powdered.
- .8 Non-Friable Material: material that when dry cannot be
crumbled, pulverized or powdered by hand pressure.

- .9 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.
- .10 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.
- .11 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 Departmental Representative that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.
- .2 Submit Provincial and/or local requirements for Notice of Project Form.
- .3 Submit proof of Contractor's Asbestos Liability Insurance.
- .4 Submit to Departmental Representative 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 to Departmental Representative that all asbestos workers and/or supervisor have received appropriate training (in accordance with Provincial Regulations) 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 Worker's Compensation Board status and transcription of insurance.
- .7 Submit proof satisfactory to Departmental Representative that employees have respirator fitting and testing. Workers must be fit tested (irritant smoke test) with respirator that is personally issued.

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 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements and with Section 02 41 16 - Structure Demolition.

.2 Safety Requirements: worker protection.

.1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:

.1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Prince Edward Island Occupational Health & Safety Act (part 49.15). 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 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 his or her 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 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 work area, and removed from the 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 the seal between respirator and face.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Collect and separate for disposal. Place paper, plastic, polystyrene, corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with AAFC Facility practises.
- .3 Separate for reuse and recycling and place in designated containers in accordance with AAFC Facility practises.
- .4 Place materials defined as hazardous or toxic in designated containers.

- .5 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .6 Fold up metal banding, flatten and place in designated area for recycling.
- .7 Disposal of asbestos waste generated by removal activities must comply with Provincial Regulations (OSHA Part 49). Dispose of asbestos waste in sealed double thickness 6 mil bags or leak proof drums. Label containers with appropriate warning labels.
- .8 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

1.8 EXISTING CONDITIONS

- .1 Concentrations of asbestos-containing materials have been identified in the form of:
 - .1 Beige (brown) vinyl floor tile (1% Chrysotile) - Building 18
 - .2 Grey vinyl sheet flooring (20 % Chrysotile) - Building 18
 - .3 Brown vinyl sheet flooring (15 % Chrysotile) - Building 18
 - .4 Grey Transite cement board ceiling panel (10-30 % Chrysotile) - Building 14
 - .5 Black Tar Coating (20 % Chrysotile) - Building 17
- .2 Reports and information pertaining to ACMs to be handled, removed, or otherwise disturbed and disposed of during this project are outlined in **Section 1.3 References** and are provided in Appendix A.
- .3 Notify Departmental Representative of friable material discovered during Work and not apparent from drawings, specifications, or reports pertaining to Work. Do not disturb such material pending instructions from Departmental Representative.

1.9 SCHEDULING

- .1 Hours of Work: perform work during normal working hours (7:00 AM - 7:00 PM).

1.10 PERSONNEL TRAINING

- .1 Before beginning Work, provide Departmental Representative 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 Proper 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 thick.
 - .2 FR polyethylene: 0.15 mm 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 asbestos-containing material.
- .3 Waste Containers: contain waste in two separate containers.
 - .1 Inner container: 0.15 mm 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 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 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .2 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.
 - .1 Remove visible dust from surfaces in the work area where dust is likely to be disturbed during course of work.
 - .2 Use HEPA vacuum or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate.
 - .3 Do not use compressed air to clean up or remove dust from any surface.
- .3 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
 - .1 Use FR polyethylene drop sheets over flooring such as carpeting that absorbs dust and over flooring in Asbestos Work Area where dust and contamination cannot otherwise be safely contained. Drop sheets are not to be reused.
- .4 Ensure proper equipment is on site to perform the removal of non-friable asbestos containing vinyl sheet flooring, vinyl floor tiles, tar coatings and ceiling boards.
- .5 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.
 - .1 Use garden reservoir type low - velocity fine - mist sprayer.
 - .2 Perform Work to reduce dust creation to lowest levels practicable.
 - .3 Work will be subject to visual inspection and air monitoring.

- .4 Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
- .6 Remove non-friable asbestos containing 0.3 m x 0.3 m vinyl floor tiles using hand powered tools (i.e. heavy duty scrapers, screw drivers, etc.). Use hot air gun to loosen tiles if necessary. As each tile is removed, place into asbestos waste receptor. Do not break into smaller pieces.
- .7 Remove binding strips or other restrictive mouldings prior to cutting vinyl sheet flooring. Workers shall wear air purifying respirator fitted with high efficiency filter and disposable coveralls at all times during vinyl sheet flooring removals.
- .8 Remove vinyl sheet flooring by making a series of cuts in successive strips 100 mm to 200 mm apart through top layers and about halfway through felt backing, parallel to wall. Pull top layer back upon itself slowly and evenly and roll up strip in tight roll, tape or tie securely and place into asbestos waste receptor. Wet remaining felt underlay as soon as exposed and remove by wet scraping and place into asbestos waste receptor. Remove maximum of three strips before wet scraping exposed felt underlay. Upon completion of removal of felt underlay, allow floor to dry and vacuum any remaining debris/dirt with HEPA vacuum or wet mop.
- .9 Remove tar coatings (adhered to cork insulating sheeting) using heavy duty scrapers or cutters while keeping tar coating wet. Dispose of cork with adhered tar coating as asbestos waste. Do not use electric powered scrapers.
- .10 Unscrew and remove asbestos-cement board ceiling panel intact without producing a pulverized or powdered waste. Do not use crow bar or equivalent. Place asbestos cement board into asbestos waste receptor for disposal. If unable to remove intact, follow "Asbestos Abatement - Intermediate Procedures."
- .11 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.
- .12 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 of Prince Edward Island. 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 Work areas and adjacent areas affected by Work using HEPA vacuum.

3.2 AIR QUALITY MONITORING

- .1 A third party Environmental Consultant will be commissioned by the Departmental Representative to perform environmental oversight during abatement activities and to conduct air quality monitoring and testing.
- .2 Air sampling will be conducted prior to asbestos abatement activities to document existing fibre concentration in the work area.
- .3 During the course of the Work, the Environmental Consultant may measure fibre content of air outside Work areas by means of air samples analyzed by Phase Contrast Microscopy (PCM).
 - .1 Stop Work when PCM measurements exceed exposure limits outlined in Section 49.6 of the General Regulations under the PEI Occupational Health and Safety Act, and correct procedures.
- .4 If air quality monitoring shows that areas outside the Asbestos Work Area are contaminated, maintain and clean these areas in the same manner as that is applicable to the Asbestos Work Area.
- .5 Ensure that respiratory safety factors are not exceeded.

- .6 Following completion of the Work, the Environmental Consultant may collect air samples within the work area prior to allowing entry to unprotected occupants. If PCM measurements exceed exposure limits outlined in Section 49.6 of the General Regulations under the PEI Occupational Health and Safety Act, the contractor must clean the area until exposure limits are achieved.
- .7 Air sampling results will be available within 24 hours of sample collection.