

# ASBESTOS MANAGEMENT PROGRAM

---

**Carleton University**

**November 2011**

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	2/25
<i>Approved by:</i>			
D. Boyce			

**Table of Contents**

**1 INTRODUCTION .....3**

**2 PURPOSE.....3**

**3 SCOPE .....3**

**4 ROLES & RESPONSIBILITIES ..... 3-7**

**5 INVENTORY .....7**

**6 ACCESS CONTROL.....7**

**7 INSPECTION.....7**

**8 CLASSIFICATIONS OF ASBESTOS OPERATIONS..... 7-9**

**9 PROCEDURES FOR ASBESTOS OPERATIONS..... 9-11**

**10 REMEDIATION ..... 11-12**

**11 ASBESTOS WASTE DISPOSAL.....12**

**12 EMERGENCY PROCEDURES..... 12-13**

**13 INFORMATION & TRAINING .....13**

**14 RECORDKEEPING..... 13-14**

**15 NOTIFICATION .....14**

**16 MEDICAL SURVEILLANCE.....15**

**17 REVIEW.....15**

**18 APPENDICES..... 16-24**

**I. ASBESTOS NOTIFICATION FORM .....17**

**II. UNINTENTIONAL ASBESTOS RELEASE SOP ..... 18-19**

**III. ASBESTOS TYPE 1 REMOVAL SOP..... 20-22**

**IV. RESTRICTED ACCESS SIGNAGE.....23**

**V. CHECKLIST FOR ASBESTOS TYPE 1 WORK PROCEDURES .....24**

**VI. DISCOVERY OF ACM NOTIFICATION FORM .....25**

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	3/25
<i>Approved by:</i>			
D. Boyce			

# 1 Introduction

Asbestos is a fibrous, silicate mineral that was commonly added to building materials such as insulation, fireproofing, plaster and tiles to improve the thermal and acoustical properties of these products.

For the purpose of hazard assessment, materials containing asbestos are generally classified as either friable or non-friable. Friable materials such as acoustical or thermal insulation can be easily crumbled, powdered or pulverized by hand pressure when dry. Non-friable materials such as tiles or plaster cannot be easily crumbled by hand pressure. The use of asbestos as an additive in friable building materials ceased in the early 1980s, however, asbestos-containing materials are still present in many buildings constructed prior to this date.

Asbestos presents a health hazard when asbestos-containing material is disturbed or removed so as to cause asbestos fibres to become airborne. Inhalation of these airborne fibres can lead to serious respiratory health problems.

# 2 Purpose

The purpose of this program is to ensure that the University community is protected from hazards associated with the uncontrolled disturbance or removal of asbestos-containing materials.

# 3 Scope

This program applies to all employees, contractors and students of Carleton University, as well as to all building occupants and visitors who may contact or disturb asbestos-containing materials in University owned buildings.

# 4 Roles & Responsibilities

## 4.1 Facilities Management and Planning

### 4.1.1 Assistant Vice President

- Ensure resources allocated to monitor and manage the Asbestos Management Program

### 4.1.2 Assistant Director, Environmental Health and Safety

- Maintain an Asbestos Management Program appropriate to the needs of the university which responds to regulatory requirements.
- Administer the Asbestos Management Program.
- Monitor compliance with the Asbestos Management Program.
- Review the Asbestos Management Program regularly.

### 4.1.3 Assistant Director’s and Managers – Facility Engineering and Construction; Maintenance Services; Space Management and Capital Planning

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	4/25
<i>Approved by:</i>			
D. Boyce			

- Consult with the Environmental Health & Safety Office, to jointly classify and plan all asbestos remediation activities prior to the actions taking place.
- Ensure that a pre-job review of all maintenance, repair, renovation or construction activity is conducted to verify that asbestos-containing materials will not be disturbed by such activities. In the case where asbestos-containing materials will be disturbed by maintenance, repair, renovation or construction activity, ensure that adequate control and / or remediation measures are implemented prior to beginning the activity.
- Ensure that employees, contractors and consultants are informed about the location of asbestos-containing material prior to beginning any activities in the area.
- Ensure that all personnel work in compliance with the Asbestos Management Program. **Note: Only Type 1 asbestos operations will be performed by trained Carleton employees. Any operations involving Types 2 or 3 work will be performed by trained contractors.**
- Ensure that all personnel who perform work that disturbs building materials in close proximity to asbestos-containing materials are trained. Including to identify & report potential asbestos hazards. (see Appendix 1 for the asbestos notification form)
- Ensure that inspection of ACM materials is performed on an annual and ongoing basis

#### 4.1.4 Environmental Health & Safety Office

- Maintain & update the inventory of asbestos-containing materials.
- Ensure the regular inspection requirements of the Asbestos Management Program are implemented with the managers of FMP.
- Administer training requirements of the Asbestos Management Program.
- Administer respiratory protection program (including respirator fit testing) in accordance with the Asbestos Management Program.
- Administer medical surveillance requirements of the Asbestos Management Program.
- Provide technical advice on asbestos identification, hazard assessment & control measures.
- Respond to reports of asbestos disturbance or the discovery of previously undocumented locations of asbestos-containing material and ensure appropriate remediation and documentation procedures are followed.
- Monitor compliance with the Asbestos Management Program.
- Notify the Ministry of Labour, orally and in writing, if, during demolition, alteration or repair, material that was not referred to in the survey report prepared prior to undertaking the work and that may be asbestos-containing, is discovered as per O.Reg. 278/05 s. 10 (8) (a).
- Notify the Carleton University Joint Health & Safety Committee of planned asbestos management activities which require environmental testing (bulk and air), visual inspections, and abatement. The Carleton University Joint Health & Safety Committee will receive any reports resulting from the testing.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	5/25
<i>Approved by:</i>			
D. Boyce			

#### 4.2 Department of University Safety

- Ensure that Department of University Safety (DUS) personnel are trained to identify & report potential asbestos hazards.
- Officers who discover any damaged material believed to contain asbestos will advise their supervisor to report the discovery. The DUS supervisor will in turn contact the Environmental Health & Safety Office, who will investigate and arrange remedial action as required.

#### 4.3 Computing & Communications Services

- Ensure that a pre-job review of all installation, maintenance or repair activity is conducted to verify that asbestos-containing materials will not be disturbed by such activities.
- In the case where asbestos-containing materials will be disturbed by installation, maintenance or repair activity, contact the Environmental Health & Safety Office, who will ensure that adequate control and / or remediation measures are implemented prior to beginning the activity.
- Ensure that employees and contractors are informed about the location of asbestos-containing material prior to beginning any activities in the area.
- Ensure that all personnel work in compliance with the Asbestos Management Program.
- Ensure that all personnel who will work in proximity to asbestos-containing materials are trained to identify & report potential asbestos hazards.
- Consult with the Environmental Health & Safety Office, to jointly classify and plan all asbestos remediation activities.

#### 4.4 Science & Technology Centre

- Ensure that a pre-job review of all installation, maintenance or repair activity is conducted to verify that asbestos-containing materials will not be disturbed by such activities.
- In the case where asbestos-containing materials will be disturbed by installation, maintenance or repair activity, contact the Environmental Health & Safety Office, who will ensure that adequate control and / or remediation measures are implemented prior to beginning the activity.
- Ensure that employees and contractors are informed about the location of asbestos-containing material prior to beginning any activities in the area.
- Ensure that all personnel work in compliance with the Asbestos Management Program.
- Ensure that all personnel who will work in proximity to asbestos-containing materials are trained to identify & report potential asbestos hazards.
- Consult with the Environmental Health & Safety Office, to jointly classify and plan all asbestos remediation activities.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	6/25
<i>Approved by:</i>			
D. Boyce			

#### 4.5 Other Groups

##### 4.5.1 **Department Heads & Supervisors (All)**

- Ensure that all departmental personnel are familiar with the Asbestos Management Program.
- Ensure that departmental personnel are familiar with the presence of asbestos-containing materials in their work area.
- Ensure that departmental personnel do not remove ceiling tiles under any circumstances to access the space above a false ceiling in buildings where asbestos-containing insulation may be present, or perform activities which could disturb other asbestos containing materials.
- Ensure that occupants are notified of scheduled asbestos-related work in their workplace.
- Report the presence of any damaged material, located within departmental space that is believed to contain asbestos to the Environmental Health & Safety Office.

##### 4.5.2 **Employees**

- Be familiar with the Asbestos Management Program (EH&S Webpage).
- Be aware of the presence of asbestos-containing materials in their work area (EH&S Webpage).
- Work in compliance with the Asbestos Management Program.
- Refrain from removing ceiling tiles under any circumstance to access the space above a false ceiling in buildings where asbestos-containing insulation may be present or perform activities which could disturb other asbestos containing materials.
- Notify a supervisor to report the presence of any damaged material believed to contain asbestos.

##### 4.5.3 **Contractor Coordinators & Project Managers (All)**

- Ensure that all contract work is carried out in compliance with Ontario Regulations governing asbestos and the Carleton University Asbestos Management Program.
- Ensure that all contractors under their supervision are informed about the location of asbestos-containing material in their work area.
- Ensure that all contractors under their supervision refrain from disturbing asbestos-containing material.
- Ensure that all contractors under their supervision, who will be working in proximity to asbestos-containing materials, are trained to identify & report potential asbestos hazards.
- Stop work immediately and notify the Carleton University Project Staff in charge of the job and the Environmental Health & Safety Office, of the discovery of a previously unidentified source, the unintentional disturbance of, or the presence of any damaged asbestos-containing material.

 <b>Carleton</b> UNIVERSITY Department of Facilities Management and Planning	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	7/25
<i>Approved by:</i>			
D. Boyce			

## 5 Inventory

An inventory of known and suspected locations of asbestos-containing materials will be maintained as part of the Asbestos Management Program. The inventory will be reviewed at least yearly and updated on an ongoing basis to reflect changes due to asbestos remediation activity or discoveries of previously unknown sources of asbestos-containing materials.

The inventory must be referenced prior to the commencement of any installation, maintenance, repair, renovation or construction activities to determine whether any of these activities will take place in the vicinity of known asbestos-containing materials. In addition, the inventory must be made available to all workers who may perform work that disturbs building materials in close proximity to asbestos-containing materials and to all building occupants. A hard copy of the inventory will be maintained at the MCC, with an e-version (password protected) available through the Environmental Health and Safety website

## 6 Access Control

Mechanical rooms, service shafts, service tunnels that contain friable asbestos material will be locked and access will be restricted to authorized personnel from Facilities Management and Planning and University Safety or other personnel as authorized by the Assistant Vice-President (Facilities Management and Planning).

In areas where asbestos-containing insulation is present or is suspected to be present, access to the space above false ceilings will be restricted (as it may disturb asbestos containing material) to trained Facilities Management and Planning personnel and / or contractors approved by Facilities Management and Planning.

## 7 Inspection

Visual inspection of locations where asbestos-containing material is present will be conducted regularly by FMP staff or others as determined by the Environmental Health and Safety Office to ensure that damaged or degraded material is properly managed. Written records of the inspections will be maintained by the Environmental Health & Safety Office.

Damaged asbestos-containing material identified by employees during the course of their normal day-to-day activities must be reported to the Environmental Health & Safety Office who will ensure that appropriate remediation steps are taken (see Appendix 1 for the asbestos notification form).

## 8 Classifications of Asbestos Operations

*Ontario Regulation 278/05: Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations* classifies operations that may expose workers to asbestos into three different categories based on the severity of the potential hazard.

### 8.1 Type 1 Operations

- Installing or removing less than 7.5 m<sup>2</sup> asbestos-containing ceiling tile without breaking, cutting, drilling, abrading, grinding, sanding or vibrating the tile.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supercedes</i>	<i>Page</i>
	September 2011	Oct 10/06	8/25
<i>Approved by:</i>			
D. Boyce			

- Installing or removing non-friable asbestos-containing material, other than ceiling tile, if the material is installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.
- Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if-
  - the material is wetted to control the spread of dust or fibres and
  - the work is done only by means of non-powered hand-held tools.
- Removing less than one square metre of drywall in which joint-filling compounds that are asbestos-containing material have been used.

## 8.2 Type 2 Operations

- Removing all or part of a false ceiling to obtain access to a work area, if asbestos-containing material is likely to be lying on the surface of the false ceiling.
- The removal or disturbance of one square metre or less of friable asbestos-containing material during the repair, alteration, maintenance or demolition of all or part of machinery or equipment or a building, aircraft, locomotive, railway car, vehicle or ship.
- Enclosing friable asbestos-containing material.
- Applying tape or a sealant or other covering to pipe or boiler insulation that is asbestos-containing material.
- Installing or removing ceiling tiles that are asbestos-containing material, if the tiles cover an area of 7.5 square metres or more and are installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.
- Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if,
  - the material is not wetted to control the spread of dust or fibres, and
  - the work is done only by means of non-powered hand-held tools.
- Removing one square metre or more of drywall in which joint filling compounds that are asbestos-containing material have been used.
- Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the work is done by means of power tools that are attached to dust-collecting devices equipped with HEPA filters.
- Removing insulation that is asbestos-containing material from a pipe, duct or similar structure using a glove bag.
- Cleaning or removing filters used in air handling equipment in a building that has sprayed fireproofing that is asbestos-containing material.



 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	9/25
<i>Approved by:</i>			
D. Boyce			

- An operation that,
  - is not mentioned in any of paragraphs,
  - may expose a worker to asbestos and,
  - is not classified as a Type 1 or Type 3 operation.

### 8.3 Type 3 operations:

- The removal or disturbance of more than one square metre of friable asbestos-containing material during the repair, alteration, maintenance or demolition of all or part of a building, aircraft, ship, locomotive, railway car or vehicle or any machinery or equipment.
- The spray application of a sealant to friable asbestos-containing material.
- Cleaning or removing air handling equipment, including rigid ducting but not including filters, in a building that has sprayed fireproofing that is asbestos-containing material.
- Repairing, altering or demolishing all or part of a kiln, metallurgical furnace or similar structure that is made in part of refractory materials that are asbestos-containing materials.
- Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material, if the work is done by means of power tools that are not attached to dust-collecting devices equipped with HEPA filters.
- Repairing, altering or demolishing all or part of any building in which asbestos is or was used in the manufacture of products, unless the asbestos was cleaned up and removed before March 16, 1986.

**Note: Work on ceiling tiles, drywall or friable asbestos-containing material is classified according to the total area on which work is done consecutively in a room or enclosed area, even if the work is divided into smaller jobs.**

## 9 Procedures for Asbestos Operations

Specific procedures must be applied to all asbestos operations as detailed below:

**NOTE: Only trained Carleton personnel will perform Type 1 Operations. All Type 2 and /or Type 3 Operations will be performed by qualified contractors.**

### 9.1 Type 1 Procedures

- Before beginning work, visible dust shall be removed with a damp cloth or a vacuum equipped with a HEPA filter from any surface in the work area, including the thing to be worked on, if the dust on that surface is likely to be disturbed.
- The spread of dust from the work area shall be controlled by measures appropriate to the work to be done including the use of drop sheets of polyethylene or other suitable material that is impervious to asbestos.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	10/25
<i>Approved by:</i>			
D. Boyce			

- When removing less than one square metre of drywall in which joint-filling compounds that are asbestos-containing materials have been used, the material shall be wetted before and kept wet during the work to control the spread of dust or fibres, unless wetting would create a hazard or cause damage.
- A wetting agent shall be added to water that is to be used to control the spread of dust and fibres.
- Frequently and at regular intervals while performing the work and immediately on completion of the work, dust and waste shall be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a container that is -
  - dust tight
  - suitable for the type of waste
  - impervious to asbestos
  - identified as asbestos waste
  - cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before being removed from the work area, and
  - removed from the workplace frequently and at regular intervals.
- Drop sheets shall be wetted and placed in a container as described above, as soon as practicable after the dust and waste has been cleaned up and removed as described above.
- Drop sheets shall not be reused.
- After the work is completed, polyethylene sheeting and similar materials used for barriers and enclosures shall not be reused, but shall be wetted and placed in a container as described above as soon as practicable after the dust and waste has been cleaned up and removed as described above.
- After the work is completed, barriers and portable enclosures that will be reused shall be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable after the dust and waste has been cleaned up and removed.
- Barriers and portable enclosures shall not be reused unless they are rigid and can be cleaned thoroughly.
- Compressed air shall not be used to clean up and remove dust from any surface.
- Eating, drinking, chewing or smoking shall not be permitted in the work area.
- The employer shall provide the worker with a NIOSH approved, air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter if requested.
- If a worker requests that the employer provide protective clothing to be used by the worker, the employer shall provide the worker with protective clothing that
  - shall be made of a material that does not readily retain nor permit penetration of asbestos fibres

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	11/25
<i>Approved by:</i>			
D. Boyce			

- 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
- shall include suitable footwear
- shall be repaired or replaced if torn.
- and the worker shall wear the protective clothing.
- A worker who is provided with protective clothing shall, before leaving the work area,
  - decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing,
  - if the protective clothing will not be reused, place it in a container as described above.
- Facilities for the washing of hands and face shall be made available to workers and shall be used by every worker when leaving the work area.

## 9.2 Type 2 Procedures (including Glove Bag Procedures)

Type 2 Procedures will not be performed by Carleton University staff. Only trained contractors will perform Type 2 procedures as detailed in O.Reg. 278/05, s. 15, 16, and 17.

## 9.3 Type 3 Procedures

Type 3 Procedures will not be performed by Carleton University staff. Only trained contractors will perform Type 3 procedures as detailed in O.Reg. 278/05, s. 15, 18.

# 10 Remediation

Damaged or degraded asbestos-containing material must be remediated via removal, encapsulation or enclosure to ensure that asbestos fibres do not become airborne.

## 10.1 Removal

Removal is a remediation method whereby all materials containing asbestos fibres are permanently removed from an area. Whenever possible, removal should be chosen as the preferred method of remediation.

## 10.2 Encapsulation or Enclosure

Encapsulation or enclosures are alternative methods of remediation whereby asbestos-containing material is left in place and covered to prevent the release of asbestos fibres into the air. Encapsulation or enclosure are safe and effective remediation methods that are typically used in areas where removal is not technically or economically feasible. Locations with encapsulated or enclosed asbestos remain subject to the requirements of the Asbestos Management Program.

# 11 Asbestos Waste Disposal

All asbestos waste generated during Type 1, 2, or 3 operations will be placed in appropriate containers as outlined in O.Reg. 278/05. Furthermore, all cleaned and sealed containers will have the following labels:

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	12/25
<i>Approved by:</i>			
D. Boyce			

**CAUTION  
CONTAINS ASBESTOS FIBRES  
Avoid Creating Dust and Spillage  
Asbestos May be Harmful to your Health  
Wear Approved Protective Equipment**

The words must be displayed in large, easily legible letters (O.Reg. 347 s. 17).

## 12 Emergency Procedures

### 12.1 Unexpected Discovery of Potential Asbestos-Containing Material

In the event that potentially asbestos-containing material is discovered in an unexpected area, contact the Environmental Health & Safety Office. An assessment of the area will be initiated to determine if the material does contain asbestos, and if so, initiate remediation action as required and ensure the location is added to the Inventory of Asbestos-containing Materials.

### 12.2 Unintentional Disturbance of Asbestos-containing Material

In the event that material believed to contain asbestos is unintentionally disturbed, it is important that specific steps are taken to ensure the suspect material is correctly identified and effectively handled to minimize occupant exposure and degree of asbestos fibre release. For all suspect disturbances in asbestos containing materials, the following procedures shall be followed:

- i. The worker/contractor will immediately stop all work activity in the area to avoid further disturbance of the material.
- ii. The worker/contractor will ensure that any clothing and / or tools contaminated with asbestos fibres are decontaminated via dampening wiping or HEPA vacuuming.
- iii. The worker /contractor will notify his or her supervisor (and Project Co-ordinator, if applicable) and the Maintenance Control Centre will be informed of the incident via the worker, supervisor, or Project Co-ordinator.
- iv. If it is believed that asbestos fibres could enter the HVAC system, the Maintenance Control Centre (MCC) calls personnel to modify or shutdown and seal off the system to prevent fibre entry. The MCC will call the Environmental Health & Safety Office to assess the area and initiate appropriate clean-up and remediation actions as per the Unintentional Asbestos Release SOP (see appendix II for Unintentional Asbestos Release SOP).
- v. The supervisor or Project Co-ordinator will complete a Carleton University Supervisor Incident Investigation Report Form to determine why the disturbance occurred and what corrective action must be initiated to prevent re-occurrence.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	13/25
<i>Approved by:</i>			
D. Boyce			

## 13 Information & Training

### 13.1 Asbestos Awareness

All members of the University community who perform work that disturbs building materials in close proximity with asbestos-containing materials must receive asbestos-awareness training. The Asbestos Awareness training will cover the following:

- i. The hazards of asbestos
- ii. Building materials that may contain asbestos
- iii. Locations where asbestos may be present at Carleton University

In addition to the asbestos awareness training provided, a listing of possible asbestos materials within each building will be available on the EH&S website.

### 13.2 Type 1 Asbestos Operations Training

All personnel engaged in Type 1 Asbestos Operations will complete an Asbestos Safety training program that includes, but not limited to, the following elements:

- The hazards of asbestos
- Personal hygiene and work practices
- The use, cleaning and disposal of respirators & protective clothing.
- Respirator specific training
  - Respirator fit & use
  - The limitations of the equipment
  - Inspection & maintenance of the equipment
  - Proper fitting of a respirator, and
  - Respirator cleaning and disinfection
- Carleton Standard Operating Procedures for Type 1 Asbestos Operations (See Appendix III for Carleton's SOP for Type 1 Asbestos Operations)

### 13.3 Type 2 & Type 3 Asbestos Operations Training

All contractors engaged in these operations must receive training as detailed in O. Reg. 278/05, s. 19, 20.

## 14 Recordkeeping

### 14.1 Inventory of Asbestos-containing materials

The Environmental Health & Safety Office will administer and update the Inventory of asbestos containing materials on an ongoing basis.

### 14.2 Training Records

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	14/25
<i>Approved by:</i>			
D. Boyce			

Training records for Carleton University employees participating in Asbestos Awareness training and Type 1 Asbestos Operations training will be maintained by the Environmental Health & Safety Office. Contractors engaged in asbestos operations at Carleton must maintain training records for all of their employees working on-site at Carleton and present the records upon request to the Environmental Health & Safety Office.

**14.3 Notification of Project – Ministry of Labour**

Contractors retained to perform asbestos abatements are required to complete and file a “Notification of Project” document and forward to the Ministry of Labour for asbestos remediation projects. Copies of the documents are to be forwarded to the Environmental Health & Safety Office.

**14.4 Clearance Air Tests**

Clearance air test results will be maintained by the Environmental Health & Safety Office, for at least one year as per O. Reg. 278.05, s. 18(9), and will be made available to the Joint Health and Safety Committee.

**14.5 Inspection and Notification Records**

Written records of the visual inspections of asbestos-containing materials, completed notification and checklists (i.e., Checklist for Type 1 Asbestos Work Procedures) will be maintained by the Environmental Health & Safety Office.

**14.6 Respirator Fit Testing**

All Carleton employees involved in Type 1 Asbestos Operations will complete appropriate respirator fit testing as per Carleton University Respiratory Protection Program. As such, the records of respirator fit tests will be maintained by the Environmental Health and Safety Office.

**15 Notification**

**15.1 Unexpected Discovery of Asbestos-containing Material**

Unexpected discoveries of asbestos-containing material must be immediately reported to the Environmental Health & Safety Office. As detailed in O. Reg. 278/05, 10(8) notification will be sent to the Ministry of Labour and the Joint Health & Safety Committee when asbestos-containing material is discovered during demolition, alteration or repair operations (See appendix VI for Carleton’s Discovery of ACM Notification Form).

**15.2 Type 1 Operations performed by Carleton Personnel**

All Carleton employees performing in Type 1 Asbestos Operations must notify the Environmental Health and Safety Office prior to the start of any work. In addition, all Carleton employees must complete the Checklist for Type 1 Asbestos Work Procedures with their supervisor’s signature and send it to the Environmental Health and Safety office.

**15.3 Asbestos Work Report**

All contractors must ensure that an asbestos report is submitted for each contractor employee that is engaged in Type 1, Type 2 or Type 3 operations.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	15/25
<i>Approved by:</i>			
D. Boyce			

#### 15.4 Advance Notice of Type 2 (including glove bag) and Type 3 Operations

All contractors engaged in Type 2 (including glove bag) and Type 3 operations must notify the Ministry of Labour in advance of such operations as detailed in O.Reg 278/05, s.11. A copy of the notification is to be provided to the Environmental Health and Safety Office.

### 16 Medical Surveillance

While Carleton University employees will not be engaged in Type 2 or Type 3 operations, employees who wish to participate in medical surveillance should contact the Environmental Health and Safety Office for information and to be enrolled.

Contractors engaged in Type 2 and Type 3 Asbestos Operations must comply with the worker medical surveillance requirements as detailed in O.Reg. 278/05 s.21, 22.

### 17 Review

The Asbestos Management Program will be reviewed on a regular basis and updated to reflect regulatory or best practice changes. As a minimum the Program will be fully reviewed every three (3) years.

<b>Operator</b>	<i>Name (please print)</i>	<i>Date</i>	<b>Reviewer</b>	<i>Name (please print)</i>	<i>Date</i>
	<i>Signature</i>			<i>Signature</i>	

## Asbestos Management Program

<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
September 2011	Oct 10/06	16/25
<i>Approved by:</i>		
D. Boyce		

# APPENDICES



 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	17/25
<i>Approved by:</i>			
D. Boyce			

## Appendix I

### DAMAGED ASBESTOS NOTIFICATION FORM

Damaged asbestos-containing material identified by employees during the course of their normal day-to-day activities must be reported to the Environmental Health & Safety Office who will ensure that appropriate remediation steps are taken.

Please complete this Asbestos Notification Form and send the completed form to the Environmental Health and Safety Office.

#### 1. PERSONNEL CONTACT INFORMATION

<b>Name:</b>	<b>Date:</b>
<b>Job Title:</b>	<b>Department:</b>
<b>Supervisor's Name:</b>	<b>Phone #:</b>

#### 2. ASBESTOS MATERIAL INFORMATION

##### Asbestos Material Location:

Building: \_\_\_\_\_ Floor: \_\_\_\_\_ Room No.: \_\_\_\_\_  
 Location (i.e., office, closet, above drop ceiling etc): \_\_\_\_\_

##### Asbestos Material Description:

Asbestos Type: \_\_\_\_\_  
 (i.e., vinyl floor tile, ceiling tiles, pipe insulation parging cement etc.)

Amount of Asbestos: \_\_\_\_\_  
 (i.e., square metres for vinyl floor tile, linear metres for pipe insulation)

Condition of Asbestos: \_\_\_\_\_  
 (i.e., good, fair, poor)

Occupant Access: \_\_\_\_\_  
 (i.e., all occupants, maintenance, with use of a ladder etc.)

Send the Completed Asbestos Notification Form to Carleton's Health and Safety Officer at [david\\_hunt@carleton.ca](mailto:david_hunt@carleton.ca) or to 209 Maintenance Building.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	18/25
<i>Approved by:</i>			
D. Boyce			

## Appendix II

### SOP for Abatement of Unintentionally Released Asbestos

#### 1 Purpose & Scope

The purpose of this procedure is to ensure that contractors and personnel within Carleton University's Department of Facilities Management and Planning effectively identify, safely respond to, and coordinate successfully the abatement of asbestos fibre releases identified within Carleton University's facilities.

#### 2 Unintentional Asbestos Release

In the event that suspect asbestos-containing material is unintentionally disturbed, it is important that specific steps are taken to ensure the suspect material is correctly identified and effectively handled to minimize 1) potential worker and occupant exposure and 2) the degree of asbestos fibre release.

##### 2.1. Initial Disturbance of Suspect Asbestos-Containing Material

As soon as it is recognized that suspect asbestos containing material has been disturbed; the following procedures shall be followed:

- 1. The worker/contractor immediately stops all work activity in the area to avoid further disturbance of the material.**
2. If possible, the worker/contractor isolates the area of concern by closing the door to the room and sealing the edges.
3. The worker/contractor prevents further access to the site with the use of appropriate barriers and signage (See appendix IV for appropriate signage).
- 4. After isolating the site, the worker notifies his or her supervisor and the Project Co-ordinator (if applicable). The Maintenance Control Centre is then notified of the incident by the worker, supervisor, or Project Co-ordinator.**
5. The Maintenance Control Centre calls the Environmental Health & Safety Office and informs them of the situation.
6. If it is believed that asbestos fibres could enter the HVAC system, the Maintenance Control Centre calls personnel to modify or shutdown and seal off the system to prevent fibre entry.
7. The worker's supervisor completes a Carleton University Supervisor's Incident Investigation Report Form. The completed form is sent to the Environmental Health and Safety Office.

##### 2.2 Evaluation of Disturbance of Suspect Asbestos-Containing Material

1. The Environmental Health and Safety Office assesses the initial risk of asbestos fibre migration and notifies the building occupants if potential exposure is a concern.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	19/25
<i>Approved by:</i>			
D. Boyce			

2. The worker informs the Environmental Health and Safety Office representative the extent of the disturbance. The worker provides the following information:
  - i. The type of material that has been damaged (ceiling tile; floor tile; pipe insulation; etc.).
  - ii. The area (in square meters) of the damaged suspect asbestos containing material.
  - iii. The duration that the area has been exposed to the asbestos fibre release.
  - iv. The actions the worker has taken to isolate the area.
  - v. The actions the worker has taken to decontaminate themselves, their clothing, and their tools.
3. The Environmental Health and Safety Office representative checks the current Carleton University Asbestos Database to determine if the suspect asbestos containing material has already been identified.
4. If further confirmation of the material is required, the Environmental Health and Safety representative enters the area of concern and collects the required samples.

### **2.3 Remedial Actions by Trained Personnel**

The Environmental Health and Safety office representative determines what type of measures and procedures are required. The remediation operation will be classified as either a Type 1, 2, or 3 operation as per the specifications outlined in O.Reg. 278/05.

**Trained Carleton staff will only perform Type 1 asbestos abatement operations.** Please refer to Carleton University’s Asbestos Type 1 Removal Standard Operating Procedure (see appendix III for Asbestos Type 1 Removal SOP) for specific abatement procedures. All Type 1 asbestos abatement operations are overseen by the workers supervisor and the Environmental Health Safety Office.

All Type 2 and Type 3 operations will be performed by trained contractors. All Type 2 and 3 asbestos abatement operations is overseen by the Facilities Management and Planning Project Staff managing the abatement project and the Environmental Health Safety Office.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	20/25
<i>Approved by:</i>			
D. Boyce			

## Appendix III

### SOP for Asbestos Type 1 Operations

#### 1 Purpose & Scope

The purpose of this procedure is to ensure that personnel within Carleton University’s Department of Facilities Management and Planning perform Type 1 asbestos abatement work in accordance with all applicable governmental regulations within Carleton University’s facilities.

#### 2 What is a Type 1 Asbestos Operation?

With proper training, Carleton FMP personnel can perform Type 1 asbestos operations. As outlined in O.Reg. 278/05, Type 1 asbestos abatement operations may include the following:

1. The removal of non-friable asbestos containing floor tiles and mastic without breaking, cutting, drilling, abrading, grinding, sanding or vibrating the floor tiles or mastic;
2. The removal of asbestos-containing ceiling tiles less than 7.5 metres without breaking, cutting, drilling, abrading, grinding, sanding or vibrating the ceiling tiles;
3. The removal of other non-friable asbestos-containing materials, other than drywall joint compound, when the work is done only with non-powered hand-held tools and the material is wetted prior to the removal;
4. The removal of less than one square metre of drywall where asbestos containing drywall joint compound has been found.

**No other asbestos abatement work is to be performed by Carleton maintenance personnel. All Type 2 and Type 3 asbestos abatement work on campus will be performed by licensed and trained asbestos abatement contractor and its workers.**

#### 3 Preparation Prior to Type 1 Asbestos Operations

Prior to the start of any asbestos abatement operations, the Environmental Health and Safety office will confirm the intended work as a Type 1 operation as per the details in O.Reg. 278/05. If the operation is a Type 2 or Type 3 operation then a trained contractor will be hired to perform the operations.

#### 4 Type 1 Asbestos Operations by Trained Carleton Personnel

The abatement operation by the worker(s) will be overseen by the worker(s) supervisor and the Environmental Health and Safety Office. The worker will complete Carleton’s ‘Checklist for Type 1 Asbestos Work Procedures’ in prior to and upon completion of the work (see appendix V for this checklist).

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	21/25
<i>Approved by:</i>			
D. Boyce			

The following measures and procedures apply to Type 1 operations:

1. Before beginning work, visible dust will be removed with a damp cloth or a vacuum equipped with a HEPA filter from any surface in the work area, including the thing to be worked on, if the dust on that surface is likely to be disturbed.
2. The spread of dust from the work area will be controlled by measures appropriate to the work to be done including the use of drop sheets of polyethylene or other suitable material that is impervious to asbestos.
3. When required, the material will be wetted before and kept wet during the work to control the spread of dust or fibres, unless wetting would create a hazard or cause damage.
4. A wetting agent will be added to water that is to be used to control the spread of dust and fibres.
5. Frequently and at regular intervals during the work and immediately on completion of the work,
  - i. dust and waste will be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a proper disposal container, and
  - ii. Drop sheets will be wetted and placed in a proper disposal container as soon as possible after subparagraph i has been complied with.
6. Drop sheets will not be reused.
7. After the work is completed, polyethylene sheeting and similar materials used for barriers and enclosures will not be reused, but will be wetted and placed in a proper disposal container as soon as possible. All waste disposal containers will be sealable, and they will be thoroughly cleaned following the disposal of all waste materials. Disposal of all asbestos containing, and contaminated, waste will be handled by a licensed waste disposal transporter, and all waste will be disposed of properly in a licensed waste disposal site.
8. After the work is completed, barriers and portable enclosures that will be reused shall be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable.
9. Barriers and portable enclosures will not be reused unless they are rigid and can be cleaned thoroughly.
10. Compressed air will not be used to clean up and remove dust from any surface.
11. Eating, drinking, chewing or smoking will not be permitted in the work area.
12. The workers supervisor will provide the worker with a NIOSH approved respirator (N/P/R 100 half-face air purifying respirator) in accordance with all applicable governmental regulations, and the worker will wear and use the respirator.
13. If requested, the workers supervisor will provide the worker with adequate and proper protective clothing (i.e., impermeable clothing, nitrile gloves), and the worker will wear the protective clothing.

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	22/25
<i>Approved by:</i>			
D. Boyce			

14. A worker who is provided with protective clothing will, before leaving the work area,
  - i. decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing,
  - ii. if the protective clothing will not be reused, place it in a proper disposal container.
15. Facilities for the washing of hands and face will be made available to workers and shall be used by every worker when leaving the work area.

<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
September 2011	Oct 10/06	23/25
<i>Approved by:</i>		
D. Boyce		

**Appendix IV**

**Restricted Access Signage**

**DANGER**

**ASBESTOS**

**CANCER AND LUNG DISEASE HAZARD**

**AUTHORIZED PERSONNEL ONLY**

**RESPIRATORS AND PROTECTIVE CLOTHING ARE  
REQUIRED IN THIS AREA**

 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	24/25
<i>Approved by:</i>			
D. Boyce			

**Appendix V**  
**CHECKLIST FOR TYPE 1 ASBESTOS WORK PROCEDURES**

**Date of Work:** \_\_\_\_\_ **Start Time:** \_\_\_\_\_

**Location of Work (building, room #):**

**Type of Work:** \_\_\_\_\_

**Name of Workers:** \_\_\_\_\_

**Supervisors Name:** \_\_\_\_\_

**PREPARATION OF THE WORK AREA**

**Yes**

1. Informed EH&S of your proposed work
2. The Manager in the work area has been notified, if applicable (date and timeframe)
3. Cleaned any visible dust within the work area (HEPA vacuum or wet)
4. Controlled the spread of dust (placed down drop sheets)
5. The product to be worked on has been wetted (unless wetting creates a hazard)
6. Put on respirator

**COMPLETION OF THE OPERATION**

1. Cleaned work area using a HEPA vacuum or wetting
2. Wetted and folded drop sheets and placed in Asbestos waste bag
3. Placed all dust and waste containing asbestos in Asbestos waste bag
4. HEPA vacuumed or damped wiped footwear, clothing, equipment etc.
5. Washed hands and face before leaving work area

**Completed By:** \_\_\_\_\_

**Supervisor:** \_\_\_\_\_

Send the Completed Checklist to Carleton's Health and Safety Officer at [david\\_hunt@carleton.ca](mailto:david_hunt@carleton.ca) or to 209 Maintenance Building.



 <b>Carleton</b> UNIVERSITY <i>Department of Facilities Management and Planning</i>	<b>Asbestos Management Program</b>		
	<i>Review Date</i>	<i>Supersedes</i>	<i>Page</i>
	September 2011	Oct 10/06	25/25
<i>Approved by:</i>			
D. Boyce			

## Appendix VI

### Discovery of ACM Notification Form

<b>To: Ministry of Labour</b>	<b>Fax: 613-727-2900</b>
<b>From: David Hunt Carleton University</b>	<b>Date:</b>
3	<b>Time:</b>

**EMPLOYER/CONSTRUCTOR:**

Carleton University 1125 Colonel By Drive Ottawa, Ontario K1S 5B6
--

**ACM DISCOVERY INFORMATION:**

<b>Location:</b>  <b>Type:</b>  <b>Quantity:</b>  <b>Condition:</b>  <b>Activity During Discovery:</b>  <b>Protective Measures Currently in Place:</b>
--

**ACTION(S) TAKEN UPON DISCOVERY OF ACM:**

<b>Assessment of Disturbance and Containment:</b>   <b>Additional Protective Measures taken:</b>
---