1.0 The following appendix shall be used to house a copy of any “Standardized Work Procedures” that may be developed from time-to-time while in communication with the Universities Senior Asbestos Programs Officer and/or designated representative.

2.0 It is the intent of the University, that the following “Standardized Work Procedures” shall be used to provide workers with instruction regarding a specific or unique work function or task. As such, the following may contain modifications (deletions and/or additions) to the specific work practices and procedures otherwise set out under Appendix K-N.

3.0 Notwithstanding the above, an electronic copy of all “Standardized Work Procedures” shall be posted on the University’s own internal web page or intranet system.
Routine Drilling Procedures For Drilling Holes – Up to one (1) Inch diameter

**Required Equipment:**
- Hilti TE 5 or 6 hammer drill (fitted with Hilti dust collection shroud attached to HEPA vacuum) or DeWalt cordless hammer drill fitted with custom (UofM built) boot style dust collection shroud attached to a HEPA vacuum
- Spray Adhesive
- HEPA vacuum
- 6 mil asbestos labelled poly bags
- Spray mist bottle of water
- Wash cloth and wash bucket w/amended water
- Poly drop sheet

**Optional Equipment:**
- Half-faced respirator fitted with new or tested P-100 HEPA filtered cartridges
- Disposable Gloves
- Disposable Coveralls

**Work Procedures:**
1. Install a poly drop sheet beneath the work area using duct tape
2. Delineate area of drilling (Mark it)
3. Drill desired hole in wall or ceiling material (using a drill fitted with a dust collection shroud/ HEPA vacuum unit)
4. Using the HEPA vacuum, clean out debris of freshly drilled hole
5. Apply spray adhesive to drilled hole
6. Affix necessary mounting to wall or ceiling
7. Clean area of any debris with HEPA vacuum
8. Use wet cloth to clean (wipe down) drill and dust collection shroud
9. Place drill bit into pail of water and clean
10. All waste is to be disposed within two independently sealed 6 mil asbestos labeled poly bags
**STANDARDIZED WORK PROCEDURES**

**HEPA DRILLING - TYPE 2 PRECAUTIONS**

Procedure for Drilling Holes greater than one (1) inch diameter (*Two inch maximum*)

**Required Equipment:**
- Hilti TE 5 or 6 hammer drill (fitted with Hilti dust collection shroud attached to HEPA vacuum) or DeWalt cordless hammer drill fitted with custom (UofM built) boot style dust collection shroud attached to a HEPA vacuum
- Two 6 mil (minimum thickness) clear polyethylene bags. Bags must be free of any punctures and rated in good condition
- Minimum of two rolls of duct tape
- Plastic sheeting (6 mil polyethylene)
- Minimum of two (2) HEPA filtered vacuums, equipped with miscellaneous nozzle attachments
- Workers in the area must wear non-powered half-faced respirators equipped HEPA filtered cartridges and disposable coveralls
- Drill equipped with dust collection shroud fitted to a HEPA filtered vacuum
- Diamond Cutter Drill with a maximum (2) inch bit
- Labeled asbestos waste bags (6mil)
- Mist spray bottle filled with amended water
- Warning signage and tape - used to identify the work area
- Encapsulating sealer

**Work Site Preparation:**
- Shutdown the HVAC system affecting the work area. Cover all HVAC vents and diffusers. These openings can be covered by poly or duct tape
- Prior to work, pre-clean any surfaces within the area by method of wet wiping and HEPA vacuuming
- Clear work area of any equipment and furnishings that may become contaminated as a result of the drilling
- Isolate the work area from adjoining spaces through the placement of a taped barrier or by closing doors at the perimeter
- Be sure to have all tools required for the work (and any additional tools) within the immediate area to ensure the work is performed in a safe and effective manner
- Post warning signage outside of the work area indicating that “Asbestos Related Work” is in progress

**Work Procedures:**
1. Place polyethylene sheeting on walls and floor surrounding area being drilled
2. Delineate the precise area of wall to be drilled (mark it), be sure to estimate area on other side of wall
3. Tape a 6-mil poly bag around area to be drilled, be sure to extend area within bag by minimum of twelve (12) inches from drill point (all four sides). Prior to taping bag on wall, be sure wall is wet wiped to ensure the surface is clear of dust for a proper seal of bag
4. Cut a hole on the underside of bag to allow for the HEPA vacuum hose, tape around hole to ensure proper seal. This will place the bag under negative pressure. (Repeat this procedure for wall on other side)
5. Cut hole in the back end of the bag to allow for the extended drill bit. Be sure to tape off hole around bit to maintain a proper seal. (Repeat this procedure for wall on other side)
6. Once drilling has been completed, use HEPA vacuum nozzle to suck up any residual material within bag
7. Remove bag from wall and place into an “Asbestos Waste” labeled bag for disposal
8. Wet wipe and HEPA vacuum surface of wall to ensure area is clean

9. After bags have been removed from wall, apply encapsulant to freshly drilled hole. This will lock down any loose material

10. Place all poly sheeting in 2 individually sealed and labeled asbestos waste bags (6mil) for disposal
Procedures for Working in a Kontrol Kube

The following outlines the necessary work procedures and required equipment in order to access a ceiling known or suspected to contain asbestos contaminated material using a Kontrol Kube.

----------------- The Kontrol Kube is not to be used for work creating major asbestos disturbance -----------------

Required Equipment:
- Half-face negative pressure respirator equipped with P-100 filters
- Disposable coveralls with boot covers
- Manufactured Kontrol Kube
- HEPA filtered vacuum
- 6 mil asbestos labelled poly bags and a roll of duct tape
- Approved asbestos warning signage and caution tape barriers
- Worker wash bucket with amended water and washcloths
- Hand pump pressure sprayer with amended water

Please See Manufacture’s Specifications for Assembly of Kontrol Kube

Work Procedures:
1. Shut down area HVAC system
2. Roll Kontrol Kube into desired position and properly seal work area (ceiling) by extending Kontrol Kube vertically
3. Establish negative pressure by connecting Hepa vacuum hose to the port
4. Prior to entering the Kontrol Kube, don approved respirator with new or tested filters and disposable coveralls with boot covers
5. Perform required task (entry into ceiling space, removal of over sprayed light fixture, etc.)
6. After task is complete, replace any ceiling tiles or light fixtures that have been removed
7. Clean any visible contamination from the inner walls of the Kontrol Kube with a HEPA vacuum or damp washcloth
8. Dispose of any waste in two (2) sealed 6 mil asbestos labelled poly bags
9. Once the inner walls of the Kontrol Kube are wiped down, clean coveralls with a HEPA vacuum or wet wipe. Discard and package used coveralls with boot covers and washcloths within two (2) 6 mil asbestos labelled poly bags. Seal HEPA vacuum inlet and hosing with tape
10. Proceed to worker wash bucket and wash hands and respirator. Seal used filter cartridges with tape for disposal or re-testing
11. Dismantle Kontrol Kube and proceed to next work area (repeating above procedures)
Procedures For Using a HEPA Vacuum During General Cleaning

Required Equipment:
- One (1) HEPA vacuum equipped with a length of hose
- Additional length of hose (if required)
- Accessories (various nozzle attachments)
- Duct Tape
- Wet cloths

Optional Equipment:
- Half-faced respirator fitted with P-100 HEPA filtered cartridges
- Disposable coveralls
- Nitrile gloves

Work Procedures:
1. Sign out HEPA vacuum from shop
   - If vacuum bag needs to be changed notify your supervisor
   *Vacuum bag replacement must be performed within a Type 2 enclosure*
2. Prior to start of work:
   a) Turn power on
   b) Remove duct tape from vacuum hose port and fasten desired length of hose in place
   c) Remove tape from end of hose and fasten desired attachment head
3. Begin vacuuming desired area
4. If job requires the use of another attachment, remove and replace with the vacuum power on. (To avoid any debris fallout)
5. Once vacuuming is complete (with vacuum power on):
   a) Tape attachment head with duct tape
   b) Once attachment head removed, wet wipe and tape off the opposite end and place in equipment bag
   c) Wet wipe end of hose and tape it off
   d) Remove hose from vacuum unit, tape it off and place in equipment bag
   e) Tape off vacuum hose port
   f) Turn power off
6. Return HEPA vacuum to shop and record use
Removal of Asbestos Hardboard Ceiling Tiles in the Parker/Allen Buildings

The following outlines the necessary work procedures and required equipment for the removal of non-friable asbestos hardboard ceiling tiles following Type I asbestos precautions. This procedure is only applicable to the non-friable, grey colored perforated tiles found in the Parker and Allen buildings.

**Required Equipment:**
- HEPA filtered vacuum or wash bucket with amended water and washcloths
- Hand pump pressure sprayer with amended water
- 6 mil asbestos labelled poly bags and a roll of duct tape
- Encapsulant
- Approved asbestos warning signage
- Poly drop sheet
- Necessary hand tools and equipment (ex. ladder, screwdriver, etc.)

**Note:** Power tools are not to be used for removing fasteners.

**Optional Equipment:**
- Half-face negative pressure respirator equipped with new or tested P-100 filters
- Disposable coveralls with boot covers

**Work Procedures:**
1. Shutdown the HVAC system affecting the work area. Cover all HVAC vents and diffusers. These openings can be covered by poly or duct tape
2. Isolate the work area by posting approved asbestos warning signage at the access points
3. Install a poly drop sheet beneath the work area using duct tape
4. Ensure all hardboard tiles to be disturbed remain in a damp state using a pump pressure sprayer
5. Undo fasteners necessary to remove the hardboard using hand tools. Avoid breaking the board if possible
6. HEPA vacuum top of tiles and screw holes in order to control dust levels
7. Apply an approved encapsulant to the screw holes prior to re-installing tiles
8. Upon completion of the required removal, thoroughly clean the work area with a HEPA vacuum or washcloth and dispose of the poly drop sheet as asbestos waste
9. Dispose of any waste in two (2) sealed 6 mil asbestos labelled poly bags
Removal of Asbestos Hardboard Fume Hood Cabinet Lining

Required Equipment:
- HEPA filtered vacuum or wash bucket with amended water and washcloths
- Hand pump pressure sprayer with amended water
- 6 mil asbestos labelled poly bags and a roll of duct tape
- Approved asbestos warning signage
- Poly drop sheet
- Necessary hand tools and equipment (e.g., screwdriver, etc.)
- Encapsulant (if reinstalling panels)

Optional Equipment:
- Half-face negative pressure respirator equipped with new or tested P-100 filters
- Disposable coveralls with boot covers

Work Procedures:
1) Refer to issued asbestos work permit for details relating to shutdown of the HVAC system and fume hood (many fume hoods are manifolded and shut down may negatively impact other fume hoods)
2) Ensure that any chemicals have been removed from fume hood and lower cabinet prior to prepping site
3) Isolate the work area by posting approved asbestos warning signage at the access points
4) Install a poly drop sheet beneath the work area using duct tape
5) Ensure all hardboard cabinet lining to be disturbed remains in a damp state using a pump pressure sprayer
6) Undo fasteners necessary to remove the hardboard using hand tools. Avoid breaking the board if possible
7) HEPA vacuum underside of cabinet hardboard and screw holes in order to control dust levels
8) Use encapsulant to seal screw holes if hardboard is to be reinstalled
9) Upon completion of the required removal, thoroughly clean the work area with a HEPA vacuum or washcloth and dispose of the poly drop sheet as asbestos waste
10) Dispose of any waste in two (2) sealed 6 mil asbestos labelled poly bags
External Work Report Inspections

The following outlines the necessary work procedures and required equipment to perform final inspections of external asbestos related work. A total of five inspectors are required to perform external inspections. They are: UofM Project Manager/Coordinator, CAW/Union representative, APO, Asbestos Contractor, Inspection Agency (external). Rare circumstances may exist where all parties are not available to perform inspections such as after hours. In this case one or more inspectors may appoint a 3rd party to perform the inspection on their behalf.

**Required Equipment:**
- Half-face negative pressure respirator equipped with new or tested P-100 filters
- Disposable coveralls with boot covers
- Any additional personal protective equipment specifically required (safety footwear, hardhats, eye protection etc…)
- Red tape to identify problem areas
- Flashlight

*Half face respirators and disposal coveralls must be brought onsite by inspectors. The individual inspectors (UofM Project Manager/Coordinator, CAW/Union, APO, Asbestos Contractor, Inspection Agency (external) will decide if they are required as specified below*

**Work Procedures:**

1) The University project manager/coordinator will ensure that final air clearance has been given by the inspection agency and complete the top portion of the External Forces Asbestos Work Report

2) The University project manager/coordinator will contact the required inspectors as listed on the asbestos work report and schedule a final inspection

3) A pre-entry meeting will be held onsite
   - All inspectors will review the issued asbestos work permit and individually decide if half face respirators and disposable coveralls with boot covers are required
     - If all parties concur that they are not required the inspection may proceed without personal protective equipment
     - If one or more inspectors deem the personal protective to be required than all persons shall don half-face negative pressure respirator equipped with new or tested P-100 filters and disposable coveralls with boot covers.

*Additional PPE such as hardhats and eye protection shall also be used if hazards are present*

4) All inspectors shall enter the cleared work area and perform a visual inspection of the area

5) If the visual inspection is failed by one or more of the inspectors the project manager/coordi-nator shall instruct the asbestos contractor to remedy the problem areas. Steps 1 to 5 shall be repeated until all inspectors sign off on the work permit

6) The job shall be deemed complete and tear down may commence. The external inspection agency shall forward a copy of the post dismantlement inspection to EHSO
Type 2 Entry Locations and procedures

The following outlines the necessary procedures for entering areas where asbestos containing debris is present and likely to be disturbed. These areas include:

<table>
<thead>
<tr>
<th>Location</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Music - Crawlspace</td>
<td>Asbestos damage report issued – Abatement pending</td>
</tr>
<tr>
<td>Basic Medical Sciences Building – Interstitial spaces and SW Mechanical Riser (See X-20)</td>
<td>Spray on insulation – Ongoing surveillance as per AMP</td>
</tr>
<tr>
<td>University College Planetarium – Ceiling space Pharmacy - Ceiling spaces</td>
<td>Spray on insulation – Ongoing surveillance as per AMP</td>
</tr>
<tr>
<td>Frank Kennedy/Cont. Education Ceiling spaces along perimeter walls</td>
<td>Spray on insulation – Ongoing surveillance as per AMP</td>
</tr>
<tr>
<td>St. Andrews College - Ceiling spaces Russell Building Ceiling Spaces along perimeter walls</td>
<td>Spray on insulation – Ongoing surveillance as per AMP</td>
</tr>
<tr>
<td>Tier – Attic space (access door in room 509)</td>
<td>Asbestos damage report issued – Abatement pending</td>
</tr>
<tr>
<td>Tier – 5th floor attic (access hatch in 600 stairwell)</td>
<td>Asbestos damage report issued – Abatement pending</td>
</tr>
<tr>
<td>Education Building – Ceiling spaces Human Ecology - Crawlspace Agriculture - Crawlspace</td>
<td>Ongoing surveillance as per AMP</td>
</tr>
<tr>
<td>Armes – Ceiling spaces (above textured ceiling finish)</td>
<td>Asbestos damage report issued – Abatement pending</td>
</tr>
<tr>
<td>St. Andrews College – Crawlspace Basic Sciences Building – Crawlspace Chown Building - Crawlspace</td>
<td>Spray on insulation - Ongoing surveillance as per AMP</td>
</tr>
<tr>
<td>St. John’s College (Zone 1 only) - Crawlspace</td>
<td>Asbestos damage report issued – Abatement pending</td>
</tr>
</tbody>
</table>

The above list consists of asbestos contaminated areas known to require type 2 precautions for entry. Other areas may exist. If you encounter such an area do not proceed. Contact your supervisor and EHSO immediately.

Required Equipment:
- Half face respirator (fitted with new or tested P100 HEPA filtered cartridges)
- Disposable coveralls
- 6-mil asbestos labeled poly bags and a roll of duct tape
- Worker wash bucket with amended water and washcloths
- Tools necessary for work
- HEPA vacuum

Work Procedures:
1. Shutdown area HVAC system
2. Before entering ensure warning signage indicating a Type 2 entry restriction is posted on exterior door
3. Prior to entering contaminated area, don approved respirator (fitted with new or tested P100 filtered cartridges) and disposable coveralls with booties
4. Establish clean area inside area (drop sheet or HEPA vacuum)
5. Place all required work tools and equipment within the established clean area
6. Perform required work
7. Once work has been completed, proceed to the established clean area
8. Remove contaminated coveralls and place into 6 mil poly asbestos waste bag
9. If necessary, clean any contaminated footwear, hard hat, etc. with wet cloth or place into sealed polyethylene bag for re-use/disposal
10. Proceed to worker wash bucket and wash hands and respirator. Seal used filter cartridges with tape for disposal or re-use

*Note: Periodic air monitoring may be conducted during entry into these spaces at the discretion of the Asbestos Programs Officer (APO).*

*This procedure is intended for internal work. Work by external forces will require that the contractors have an appropriate level of training provided by a University approved consultant. Any external work also requires a duly authorized work permit.*
Drywall Removal and Demolition

The following outlines the necessary procedures for the removal or demolition of drywall where the joint compound contains or is suspected to contain asbestos. As a general rule asbestos was used in joint compound prior to 1980. Requirements for this type of work emphasize strongly on dust control. The use of a respirator denotes this work to be a modified Type 1 procedure. As with any type 1 work, power tools must not be used. Suspect materials should be kept damp to keep dust controlled, but care should be exercised not to create a situation that may cause water accumulation and promote future mould growth in or on remaining building materials.

**Required Equipment:**

- Half-face negative pressure respirator equipped with new or tested P-100 filters
- Disposable coveralls with boot covers
- Garden sprayer filled with amended water (soapy water)
- Poly drop sheet
- Hand tools

**Work Procedures:**

**Small removal jobs**

1. Use of a respirator fitted with new or tested P100 filtered cartridges and disposable coveralls is optional for small removal jobs
2. Install a poly drop sheet beneath the work area using duct tape
3. Mist the drywall to be removed concentrating on corners and any areas where seams are visible or suspected to be present
4. Continue to mist any suspect material as work progresses
5. Dispose of all waste material as regular construction debris (asbestos waste disposal is not required).

**Demolition:**

1. Shutdown the HVAC system affecting the work area. Cover all HVAC vents and diffusers.
2. Don approved respirator (fitted with new or tested P100 filtered cartridges) and disposable coveralls
3. Mist the drywall to be removed concentrating on corners and any areas where seams are visible or suspected to be present
4. Continue to mist any suspect material as work progresses
5. Control dust in area by misting fallen debris
6. Dispose of all waste material as regular construction debris (asbestos waste disposal is not required).

Note: No special waste disposal or air monitoring is required for this type of work. However a duly authorized asbestos work permit is required.
Replacement of HVAC Compartment Filters – Basic Medical Sciences Building

Required Equipment & Supplies:

- Approved asbestos warning signage.
- Asbestos caution tape.
- Poly drop sheet (6-mil or better).
- Disposable coveralls c/w attached hood.
- Half-face negative pressure respirator equipped with new or tested P-100 filters.
- Necessary hand tools and equipment (ie. screwdriver, etc.).
- 6 mil asbestos labelled poly bags and a roll of duct tape.
- Hand pump sprayer with amended water.
- HEPA filtered vacuum or wash bucket with amended water and washcloths.

Optional Equipment:

- Hand pump pressure sprayer with amended water.

Work Procedures:

1. Place a drop sheet, consisting of one layer 6-mil polyethylene sheeting, at the base of access hatch or doorway leading to each filter compartment. Ensure drop sheet is sized accordingly to accommodate waste being generated and to provide a suitable staging area for worker access/egress to and from each filter compartment.

2. Isolate the immediate work area from the balance of the Mechanical Room via the installation of asbestos caution tape at the perimeter of the above drop sheet. Provide and post required signage at the perimeter of the work area, in such a manner as to clearly identify the area as an Asbestos Work Area.

3. Coordinate unit shutdown with the Physical Plant Engineer on shift. Ensure the fan has come to a complete stop and has been properly locked and tagged out in accordance with current University of Manitoba standardized “Tag-out” procedure prior to entering the filter compartment.

4. Don required personal protective equipment (PPE) prior to entering the filter compartment. At minimum, required PPE shall consist of a set of disposable coveralls and a half-face negative pressure respirator equipped with P-100 filters. Ensure coveralls being donned cover any existing or reusable clothing and come equipped with attached head cover (hood) and elasticized cuff at worker wrists and ankles.

5. Enter filter compartment and mist down filter using the hand pump pressure sprayer with amended water. Commence filter replacement as per manufacture’s instruction. Place each filter directly into a labelled 6-mil polyethylene waste bag as it is removed. Do not allow filter medium to drop to the floor of the filter compartment.

6. As work progresses, transport sealed polyethylene waste bags to drop sheet provided adjacent to each access hatch or doorway.

7. HEPA vacuum and/or damp wipe surfaces throughout each filter compartment. Repeat cleaning process until all visible trace of dust, debris or any filter medium has been removed.

8. Proceed with installation of replacement filters as per manufacture’s instruction.

9. Exit filter compartment. Ensure all tools, equipment, and any left over materials are removed from each filter compartment prior to worker egress.

10. Immediately upon egress, worker(s) shall proceed to double bag all waste generated during the above filter change-out.
11. Following the completion of the above process, and while still wearing his/her respirator, remove disposable coveralls and place them inside a sealed and labelled polyethylene waste bag. Any dedicated footwear shall be removed, HEPA vacuumed or wet wiped and inspected for any signs of residual dust, debris or filter medium.

12. Proceed to perimeter exit, remove respirator, then proceed directly to designated wash station where each worker shall complete the following:
   - wash exposed skin and respirator with soap and water; and
   - seal inlet side of respirator filters with tape then remove filters for testing or dispose of as asbestos-contaminated waste.

13. Report to the Physical Plant Engineer on shift and coordinate unit start-up.

14. Return to the above Mechanical Room and transport sealed asbestos waste bags to designated waste storage site. Dispose of drop cloth as asbestos-contaminated waste. Removal of waste shall be coordinated at times approved by an APO and where possible, while the adjoining areas are unoccupied.
Replacement of HVAC Compartment Filters – Buildings with Asbestos-Containing Materials

Building HVAC filters can potentially accumulate a variety of materials that may pose respiratory hazards. These materials may include asbestos fibres, mould, viruses, bacteria or mites. There are two types of buildings that contain asbestos materials;

a) buildings with asbestos sprayed fireproofing materials in plenums (such as the BMSB). For these buildings, the use of respirators and disposable coveralls is mandatory. (A list of the buildings that have asbestos-containing sprayed on fireproofing products is provided at the end of this procedure.)

b) buildings with asbestos containing materials used in other locations of the building. For these buildings, the use of respirators and disposable coveralls is at the discretion of the worker.

Required Equipment & Supplies:
- Approved asbestos warning signage.
- Asbestos caution tape.
- Poly drop sheet (6 mil or better).
- Necessary hand tools and equipment (ie. screwdriver, etc.).
- Hand pump pressure sprayer with amended water.
- 6 mil asbestos labelled poly bags and a roll of duct tape.
- HEPA filtered vacuum or wash bucket with amended water and washcloths.
- Disposable coveralls c/w attached hood. (Optional for buildings without spray)
- Half-face negative pressure respirator equipped with new or tested P-100 filters. (Optional for buildings without spray)

Work Procedures:
1. Isolate the immediate work area from the balance of the Mechanical Room and provide a suitable staging area for worker access/egress to and from each filter compartment via the installation of asbestos caution tape at the perimeter of the hatch or doorway leading to each filter compartment. Provide and post required signage at the perimeter of the work area, in such a manner as to clearly identify the area as an Asbestos Work Area.
2. Coordinate unit shutdown with the Central Energy Plant. Ensure the fan has come to a complete stop and has been properly locked and tagged out in accordance with current University of Manitoba standardized Lock-out/Tag-out procedure prior to entering the filter compartment.
3. Prior to entering the filter compartment don applicable personal protective equipment (PPE). Recommended PPE would consist of a set of disposable coveralls and a half-face negative pressure respirator equipped with P-100 filters. Ensure coveralls being donned cover any existing or reusable clothing and come equipped with attached head cover (hood) and elasticized cuff at worker wrists and ankles.
4. Enter filter compartment and mist down filter using the hand pump pressure sprayer with amended water. Commence filter replacement as per manufacturer’s instruction. Place each filter directly into an asbestos labelled 6 mil polyethylene waste bag as it is removed. Do not allow filter medium to drop to the floor of the filter compartment.
5. As work progresses, transport sealed polyethylene asbestos waste bags to the staging area adjacent to each access hatch or doorway.
6. HEPA vacuum and/or damp wipe surfaces throughout each filter compartment. Repeat cleaning process until all visible trace of dust, debris or any filter medium has been removed.
7. Proceed with installation of replacement filters as per manufacturer’s instruction.
8. Exit filter compartment. Ensure all tools, equipment, and any left over materials are removed from each filter compartment prior to worker egress.

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Revised June 14, 2006
9. Immediately upon egress, worker(s) shall proceed to double bag all waste generated during the above filter change-out including disposable coverall.

10. Following the completion of the above process, and while still wearing his/her respirator (if worn), remove disposable coveralls and place them inside a sealed and asbestos labelled polyethylene waste bag. Any dedicated footwear shall be removed, HEPA vacuumsed or wet wiped and inspected for any signs of residual dust, debris or filter medium. Proceed to perimeter exit, remove respirator (if worn), then proceed directly to designated wash station where each worker shall complete the following:

   wash exposed skin and respirator with soap and water; and
   seal inlet side of respirator filters with tape for disposal or re-use.

11. Report to the Central Energy Plant and coordinate unit start-up.

12. Return to the above Mechanical Room and transport sealed asbestos waste bags to designated waste storage site. HEPA vacuum and/or damp wipe the staging area prior to the removal of the site isolation (ie. Caution Tape & Signage)

University of Manitoba buildings which contain sprayed asbestos fireproofing within the ceiling plenum:

   Basic Medical Sciences Building
   (see appendix X-14 and X-15)

   University College Planetarium

   Pharmacy Building

   Frank Kennedy Centre

   St. Andrews College

   Russell Building
Work Above Asbestos-containing Ceilings within the Education Building

Textured acoustic plaster on the ceilings and upper portions of walls throughout Zones 1 and 2 of the Education Building located on the Fort Garry Campus of the University of Manitoba have been determined to contain Chrysotile asbestos. These procedures must be followed for all work within the ceiling space. The use of respirators and disposable coveralls is mandatory.

All work is to be conducted in conjunction with all other requirements and procedures as set forth under Appendix K of the AMP document.

Ceiling Access Through Existing Light Fixture Openings and/or Metal Access Hatches

Required Equipment & Supplies:

- Approved asbestos warning signage.
- Asbestos caution tape.
- Polyethylene drop sheet (6 mil or better).
- Necessary hand tools and equipment (ie. screwdriver, etc.).
- Hand pump pressure sprayer with amended water.
- 6 mil asbestos labelled poly bags and of duct tape.
- HEPA filtered vacuum or wash bucket with amended water and washcloths.
- Disposable coveralls c/w attached hood.
- Half-face negative pressure respirator equipped with new or tested P-100 filters.
- Wash cloth and wash bucket with amended water.

Work Procedures:

1. Isolate the immediate work area by closing doors, placing of barricades or tape barriers, etc., at the perimeter of each phase or work area. Provide and post required signage at the perimeter of the work area, in such a manner as to clearly identify the area as an Asbestos Work Area.
2. Isolate or otherwise shut down HVAC system, vents and diffusers located within the Asbestos Work Area.
3. Provide polyethylene drop sheet on floor directly below the access hatch.
4. Prior to entering the work area don applicable personal protective equipment (PPE). Recommended PPE would consist of a set of disposable coveralls and a half-face negative pressure respirator equipped with P-100 filters. Ensure coveralls being donned cover any existing or reusable clothing and come equipped with attached head cover (hood) and elasticized cuff at worker wrists and ankles.
5. Open access hatch or light fixture in a careful manner that would avoid disturbing the asbestos-containing materials.
6. Proceed with necessary work within the ceiling space. Physical entry (ie. access past waist level) into the ceiling space is prohibited when following this set of procedures.
7. Any material dislodged from ceiling over the course of the work, must be cleaned up using a HEPA vacuum immediately upon discovery.
8. Once work has been completed, ensure all tools, equipment, and any left over materials are removed from the ceiling space prior to closing the access hatch or light fixture in a careful manner that would avoid disturbing the asbestos-containing materials.
9. Remove drop sheet and dispose of as contaminated waste.
10. Immediately upon egress, worker(s) shall proceed to double bag all waste generated during the above activities.
11. Following the completion of the above process, and while still wearing his/her respirator (if worn), remove disposable coveralls and place them inside a sealed and asbestos labelled polyethylene waste bag. Any
dedicated footwear shall be removed, HEPA vacuumed or wet wiped and inspected for any signs of residual dust, or debris or filter.

12. Remove respirator, then proceed directly to wash bucket or designated wash station where each worker shall complete the following:
   a. wash exposed skin and respirator with soap and water; and
   b. seal inlet side of respirator filters with tape for disposal or re-use.

13. Return to the above work area and transport sealed asbestos waste bags to designated waste storage site. HEPA vacuum and/or damp wipe the area prior to the removal of the site isolation (ie. Caution Tape and Signage).

14. Report to the Central Energy Plant and coordinate start-up of the building’s HVAC.

**Ceiling Access Through Drywall Access Hatches Coated with Textured Acoustic Plaster**

For access to the ceiling space through access hatches that are coated with textured asbestos-containing acoustic plaster all work shall be conducted within a sealed Type 2 enclosure complete with an attached airlock as set forth under Appendix M of the AMP (or following the Appendix X procedures for the Kontrol Kube).

Physical entry into the ceiling space is **prohibited** when following this set of procedures.

**Ceiling Access Requiring Worker Entry into the Ceiling Space**

For all work where physical entry (ie. access past waist level) into the ceiling space will be required, the entire room located below the area of work shall be isolated such that the entire room becomes a Type 2 Work Enclosure complete with an attached airlock as set forth under Appendix M of the AMP.
BMSB – Access to Interstitial Space for Maintenance Activities

Activities within the Interstitial Space above occupied areas of the BMSB can potentially result in disturbance of asbestos-containing materials that may cause respiratory hazards. This procedure is to be followed for all activities requiring access to the Interstitial Space above occupied areas of the BMSB (excluding 600 level – see X-22). The use of respirators and disposable coveralls is mandatory. Periodic air monitoring will be conducted at the discretion of the Asbestos Programs Office (APO).

**Hours of Work:**

- **Normal Hours** are defined as 07:00 through 17:00 (Mon-Fri)
- **Quiet Hours** are defined as: 17:00 through 07:00

Access to the Interstitial Space for Maintenance Activities is to be restricted to QUIET HOURS for all activities other than Emergency Work.

**Emergency Work** is defined as: Any activity which requires immediate access within the interstitial space that is required to prevent loss or damage to physical or intellectual property or risk to Health and Safety of the building occupants.

**Required Equipment & Supplies:**

- Disposable coveralls c/w attached hood.
- Half-face negative pressure respirator equipped with new or tested P-100 filters.
- Approved asbestos warning signage.
- Asbestos caution tape.
- Necessary hand tools and equipment (i.e., screwdriver, etc.).
- Hand pump pressure sprayer with amended water.
- 6 mil asbestos labelled poly bags and a roll of duct tape.
- HEPA filtered vacuum or wash bucket with amended water and washcloths.

**Work Procedures (excluding 600 level):**

1. Ensure that an Asbestos Work Requisition/Permit is completed and forwarded to the University’s Environmental Health and Safety Office before the anticipated start of work. Ensure that work DOES NOT commence until a signed and duly authorized permit is obtained.

2. Ensure that the following parties are notified and advised to vacate the space below the Work Area in advance of work:
   a. The Dean, Director, Department Head or Manager responsible for the work floor or work area where work is being performed;
   b. The specific offices or work areas directly impacted by the work; and
   c. The general public, students, and/or any other individuals or staff who may have cause to frequent the office or area directly impacted by the work.

3. Ensure that copies of the “Notice of Asbestos Work” form have been filled out and posted at the appropriate locations within the Building.

4. Coordinate HVAC unit shutdown with the Physical Plant Engineer on shift. Ensure the fan has come to a complete stop and has been properly locked and tagged out in accordance with current University of Manitoba standardized Lock-out/Tag-out procedure prior to entering the Interstitial Space.

5. Prior to entering the Interstitial Space, from the Staging Area:
   a. Don applicable personal protective equipment (PPE). Required PPE would consist of a set of disposable coveralls and a half-face negative pressure respirator equipped with P-100 filters.
b. Ensure coveralls being donned cover any existing or reusable clothing and come equipped with attached head cover (hood) and elasticized cuff at worker wrists and ankles.

6. Enter Interstitial Space and proceed to the appropriate work area following the most direct route that will not disturb asbestos-containing materials.

7. Clean-up any minor fallen debris that may be encountered on existing building surfaces, equipment, etc. present within the defined work area or along the established access and egress route(s) or pathway. Clean-up of ACM is to be conducted in compliance with procedures established within Appendices K and M of the University’s AMP. Notify your supervisor of requirement to fill out an ADR for any material requiring major clean-up.

8. Proceed with scheduled work while adhering to asbestos precautions specified herein and Appendices K and M.

9. Upon completion of work, transport sealed polyethylene asbestos waste bags to the Staging Area.

10. Exit Interstitial Space into the adjoining Staging Area. Ensure all tools, equipment, and any left over materials are removed prior to worker egress.

11. Immediately upon egress into the Staging Area, worker(s) shall proceed to double bag all waste generated during the scheduled activities.

12. Following the completion of the above process, and while still wearing his/her respirator, remove disposable coveralls and place them inside a sealed and asbestos labelled polyethylene waste bag. Any dedicated footwear shall be removed, HEPA vacuumed or wet wiped and inspected for any signs of residual dust, or debris.

13. Proceed to perimeter exit, remove respirator, then proceed directly to designated wash station where each worker shall complete the following:
   a. wash exposed skin and respirator with soap and water; and
   b. seal inlet side of respirator filters with tape for disposal or re-use.

14. Upon completion of all activities within the Interstitial Space and prior to start-up of the HVAC and re-occupancy by building occupants, conduct a visual inspection of all occupied areas below the Interstitial Space Work Area.

15. In the event that visible debris is encountered in the occupied area that is suspect to contain asbestos, proceed as follows:
   a. Isolate the area by posting approved asbestos warning signs and/or caution tape at access points.
   b. Conduct a clean-up the suspect material while adhering to the procedures set forth in Appendix P of the University’s AMP.
   c. Remove warning signs and/or caution tape upon satisfactory clean-up, visual inspection and air monitoring.

16. Report to the Physical Plant Bannatyne Campus Engineer and coordinate unit start-up.

17. Return to the above Staging Area and transport sealed asbestos waste bags to designated waste storage site.

18. HEPA vacuum and/or damp wipe the Staging Area upon completion of al work.

**Emergency Work Procedures (excluding 600 level):**

1. Emergency Work may be conducted during Normal Work Hours.

2. An Asbestos Work Requisition/Permit is not required for Emergency Work.

3. Notify the APO of the need to perform emergency work and obtain his/her direction as to the need for any further requirements.

4. Ensure that the following parties are notified and advised to vacate the space below the Work Area in advance of work:
   a. For Normal Work Hours:
i. The Dean, Director, Department Head or Manager responsible for the work floor or work area where work is being performed; and  

ii. The specific offices or work areas directly impacted by the work.  

b. If after hours, notify security services at (204) 474-9312.

5. Proceed with Emergency work adhering with all other work procedures for work within the interstitial space.

6. Notify the APO upon completion of Emergency Work.

7. A work report shall be completed upon completion of the work.

**Level 600 Interstitial Space Access**

The thermal spray insulation in the 600 level interstitial space is encased. The above noted (type 2) procedures are not required to enter but the following precautions must be adhered to when accessing the space. **Any deviation from the following precautions is subject to the issuance of a duly authorized asbestos work permit.**

- No disturbance of the encasement product is allowed without prior authorization by an Asbestos Programs Officer (i.e. no drilling, cutting, chipping, affixing fasteners, etc… without an authorized asbestos work permit).

- Non-asbestos mechanical insulation (i.e. pipe and duct insulation) must not be disturbed as overspray is known to be present under the insulation.

- Any new wiring run in the area should be routed through the conduit that was installed under the floor I beam during the encasement project.

**BMSB – Pot Light Bulb Replacement**

Replacement of the pot lights in the BMSB can potentially result in disturbance of asbestos-containing materials that may cause respiratory hazards. Settled asbestos-containing dust or debris from asbestos-containing fireproofing in the interstitial space may have contaminated the tops of the pot lights. This procedure is to be followed for the replacement of light bulbs in any of the pot lights within the BMSB where the light fixture is mounted into the underside of the interstitial space ceiling. The use of respirators and disposable coveralls is mandatory.

**Hours of Work:**

**Normal Hours** are defined as 07:00 through 17:00 (Mon-Fri)

**Quiet Hours** are defined as: 17:00 through 07:00

Replacement of pot light bulbs is to be restricted to **QUIET HOURS.**

**Required Equipment:**

- Disposable coveralls c/w attached hood.
- Half-face negative pressure respirator equipped with new or tested P-100 filters.
- HEPA filtered vacuum or wash bucket with amended water and washcloths.
- Plastic sheeting to secure as a drop cloth.
- Duct tape, spray glue, etc. to secure drop cloth in place.

**Other Equipment:**

- Barrier tape and signage.
- Pump sprayer with misting nozzle.
- Labelled asbestos waste bags (6 mil).
- Misc. small tools and cleaning supplies

**Work Procedures:**
STANDARDIZED WORK PROCEDURES

Appendix X

1. Ensure that the following parties are notified and advised to vacate the space below the Work Area in advance of work:
   a. the Dean, Director, Department Head or Manager responsible for the work floor or work area where work is being performed;
   b. the specific offices or work areas directly impacted by the work; and
   c. the general public, students, and/or any other individuals or staff who may have cause to frequent the office or area directly impacted by the work.

2. Ensure that copies of the “Notice of Asbestos Work” form have been filled out and posted at the appropriate locations within the Building.

3. Coordinate unit shutdown with the Physical Plant Engineer on shift. Ensure the fan has come to a complete stop and has been properly locked and tagged out in accordance with current University of Manitoba standardized Lock-out/Tag-out procedure prior to work.

4. Prior to commencing work, isolate the work area by:
   a. posting approved asbestos warning signs and/or caution tape at access points; and
   b. cover floor and furnishings in the vicinity of the work with polyethylene.

5. Don applicable personal protective equipment (PPE). Required PPE would consist of a set of disposable coveralls and a half-face negative pressure respirator equipped with P-100 filters. Ensure coveralls being donned cover any existing or reusable clothing and come equipped with attached head cover (hood) and elasticized cuff at worker wrists and ankles.

6. Proceed with scheduled work while adhering to asbestos precautions specified herein and Appendices K and L.

7. Proceed with the replacement of the light bulbs.

8. Upon completion of bulb replacement, clean drop sheets to be reused with HEPA vacuum or by wet methods.

9. Dispose as asbestos waste, drop sheets not cleaned.

10. Following the completion of the above process, and while still wearing his/her respirator, remove disposable coveralls and place them inside a sealed and asbestos labelled polyethylene waste bag. Any dedicated footwear shall be removed, HEPA vacuumed or wet wiped and inspected for any signs of residual dust, debris or filter medium.

11. Remove respirator, then proceed directly to designated wash station where each worker shall complete the following:
   a. wash exposed skin and respirator with soap and water; and
   b. seal inlet side of respirator filters with tape for disposal or re-use.

12. Report to the Physical Plant Engineer on shift and coordinate unit start-up.
Daily inspection form for inactive type 3 enclosures

The following inspection form is to be used to perform the daily inspection of inactive type 3 enclosures. Inactive enclosures are defined as asbestos work areas where work has not been undertaken during a 24 hour period. The project coordinator is responsible to notify the Powerhouse when inactive type 3 inspections are required to be completed by Power Engineers during weekends and holidays.

The following criteria shall be verified **from outside the enclosure only**. Entrance to the enclosure is not required or advised to complete the inspection.

| Building: | _______________________________
| Room/Area description: | _______________________________

| Enclosure identified with Asbestos warning signage | Yes | No |
| Enclosure in good repair  
(no visible tears or rips in polyethylene, no gaps in tape, walls structurally sound) | Yes | No |
| Negative pressure at a minimum of -0.04 inches of water | Yes | No | N/A |
| Exhaust ducts in good condition and routed to building exterior | Yes | No | N/A |
| Deflection detected in poly flaps at entrance to enclosure (if applicable) | Yes | No | N/A |
| Entrance/access to enclosure secured from public access  
(e.g. locked room, locked access doors, plywood covering on enclosure opening, etc…) | Yes | No |
| Any other deficiencies observed that may result in migration of fibres outside the enclosure  
*If yes specify:* _______________________________

**Inspection completed by:**

Name (please print): _______________________________

Signature: _______________________________

Date: _______________________________

The University of Manitoba emergency manager on call shall be notified in the event of any deficiency (*a NO answer above*) involving an inactive type 3 enclosures. The manager shall then attempt to contact an Asbestos Programs Officer to rectify the deficiency.

Upon completion this form must be forwarded to EHSO.

Fax: 474-7629.