

APPENDIX F

TYPE 2 ASBESTOS WORK PROCEDURES

## TYPE 2 WORK PROCEDURES

These procedures are to be followed by all maintenance personnel and contractors performing the following work at KPDSB buildings.

- Entry into any ceiling space, wall chase or other area in which friable asbestos-containing debris is present.
- Removal of any part of a false ceiling if asbestos-containing debris is likely to be lying on the surface of the false ceiling.
- Removal of glued-on compressed mineral fibre tiles containing asbestos or removal of more than 7.5 square metres of lay-in tiles of this type at one time.
- Clean-up of asbestos-containing debris from mechanical insulations or sprayed fireproofing.
- Enclosure of friable material containing asbestos.
- Repair (such as application of tape or sealant or other covering) of any extent of asbestos mechanical insulation.
- Removal of non-friable materials with hand-tools where the material has not been wetted.
- Removal of more than 1 square metre of drywall to which asbestos-containing compound has been applied.
- Removing asbestos-containing pipe insulation from a pipe, duct or similar structure using a glove bag. (See Appendix G)
- Cleaning or removing filters used in air handling equipment in a building that has asbestos-containing sprayed fireproofing.
- Removal of any extent of asbestos-containing vinyl sheet flooring. Note: If power tools such as grinders are required to remove all paper backing from the substrate Type 3 procedures must be utilized.
- Removal of minor amounts of friable ACMs including, texture coat, sprayed fireproofing and mechanical insulation. (Minor removal is defined by most provincial regulations – in Ontario this is limited to wet removal of 1 square metre or less, or an equivalent amount of pipe insulation).

### 1. EQUIPMENT

Equipment required for the work must be on site before proceeding.

#### 1.1 HEPA Vacuum

An asbestos-approved vacuum (HEPA filtered) equipped with brushes, fittings, etc. A vacuum can be opened to empty only by a fully protected worker within a Type 2 enclosure.

## 1.2 Respirators

Workers within the work area must wear an approved respirator. Respirators and filters will be provided by the employer, and individually assigned to workers. Respirator shall be a half-facepiece respirator with high efficiency (P100) filters, for all classifications of Type 2 work, except as follows: Full face piece air purifying respiratory or powered air purifying respirator with high efficiency (P100 or HEPA filters) shall be used for ceiling access with ACM debris on ceiling or for use of power tools equipped with HEPA filtered dust collector to cut, grind or abrade non-friable ACM. Respirators must be kept in position on the face during the entire time the worker is in the Type 2 Work Area. This is the period from the first removal of the ceiling tile, opening of hatches or the first disturbance of the asbestos material until the final cleaning of the area and the bagging of waste is completed. Change filters after 24 hours of wear or sooner if breathing resistance increases as filters become damp. No person wearing a respirator shall wear facial hair which affects seal between respirator and face.

## 1.3 Protective Clothing

All workers shall wear disposable Tyvek coveralls (or equivalent) with attached elasticized hood. Coveralls should be worn with the hood in place at all times. Coveralls may be vacuumed or wet wiped clean for re-use, for a maximum of 8 hours cumulative wear. Suit and head cover shall remain in place until worker leaves the Type 2 enclosure or work area. Boot covers are required if wet wiping or HEPA vacuuming cannot effectively clean footwear.

## 1.4 Other Equipment

- Polyethylene (6 mil polyethylene) - to erect a total enclosure or to serve as drop sheet.
- Wood framing or clips to support polyethylene sheeting, as appropriate to work area.
- Duct tape to fasten plastic enclosure to ceiling, walls, or to tape drop sheet to floor; 3/4" double-sided tape recommended for attaching polyethylene to T-bar ceiling.
- Labelled asbestos waste bag (6 mil) - for all asbestos waste, disposable suit, plastic for disposal, etc.
- Pump sprayer containing water with wetting agent to wet asbestos as necessary; dilute wetting agent 2 oz per gallon of water.
- Asbestos warning signs.
- Cleaning supplies - e.g. scouring pads, sponges, brushes, buckets, etc.
- Insulation repair supplies (lagging compound, cloth, PVC covers).
- Encapsulating sealer, for brush or airless spray application.

## 2. OTHER PROTECTIVE MEASURES

Do not eat, drink or smoke in the work area.

On completing clean up of work area, use vacuum or wet cloth to clean hands, face, respirator and boots. Remove protective equipment and proceed to nearest washroom to wash exposed skin on hands and face.

### 3. SCHEDULING OF WORK

Schedule work when occupants are absent. If persons are present, do not start work.

If work is required on an emergency basis and the area is occupied, the Facilities Manager or an assigned representative is to advise occupants to vacate area until work is complete and clearance is given to return.

### 4. PREPARATION

Shut down ventilation systems to and from the work area. Seal over all ventilation openings, diffusers, grilles, etc. with plastic and tape.

Where practical, clear areas of movable furnishings or equipment. This should include anything which occupants may wish to use during work period. Any furnishings or equipment not removed shall be adequately covered and sealed using 6-mil polyethylene and tape.

Post signs or barrier tape to indicate asbestos hazard and requirement for protective clothing for anyone entering the space.

Note that a full enclosure is only required for ceiling entry and for removal of friable materials. All other operations may have dust protection appropriate for the work.

For small rooms, cover walls with plastic such that the complete room becomes the work area. For larger rooms, erect enclosure of 6-mil polyethylene of suitable dimensions to enclose the work area. If a suspended ceiling is present, the enclosure shall extend to the ceiling line. The enclosure shall be as airtight as conditions permit including the provision of a double overlapping flap at the entrance. The floor of the work area shall be a layer of minimum 6-mil polyethylene sealed to the plastic walls of the enclosure.

Use a HEPA vacuum or appropriately sized air unit equipped with HEPA filter to induce negative pressure inside work area. Vacuum should be outside the enclosure with hose inserted inside enclosure to extract air from enclosure.

Don protective clothing and respirator prior to disturbing any ACM in Type 2 enclosure.

### 5. EXECUTION

To remove sprayed fireproofing perform the following:

- Erect site isolation and don protective clothing as per Preparation Section 4.0.
- Saturate the ACM with amended water. Scrape wetted ACM directly into waste containers.
- Do not allow ACM to fall to the floor of the enclosure.
- Clean all surfaces from which ACM has been removed with scouring pads, vacuuming or wet-sponging to remove all visible material after completion of removal of ACM.
- Maximum removal is 1 square metre of material.

To provide access into ceiling spaces where sprayed fireproofing or asbestos-containing debris is present perform the following:

- Erect site isolation and don protective clothing as per Preparation Section 4.0.
- Carefully remove one tile or small portion of ceiling and clean top of removed section with HEPA vacuum.
- Vacuum top of remaining ceiling while still in place.
- Do not break tile or allow tiles to drop to floor.
- Perform all work above ceiling inside Type 2 enclosure.

To remove pipe insulation perform the following:

- Erect site isolation and don protective clothing as per Preparation Section 4.0.
- Wet any area of damage, then carefully cut jacket. Keep insulation surface wetted by mist of water with wetting agent.
- Remove insulation in large sections and place immediately in disposal bag.
- After all large pieces have been removed, saturate debris and clean all exposed surfaces with abrasive pads, sponges, cloths, etc.
- Maximum removal is 1 square metre of material.

To repair pipe insulation, perform the following:

- Don protective equipment as per Preparation Section 4.0.
- Use drop sheet under area of work to aid clean up of any dislodged material. Plastic enclosure is not required.
- Mist any exposed insulation to wet surface and apply lagging paint and canvas or PVC jacketing as required.

To remove ceiling tiles and drywall perform the following:

- Erect site isolation and don protective clothing as per Preparation Section 4.0.
- Wet tiles or drywall and remove intact as much as possible and place immediately in disposal bag.
- After all large pieces have been removed, saturate debris and clean all exposed surfaces and support structure with abrasive pads, sponges, cloths, etc.

To remove vinyl asbestos sheet flooring perform the following:

- Remove binding strips or other restrictive mouldings.
- Make series of cuts 100 to 200 mm (4" to 8") apart through top layers and about halfway through felt backing, parallel to wall.
- Pry up corner of a strip at end of room furthest from access to work area. Pull sheet back upon itself slowly and evenly along with any adhering paper backing which remains attached to top layers.
- Roll up strip (finished side out) into tight roll, tape or tie securely, and place into Asbestos Waste Container.

- Remove maximum of three strips before wet scraping residual exposed paper underpad.
- Remove remaining adhered underpad by wet scraping as follows:
  - Soak area with amended water applied by sprayer; Scrape off all remaining material; Place scrapings in asbestos waste container. Allow floor to dry and clean with HEPA vacuum.
  - Removed ACM should be placed directly into 6 mil polyethylene bags as they are removed. Avoid dropping material to floor wherever possible. After bulk removal is complete, brush clean completely, and wet wash the exposed surface.
- Frequently, and at regular intervals during the work, clean up dust and waste in the work area by wet mopping, placing in disposal bags, or by HEPA vacuuming.
- After completion of removal, seal exposed ends of mechanical insulation with heavy layer of encapsulating sealer.
- Apply post removal sealer and coat surfaces from which asbestos material was removed.
- At completion of work, decontaminate equipment, tools and materials used in the work area by wet cleaning or HEPA vacuum.
- Dispose of drop sheets and enclosures by wetting the polyethylene, then folding into disposal bags. Do not reuse drop sheets or enclosures.
- Before leaving work area, decontaminate shoes and protective clothing by using HEPA vacuum or damp wiping. When protective clothing is to be disposed of, it shall be decontaminated as above and placed in labelled disposal bags. Workers shall vacuum all exposed skin, suit and respirator, and proceed to nearest washroom to wash hands and face.

## 6. WASTE TRANSPORT AND DISPOSAL

Place waste into asbestos labelled yellow disposal bag, seal with tape, clean the bag, and place into a second clean bag. Seal outer bag with tape.

Provide storage area for holding minor amounts of asbestos waste in sealed containers. Containers shall be labelled and assigned exclusively for asbestos waste.

When waste is removed from site, collect copies of the waste waybills from the disposal firm. For work performed by a contractor, the contractor will complete and provide to the Facilities Manager copies of a waste manifest. Waste generated by personnel will be stored in a secure location until sufficient accumulates for a waste pick-up.