PART 1 GENERAL

1.1 General & Related Work

.1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of the General Conditions of the Contract.

.2 Related work specified elsewhere:

Division 2, Section 02 82 13 Asbestos Abatement – General Provisions

.3 The intent of this section is to provide safe work practices and procedures to govern the handling of asbestos-containing materials (ACM) and all other surfaces or materials which may have been or become contaminated by asbestos either during or prior to work of this contract were present at locations within a prepared Type 3 enclosure.

1.2 Outline of Work

.1 Supply all labour, material, plant and equipment necessary to safely execute and complete work of this section while in conjunction with work specified, required or implied under Section 02 82 13, Asbestos Abatement - General Provisions.

.2 Protect and maintain electrical, mechanical and other services passing through the asbestos work area required to maintain such services in occupied areas.

.3 Isolate the asbestos work area from adjoining spaces through the installation of specified hoardings, seals and enclosures at the perimeter of each phase or work area.

.4 Construct worker and waste decontamination facilities at the perimeter of each phase or work area.

.5 Remove and dispose of asbestos-containing pipewrap insulation on fittings of mechanical services present within a Type 3 enclosure scheduled for demolition.

.6 Remove and dispose of asbestos-containing vinyl sheet flooring present within a Type 3 enclosure scheduled for demolition.

.7 Remove and dispose of asbestos-containing vermiculite insulation inside exterior hollow core block walls within a Type 3 enclosure scheduled for demolition.

.8 Provide shoring and bracing as required and approved by a structural engineer to facilitate removal of vermiculite insulation while maintaining integrity of the block wall and roof deck structure.

.9 Remove and dispose of asbestos-containing vinyl floor tiles present within a Type 3 enclosure scheduled for demolition.

.10 Remove and dispose of asbestos-containing drywall joint compound present within a Type 3 enclosure scheduled for demolition.

.11 Remove and dispose of asbestos-containing lay-in acoustic ceiling tiles present within a Type 3 enclosure scheduled for demolition.

.12 Handling, removal, clean-up or repair of asbestos-containing materials or surfaces contaminated with asbestos is to be performed following wet removal techniques except at locations adjacent to high voltage line, live steam lines, etc. where the use of water may result in a hazardous condition for the workers. Do not commence work at such locations without notifying the Contract Administrator in writing. Complete removal at such locations as specified in

.13 Hoardings, platforms, tunnels, etc., used to separate the work area from occupied areas, are to remain in place until completion of work in the area by other trades or until directed by the Contract Administrator.

1.3 Inspection

.1 The following Milestone Inspections are to take place during the work:

.1 Milestone Inspection A - Clean Site Preparation
Inspection of Site preparations and set-up prior to contaminated work.

.2 Milestone Inspection B - Air Monitoring Clearance
Inspection & air monitoring after application of lock-down agent, but prior to removal of polyethylene from within the asbestos work area.

1.4 Worker Protection

.1 Respiratory Protection

.1 During wet removal and cleaning of asbestos-containing or contaminated materials within a Type 3 enclosure, supply and use at a minimum, full face-piece powered air purifying positive pressure dust respirators with HEPA filters.

.2 If fibre level within the work enclosure exceeds permissible levels for use of PAPR during wet removal, supply and use Type C, pressure demand supplied air respirators with full face-piece and egress filters. Ensure workers exiting the enclosure do not disconnect their respirators from supply air hose until they have entered the shower stall.

.3 During Site teardown, supply and use negative pressure non-powered half-face respirators equipped with HEPA cartridge filters.

.2 Asbestos Abatement Work Area Entry Procedures

.1 Remove street clothes in Clean Change Room.

.2 Put on respirator with new or tested filters, coveralls, and head covers in Clean Change Room or clean side of Shower Room.

.3 Store street clothes, uncontaminated footwear, towels, etc. in Clean Change Room.

.3 Asbestos Abatement Work Area Exit Procedures

.1 Remove gross contamination from protective clothing using a HEPA vacuum or by wet wiping.

.2 Proceed to Equipment and Access Room and remove all contaminated clothing and equipment except respirator.

.3 Store contaminated footwear, hard hats, etc. in Equipment and Access Room.

.4 Proceed naked to showers while still wearing respirator.

.5 Shower, cleaning outside of respirator with soap and water. Thoroughly wet body, head and hair, remove respirator and wash body, head and hair. Wet clean inside of respirator face-piece.

.6 Remove filters for testing or dispose of in container provided for this purpose on the clean side of the shower. Store respirators in this area after leaving the Shower but prior to entering the Clean Change Room.

.7 Proceed to the Clean Change Room, dry off and dress in street clothing.

1.5 Visitor Protection

.1 Maintain one (1) emergency access kit (equipped with respirator, protective clothing, etc.) at each access point to asbestos work area for use by the City or authorized visitors.

PART 2 PRODUCTS AND FACILITIES

2.1 Materials and Equipment

.1 Ground Fault Panel: Electrical panel equipped as follows:

.1 Ground fault circuit interrupters of sufficient capacity to power temporary electrical equipment and lights in asbestos work area.

.2 Interrupters to have a 5 mA ground fault protection.

.3 Necessary accessories including main switch disconnect, ground fault interrupter lights, test switch to ensure unit is working, and reset switch.

.4 Openings sealed to prevent moisture or dust penetration.

.2 Sprayer: Airless sprayer capable of providing a fine mist or spray while maintaining sufficient velocity to penetrate surface of ACM through to substrate without blowing loose the material as it is being wetted.

2.2 Hoarding Walls

.1 Walls separating an asbestos work area from an occupied area or another work area shall be constructed as follows:

.1 Lower Perimeter Hoarding Walls: 2" x 4" (50 mm x 100 mm) wood or metal studs at 16" (400 mm) o/c with continuous sill and top plate, covered with one (1) layer of polyethylene sheeting on each side of wall. Use rip-proof polyethylene at locations where exposed to non-construction areas.

2.3 Decontamination Facilities

.1 Workers' Decontamination Facility

A decontamination facility comprised of four (4) linked rooms, an Equipment and Access Room, a Shower Room, a Respirator Storage Room and a Clean Change Room. Rooms, occupied areas and asbestos work areas, shall be separated by curtained doorways at each door.

.2 Equipment and Access Room: Room between Shower Room and asbestos work area. Minimum requirements as follows:

.1 Waste receptor for contaminated clothing or equipment not to be reused.

.2 Storage facilities for any personal protective equipment to be reused in asbestos work areas.

.3 Minimum size of 16 square feet (1.5 square metres).

.3 Shower Room: Room between Respirator Storage Room and Equipment and Access Room. Minimum requirements as follows:

.1 One walk-through shower unit for every six (6) workers.

.2 Provide a constant supply of hot and cold water, controllable at each shower. Water supply must be sufficient to provide water at a minimum temperature of 40 °C (maximum 50 °C) in a volume required for all workers to properly decontaminate.

.3 Terminate water supply runs at individual hot and cold shut-off valves located on clean side of Shower Room. Connect shower to these valves.

.4 Provide sump pumps, sufficient for volume of waste water being discharged from showers and drip pans. Direct waste shower water to sanitary sewer drains.

.5 Provide power switch adjacent to each shower for operating sump pumps.

.6 Provide soap, shampoo and clean towels to workers and authorized visitors.

.4 Respirator Storage Room: Room between the Shower Room and the Clean Change Room. Minimum requirements as follows:

.1 Install ground faulted power supply, hooks and shelves on clean side of shower for storage of respirators and recharging of batteries as required.

.2 Provide 6 mil poly waste container for disposal of respirator cartridge filters.

.3 Minimum room size of 16 square feet (1.5 square metres).

.5 Clean Change Room: Room between the Respirator Storage Room and occupied areas. Minimum requirements as follows:

.1 Provide lockers or hangers for workers' street clothes and personal belongings.

.2 Provide and install temporary water heater for showers where required.

.3 Minimum size of 16 square feet (1.5 square metres).

.6 Waste and Equipment Decontamination Facility

Waste and Equipment Decontamination Facility comprised of three (3) linked rooms: a Container Cleaning Room, a Holding Room and a Transfer Room. Purpose of this system is to provide a means to decontaminate drums, scaffolding, asbestos waste containers, vacuum, spray equipment, other tools, equipment and materials required in the asbestos work area. Rooms, occupied areas and asbestos work areas, shall be separated by curtained doorways at each door.

.7 Container Cleaning Room: Room between asbestos work area and Holding Room of sufficient size to allow proper washing of equipment and waste containers or double bagging of asbestos waste. All wash water shall be treated as asbestos contaminated waste. Minimum size of 16 square feet (1.5 square metres).

.8 Holding Room: Room between Container Cleaning Room and Transfer Room, of sufficient size to accommodate at least two (2) rigid waste containers or largest item of equipment used. Minimum size of 16 square feet (1.5 square metres).

.9 Transfer Room: Room between Holding Room and occupied area, acting as an air lock for the transfer of waste. At doorway to occupied area, provide and install a vented wood door in wood frame.

Door must have locking passage set or hasp and lock. Provide three (3) keys to the Contract Administrator. Minimum size of 16 square feet (1.5 square metres).

.10 Construction of Decontamination Facilities

.1 Floor:

.1 Lay one (1) sheet of rip-proof polyethylene over floor area that will be covered by decontamination facility prior to erecting wall framing.

.2 Turn 24" (600 mm) of rip-proof polyethylene up the outside of the decontamination facility and overlap with the polyethylene sheeting covering the exterior perimeter wall.

.3 In the Container Cleaning Room, Equipment and Access Room, Holding Room, Transfer Room, Respirator Storage Room, and Clean Change Room, cover floor with a second layer of rip-proof polyethylene overlapped and sealed to the polyethylene sheeting on the walls.

.4 In Shower Room, provide a 40" (1000 mm) wide x 108" (2700 mm) long x 6" (150 mm) deep sealed drip pan below shower stall and extending 36" (900 mm) into Shower Room on both sides of the shower stall. Install a wooden duck-board walking surface over drip pan on both sides of the shower stall.

.2 Perimeter Walls:

.1 2" x 4" (50 mm x 100 mm) wood framing at 16" (400 mm) o/c with continuous top and sill plates.

.2 Cover each side of framing with one (1) layer of polyethylene sheeting.

.3 Use rip-proof polyethylene at locations exposed to non-construction areas.

.3 Interior Walls:

.1 Construct walls to separate the rooms of the decontamination facilities using 2" x 4" (50 mm x 100 mm) wood framing at 24" (600 mm) o/c with continuous top and sill plates.

.2 Cover walls with one (1) layer of polyethylene sheeting on each side.

.4 Roof:

.1 Size of joists is to be determined by span. For spans up to 10 feet (3.3 meters) use as a minimum 2" x 6" (50 mm x 150 mm) wood joist at 16" (400 mm) o/c with continuous 2" x 6" (50 mm x 150 mm) headers.

.2 Where roof is exposed to the asbestos work area, cover joists with 3/4" (20 mm) plywood sheeting, caulked and taped at all joints. Cover plywood with two (2) layers of rip-proof polyethylene. One (1) layer to extend continuously over rip-proof polyethylene on the perimeter walls.

.3 Where roof is exposed to the occupied area, install a layer of polyethylene directly over joists. Use rip-proof polyethylene at locations exposed to non-construction areas.

.4 At underside of joist install one (1) layer of polyethylene.

.5 Minimum interior clear height 6' - 6" (2.0 m) to underside of joist.

.5 Curtained Doorway:

.1 Install two (2) flap doors, full width and height of door opening at all doors between chambers, facilities and asbestos work area.

.2 Construct each flap door of two (2) layers of rip-proof polyethylene sheeting with all edges tape reinforced. Use wood strapping to securely fasten flap doors to head and alternate jambs.

.3 Weight each flap to ensure automatic closure.

.4 Provide direction arrows on flaps to indicate opening.

PART 3 EXECUTION

3.1 Clean Site Preparation

.1 Moving of equipment, tools, supplies, and stored materials which can be performed without disturbing asbestos-containing materials will be performed by others.

.2 Erect hoarding walls between asbestos work area and occupied areas.

.3 Pre-clean all surfaces using HEPA vacuum or damp cloth prior to installing protection.

.4 Erect Worker and Waste decontamination facilities at locations approved by the Contract Administrator.

.5 Provide one (1) specified ground fault electrical panel for each 1,000 square feet (300 square metres) of asbestos work area. All electrical apparatus including temporary heating equipment shall be supplied from a ground fault system. Ensure safe installation of electrical lines and equipment by skilled tradesmen.

.6 Install temporary lighting in all work areas at levels that will provide for a safe and efficient use of the work area - minimum 550 LUX.

.7 Where Site conditions permit the isolation of existing power supply within the asbestos work area without disturbance of asbestos ensure existing power supply to work area is isolated at panel, tagged, disconnected or grounded where necessary. Power supply to remaining areas of building must not be disrupted during work of this section.

.8 Establish negative pressure within the asbestos work areas as follows:

.1 Provide negative air units in place sufficient to maintain specified air flow and pressure differential between contaminated asbestos work area and occupied areas.

.2 Distribute negative air units evenly throughout Site.

.3 Provide weighted flaps in perimeter seal to provide make-up air.

.4 Operate negative pressure units continuously from completion of Clean Site Preparation until start of final dismantlement.

.5 Replace pre-filters frequently to maintain specified flow.

.6 Replace HEPA filter as required to maintain flow rate and integrity of unit.

.7 Install and make airtight all negative air discharge ducting. Use rigid sheet metal ductwork in occupied areas (painted in non-construction areas). Colour of paint to be selected by the City.

.8 Install in-line booster fans along the length of discharge ducting wherever Site conditions require negative air unit discharge to be directed over distances greater than 12 m (40 ft.). Position booster fans so as to avoid any disruption to operations in occupied areas.

.9 Install negative air discharge panels as follows:

.1 Remove existing windows or doorways where necessary and replace with a 3/4 inch (18 mm) painted plywood panel (colour to match frame).

.2 Install panel securely in window or door frame and make weather-tight with caulking (colour to match frame).

.3 For each negative pressure unit, provide a 12" (300 mm) diameter, screened, duct opening through panel.

.4 Provide exterior ducting as required to ensure negative air units do not discharge within 5 metres of building access points in use by building occupants or fresh air intakes. Direct discharge away from building access points or fresh air intakes.

.5 Re-install window or doorways upon completion of work.

.10 Isolate HVAC or exhaust systems which terminate within the asbestos work area as follows:

.1 Isolate ductwork as close as possible to perimeter of asbestos work area.

.2 Cap ducts with metal of gauge equal to sheet metal being capped.

.3 Seal seams of cap with duct sealant, tape and polyethylene sheeting.

.4 Seal openings in dormant ductwork using polyethylene and tape.

.5 If ducts are to be reactivated, smoke test seal immediately upon system reactivation. Reseal and retest as required.

.11 Isolate HVAC or exhaust systems which are required to remain active within the asbestos work area as follows:

.1 Isolate systems that remain active during quiet hours while systems are deactivated.

.2 Clean outside of duct and fully seal outside of duct or equipment using duct sealant, tape and two (2) layers rip-proof polyethylene so as to make air tight.

.3 Cap opening in duct using metal of gauge equal to sheet metal being capped. Seal seams of cap with duct sealant, tape and polyethylene sheeting so as to make air tight.

.4 Smoke test seals regularly and maintain.

.5 Include in this preparation all ductwork and equipment presently insulated with asbestos-containing products.

.12 Independently seal below ceiling openings to work area using polyethylene, tape, caulking, polyurethane foam etc., including but not limited to windows, doors, vents, diffusers, etc.

.13 Seal openings in floor using plugs, tape, caulking, rip-proof polyethylene, etc. Floor openings are to be sealed independently prior to installation of floor polyethylene. Include floors of duct and service shafts.

.14 Pre-clean with HEPA vacuum and make watertight all electrical trenches and headers located in floor of work area using caulking and tape. Cover entire plate or panel with two (2) layers of independently sealed rip-proof polyethylene. Install so as to overlap plate or panel edges by minimum of 6 inches.

.15 Maintain emergency and fire exits from asbestos work area, or establish alternative exits satisfactory to Provincial Fire Marshall and local authorities having jurisdiction. Maintain extra routes from occupied areas.

Place emergency exit signs at locations so as to clearly mark exit route. Seal emergency exit door so as not to impede use of door during emergency evacuation.

.16 Provide a fire extinguisher at each emergency exit, in the decontamination facilities. Protect extinguishers with polyethylene in a manner that will not hamper use in an emergency.

.17 Protect equipment that will remain operational within the asbestos work area as follows:

.1 Erect a solid 1/2" (13 mm) plywood and wood framed enclosure around equipment, and provide for emergency access to enclosure.

.2 Caulk and tape enclosure to prevent water penetration. Cover enclosure with a minimum of two (2) layers of rip-proof polyethylene.

.3 Supply clean dry air to bottom of plywood enclosure adjacent to the normal air entry louvers of equipment. Draw off exhaust air adjacent to the normal air exhaust louvers of equipment. Provide minimum 50 cfm (40 L/sec.) using exhaust fans drawing clean air from outside the asbestos work area. Use flexible ducting for supply to individual enclosures.

.18 Install minimum two (2) layer(s) of rip-proof polyethylene (independently sealed) on floor surfaces. Extend floor protection a minimum of 12" (300 mm) up all vertical surfaces in the work area.

.19 Install additional layer of 6 mil polyethylene and plywood directly over carpeted floor surfaces prior to installing the two (2) layers of rip-proof polyethylene.

.20 On existing work area walls adjacent to occupied areas, install two (2) layers of independently supported polyethylene.

.21 Install one (1) layer polyethylene on interior walls within the work area and exterior perimeter walls of the building.

.22 At junction of floor and wall surface overlap floor polyethylene with wall polyethylene by a minimum of 150 mm at each layer. One (1) layer of wall polyethylene must always overlap the top layer of floor polyethylene.

.23 For hoarding walls exposed to the asbestos work area; install polyethylene as specified in Paragraph 2.2 - Hoarding Walls.

.24 Stagger or offset seams of polyethylene wherever multiple layers are used and ensure each layer is independently sealed.

.25 Provide required tools, equipment, vacuums and asbestos waste receptacles within the asbestos work area.

.26 Post required signs at all access points to the sealed asbestos work area.

.27 Schedule and obtain written approval of Milestone Inspection A (Clean Site Preparation) before proceeding.

3.2 Maintenance of Contaminated asbestos work area

.1 Maintain enclosures in tidy condition and free of dislodged asbestos or other debris.

.2 Ensure Asbestos Abatement Work Area enclosures, barriers, and polyethylene linings are effectively sealed and taped. Repair damage and remedy defects immediately.

.3 Visually inspect enclosures at beginning and end of each working period. Inspection must be performed by overall superintendent or shift superintendent.

.4 Inspect negative air units including discharge ducting at beginning and end of shift.

3.3 Maintenance of Decontamination Facilities

.1 Maintain access to decontamination facilities in a locked state when not being used for worker access, egress, or waste and equipment movement.

.2 Maintain and clean decontamination facilities at the following frequency:

.1 Thoroughly clean Worker Decontamination Facility at beginning and end of each shift change.

.2 Clean Equipment and Waste Facility on a frequent basis during waste or equipment removal and at the completion of each shift.

.3 Visually inspect decontamination facilities at beginning and end of each working shift. Inspection must be performed by overall supervisor or shift supervisor.

3.4 General Removal of Asbestos

.1 Remove asbestos-containing material scheduled for removal following the applicable Sections 3.5 through 3.9.

.2 Repeat final cleaning procedures until the work area is at a standard of cleanliness acceptable to the Contract Administrator.

.3 As work progresses, and at regular intervals, transport sealed and labelled asbestos waste containers from the asbestos work area to an authorized waste disposal site.

.4 Remove and dispose of as asbestos-contaminated waste the pre-filters from all negative air units

.5 Upon completion of all work proceed to Application of Lock-Down Agent in Section 3.11.

3.5 Removal of Mechanical Insulation

.1 Remove asbestos-containing mechanical insulation scheduled for removal in layers, while maintaining exposed surfaces of insulation or lagging in a wet condition. Where necessary puncture surface of insulation to thoroughly saturate asbestos. Full saturation of insulation will not be required if material is immediately bagged and not allowed to fall to floor.

.2 All dislodged debris and fibres shall be maintained in wet state and placed in waste containers for disposal as work progresses and at the end of each shift.

.3 Repeatedly mist the air throughout the performance of this work while maintaining surfaces within the asbestos work area in a damp state.

.4 Following completion of gross asbestos removal work perform the following:

.1 Wet clean all surfaces from which asbestos has been removed with stiff bristle brushes, vacuums, wet-sponges etc. to remove visible residue and fibrous materials.

.2 Wet clean all other surfaces in the asbestos work area, including the decontamination facilities, equipment, surfaces of polyethylene sheeting, floor and walls surfaces, ducts and similar items not covered with polyethylene sheeting.

.3 Remove all wash water as contaminated waste.

3.6 Removal of Vinyl Asbestos Floor Tiles

.1 Wedge a heavy duty scraper in seam of two (2) adjoining tiles and gradually force edge of one (1) tile up and away from floor.

.2 Place tile and smaller pieces, into asbestos waste container.

.3 Heat tile thoroughly with a hot air gun until heat penetrates through tile and softens adhesive in areas where scraper will not remove tile.

.4 Scrape up adhesive remaining on floor with a hand scraper until only a thin smooth film remains.

.5 A hot air gun may be used where deposits are heavy or difficult to scrape.

.6 Deposit scrapings into asbestos waste container.

3.7 Removal of Sheet Flooring

.1 Remove binding strips or other restrictive mouldings.

.2 Pry up corner of a strip at end of room furthest from access to work area.

.3 Pull sheet back upon itself slowly and evenly along with any adhering felt backing which remains adhered to top layers.

.4 Roll strip, face out into tight roll, tape or tie, and place into asbestos waste container.

.5 Remove remaining adhered underlay by wet scraping as follows:

.1 Soak area with water applied by sprayer.

.2 Allow water to penetrate felt.

.3 Scrape off remaining material.

.4 Place scrapings in asbestos waste container.

.5 Allow floor to dry. Clean with HEPA vacuum.

3.8 Removal of Vermiculite

.1 Ensure adequate shoring and bracing is in place as approved by structural engineer.

.2 Remove asbestos-containing vermiculite insulation by creating, as a minimum, openings in the face of the wall at a height of approximately 12 inches from the floor level and 12 inches from the roof decking, in such a manner not to create significant structural degradation.

.3 Create additional openings as required to facilitate the removal of the vermiculite.

.4 All dislodged debris and fibres shall be maintained in wet state and placed in waste containers for disposal as work progresses and at the end of each shift.

.5 Repeatedly mist the air throughout the performance of this work while maintaining surfaces within the asbestos work area in a damp state.

.6 Following completion of gross asbestos removal work perform the following:

.1 Wet clean all surfaces from which asbestos has been removed with stiff bristle brushes, vacuums, wet-sponges etc. to remove visible residue and fibrous materials.

.2 Wet clean all other surfaces in the asbestos work area, including the decontamination facilities, equipment, surfaces of polyethylene sheeting, floor and walls surfaces, ducts and similar items not covered with polyethylene sheeting.

.3 Remove all wash water as contaminated waste.

3.9 Removal of Drywall

.1 Wet, where possible, all material to be disturbed.

.2 Undo fasteners, if necessary, to remove material. Break material only if unavoidable.

.3 Wet freshly exposed edges of broken materials.

.4 Place removed material into asbestos waste container.

.5 Clean asbestos work area frequently and again at completion of work with HEPA vacuum or with wet methods.

3.10 Waste and Material Handling

.1 Removal of waste containers and decontaminated equipment and materials from the asbestos work area shall be performed using the waste decontamination facility as follows:

.1 Prior to entering the waste decontamination facility Container Cleaning Room, the first worker (fully protected inside the asbestos work area) shall remove any visible gross asbestos contamination from the surface of the item being removed from the asbestos work area.

.2 The first worker then passes the item to a second worker located in the Container Cleaning Room. The second worker then wet sponges, cleans, double bags and/or wraps and seals the item prior to passing the item through the curtained doorway to a third worker in the Holding Room. (The second and third worker shall be fully protected with respirator and disposable clothing and may only leave the decontamination facility via the asbestos work area.)

.3 Without entering the Transfer Room, the third worker then passes the item through the curtained doorway to a fourth worker located within the Transfer Room.

.4 The fourth worker then removes the item from the Transfer Room and transports it to the disposal bin. (The fourth worker must never enter the Holding Room.)

3.11 Application of Lock-down Agent

.1 Obtain the Contract Administrator's written authorization to proceed prior to applying lock-down agent.

.2 Paint surfaces from which asbestos-containing material has been removed with a heavy coat (two (2) passes) of lock-down agent.

.3 Apply one (1) coat of lock-down agent as required to cover all other surfaces in the asbestos work area, including all polyethylene and surfaces scheduled for demolition.

.4 Restrict access to asbestos work area and operate negative air units for a 12 hour period prior to Milestone Inspection B (Air Monitoring Clearance).

.5 Schedule and obtain written approval of Milestone Inspection B (Air Monitoring Clearance) before proceeding.

3.12 Asbestos Work Area Teardown and Dismantling

.1 Teardown

.1 Maintain hoardings, decontamination facilities and negative air unit(s) fully functional during teardown and removal of asbestos contaminated polyethylene, tape, etc.

.2 Ensure use of half-face respirators with high efficiency filters and disposable clothing, during teardown and removal of asbestos contaminated polyethylene, tape, foam pack, caulking and enclosures from asbestos work area.

.3 Phase the removal of polyethylene, tape, polyurethane foam, caulking and enclosures from the asbestos work area so as to maintain perimeter isolation as long as possible.

.4 Remove polyethylene sheeting from wall and floor surfaces by rolling it inwardly onto itself.

.5 While removing the top layer of polyethylene sheeting from surfaces protected by two (2) layers of polyethylene sheeting, cut the lower layer of polyethylene sheeting so as to expose the baseboards, window sills, cabinets, shelves and other horizontal surfaces that may be contaminated by fallen ACM.

.6 Visible fibres or residue found during removal of polyethylene shall be immediately removed using a HEPA vacuum or damp cloth.

.7 Place polyethylene, tape, cleaning material, clothing and other contaminated waste in containers and dispose of as asbestos waste.

.2 Clean up

.1 Equipment used in contaminated asbestos work area shall be washed to remove asbestos contamination, or double-bagged for transportation prior to being removed from asbestos work areas, via waste and equipment decontamination facility.

.2 Seal vacuum, hoses and fittings, and all tools used in asbestos work area in 6 mil polyethylene bags prior to removal.

.3 Clean-up asbestos work area, decontamination chambers, and all other surfaces that may be contaminated. Remove polyethylene protection from floor surfaces within the decontamination chambers at this time.

.4 Wash and mop with clean water all surfaces in the asbestos work area.

.5 Schedule and obtain written approval of Milestone Inspection E (Dismantling Inspection) before proceeding.

.3 Dismantling

.1 Hoarding walls, platforms, scaffolding, tunnels, etc., used to separate occupied areas from asbestos work area, are to remain in place until completion of work in the area by other trades or until authorized to be remove by the Contract Administrator.

.2 Remove from the area decontamination facilities, temporary lights, ground fault panels, negative pressure units and all other equipment located within the work area not scheduled to remain.

.3 Immediately upon shutting down negative air units, seal air inlet grill, ducting and exhaust vent with polyethylene tape. Dispose of unit pre and intermediate filters as asbestos contaminated waste.

.4 Damp mop and clean occupied areas following completion of dismantlement.

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End of Section

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