

J.C. Broderick & Associates, Inc. Asbestos Certification

STATE OF NEW YORK - DEPARTMENT OF LABOR
DIVISION OF SAFETY AND HEALTH
License and Certificate Unit
BUILDING 12, Room 161
STATE CAMPUS
ALBANY, NY 12240

ASBESTOS HANDLING LICENSE**RESTRICTED LICENSE - NO ASBESTOS REMOVAL PERMITTED**

LICENSE NUMBER: 99-0803
DATE ISSUED: 06/01/01
EXPIRATION DATE: 06/30/02



Contractor: J.C. Broderick & Associates, Inc.

Address: 101-4 Colin Drive
Holbrook, NY 11741

Duly Authorized Representative: Brendan Broderick

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. The licensee verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Richard Cuculo, Director
FOR THE COMMISSIONER OF LABOR

\$4.43 (10.00)

CHRISTOPHER T. GABRIEL**PII**STATE OF NEW YORK
DEPARTMENT OF LABOR
DIVISION OF SAFETY AND HEALTHSTATE OF NEW YORK
DEPARTMENT OF LABOR
DIVISION OF SAFETY AND HEALTH

ASBESTOS HANDLING CERTIFICATE
AUTHORIZED CLASS:
C - SAMPLING TECHNICIAN 187/021
S - INSPECTOR 187/021

PII

1992

RICHARD CUCULO, Director - For the Commissioner of Labor

JCB**CHAIN OF CUSTODY DOCUMENT**

J.C. Broderick & Associates

101-4 Colin Drive, Holbrook, NY 11741

631-419-0913 • Fax: 631-584-3395

Bill To: J.C. Broderick & Associates

Accounts Payable

101-4 Colin Drive, Holbrook, NY 11741

Expected Date of Completion

10/18/01

Laboratory:

L.T.A.C.

Project Name: 102 Greenwich Project Manager: C.T. Gilbert

Project Location: 102-104 Greenwich St., NY, NY: Multiple Floors

Client Name: Ranch Services Project Number: 01-2260

SAMPLE INFO Project Phase Sampling Type Sample Location / Description Lab #

1 10/11 B Roof: Composite East Area: Gray A1505

2 10/11 B Roof: Composite West Area: Gray A1506

3 10/11 B 5th Floor: Landing Area: Gray A1507

4 10/11 B 5th Floor: Stairwell: Gray/Black A1508

5 10/11 B 4th Floor: East Area: Gray A1509

6 10/11 B 4th Floor: Window Sill East: Gray A1510

7 10/11 B 3rd Floor: East Area: Gray A1511

8 10/11 B 3rd Floor: Middle Composite: Gray A1512

9 10/11 B 2nd Floor: East Area: Gray A1513

10 10/11 B 2nd Floor: Middle Composite: Gray A1514

11 10/11 B 1st Floor: N.E. Hallway: Gray A1515

12 10/11 B 1st Floor: Composite: Gray A1516

13

14

15

← Time (min.) →

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Relinquished by (Signature):

Date

Time

Printed Name & Agent:

Date 10/11

Time 10:20

Printed Name & Agent: K Clark

Received for Lab by (Signature):

Date 10/11

Time 10:20

Printed Name & Agent: K Clark

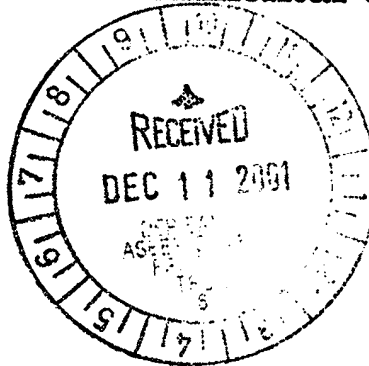
Comments & Special Instructions

Fax Results to 631-584-3395

White • Laboratory Yellow • Office Pink • Field

AEi2, L.L.C

Asbestos Abatement & Environmental Cleanup



ASBESTOS HAZARD ABATEMENT PLAN

**102 - 104 GREENWICH ST.
NEW YORK, NEW YORK**

Prepared By:

BERNARD D. MCKENNA, JR.
Project Manager

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Summary: The objective of this project is to abate the asbestos dust contamination from 102/104 Greenwich Street, New York, New York as a result of the attack of the World Trade Center. Asbestos dust contamination has been identified on all floors by the New York Department of Environmental Protection. A critical barrier negative pressure containment will be installed on all levels prior to cleaning. Once proper negative pressure is achieved all non-porous surfaces (ie. walls, floors, ceilings, wood chairs, tables, metal items, etc.) will be cleaned and stored. All others (ie. curtains, table clothes, cloth chairs, ceiling tiles, etc.) will be discarded as contaminated.

All work will be in accordance with the NYCDEP directive for buildings associated with the World Trade Center attack, NYSDOL - DOSH Part 56, and NYCDEP Title 15, Chapter 1 regulations.

A. INITIAL WORK SITE PREPARATION

NYSDOL-DOSH Part 56
NYCDEP, Title 15, Chapter 1, Subchapter F, Part 2
Post danger signs.
Install personnel decontamination at 1st floor center stairwell.
Construct isolation barrier to hardware store.
Pre-clean all critical barrier areas.
Install critical barriers with 2 layers of 6 mil fire resistant polyethylene.
Install air filtration devices to achieve .02 negative pressure by digital water manometer.

B. REMOVAL METHODS

NYSDOL – DOSH Part 56
NYCDEP, Title 15, Chapter 1, Subchapter F, Part 4
Remove filters from all heating, ventilating, and air conditioning systems.
Clean all contaminated spaces by wet wiping and HEPA vacuum.
Properly place all contaminated debris in appropriately labeled impermeable 6 mil bags .

C. DECONTAMINATION PROCEDURES

NYSDOL – DOSH Part 56
NYCDEP, Title 15, Chapter 1, Subchapter F, Part 2
Three stage decontamination unit.
Two stage waste decontamination unit.

D. FINAL CLEAN UP

NYSDOL – DOSH Part 56
NYCDEP, Title 15, Chapter 1, Subchapter F, Part 5

Remove all waste from the work area to dumpsters.

Request visual inspection from air monitoring inspector. Following satisfactory inspection, encapsulate all areas.

Air monitor will sample area for re-occupancy.

Following acceptable clearance sampling all equipment and waste will be demobilized.

EMERGENCY TELEPHONE LIST

FIRE DEPARTMENT:	<u>911</u>
POLICE DEPARTMENT:	<u>911</u>
AMBULANCE	<u>911</u>
NYC DEP – ASBESTOS	<u>718-595-3652</u>
NYS DOL – ASBESTOS	<u>518-457-1255</u>
CONTRACTOR:	<u>AEi2, LLC</u>
	<u>43 JEFFERSON AVENUE</u>
	<u>BERLIN, NEW JERSEY 08009</u>
	<u>BERNARD MCKENNA, GEN. MGR.</u>
	<u>856-768-9200</u>
	<u>HOME #856-228-8810/CELL #609-685-2225</u>
	<u>BEEPER #856-354-3395</u>
CONSULTANT:	<u>HILLMANN ENVIRONMENTAL GROUP</u>
	<u>1600 ROUTE 22 EAST</u>
	<u>UNION, NJ 07083</u>
	<u>MIKE NEHLSSEN</u>
	<u>908-686-3335/CELL #908-377-5644</u>
GENERAL CONTRACTOR:	<u>CLEAN HARBORS ENVIRONMENTAL</u>
	<u>3 SUTTON PLACE</u>
	<u>EDISON, NJ 08817</u>
	<u>STEVE MOTTA</u>
	<u>732-248-1997/CELL # 732-489-4592</u>
BUILDING OWNER:	<u>ESSA BATEH - 718-439-5555</u>
	<u>255 47TH STREET, BROOKLYN, NY 11220</u>

A. INITIAL WORK-SITE AREA PREPARATION

1. The contractor shall provide and post in clearly visible locations, appropriate caution and/or danger signs indicating that asbestos work is being conducted and that unprotected persons should not enter.
2. Employees of the contractor permitted pursuant to Federal, State and local guidelines or persons employed by the building owner who have successfully completed a maintenance/custodial or worker training course approved by the Department of Environmental Protection shall clean with wet cloths and/or with HEPA vacuums as appropriate all objects that can be removed from the work area without disrupting the asbestos-containing material. Objects shall include, but not be limited to, furniture, equipment, drapes, and curtains. The cloths used for cleaning shall be disposed of as asbestos contaminated waste. If the room and objects within it are shown to be uncontaminated by asbestos, then other employees of the building owner or contractor may remove such objects;
3. The contractor shall install or build a decontamination facility in accordance with NYCDEP, Chapter 1, Subchapter F, Part 2. See attachment 1.
4. The contractor shall arrange for shutting down and sealing off all heating, cooling, and ventilating or other air handling systems. However, if approved by the asbestos safety control monitor, the lighting and the receptacles in the work area may be used if these are properly protected by ground fault circuit interrupters and can be adequately cleaned following abatement;
5. The contractor shall establish written emergency procedures to be posted within each work area. These procedures shall include plans for medical emergencies, repair and clean-up following temporary breach of containment barriers.
6. Before removing any asbestos from the work area, the contractor shall ensure that the outer perimeters of the work area have been securely sealed off from the rest of the building.
7. All vertical and horizontal surfaces except those of asbestos containing materials shall be sealed with watertight polyethylene sheeting except as provided in 8 below.
8. The only permissible exception to total enclosure shall be:
 - i. An entrance airlock with showers and a decontamination chamber,
 - ii. A debris removal airlock to permit cleaning and removing asbestos waste;
 - iii. Staircases; and
 - iv. Controlled makeup air inlets into the work area.

9. Polyethylene sheeting shall be used to isolate contaminated from uncontaminated areas. This polyethylene sheeting shall be replaced or repaired immediately if torn or damaged. One layer of polyethylene sheeting shall be required for walls and two layers of polyethylene sheeting shall be used to seal open space between work areas and non-contaminated areas and for all floors. In buildings required by the Uniform Construction Code to be of noncombustible construction, all materials used to construct separation barriers must meet the Uniform Construction Code, building sub code requirements for that building and all plastics used must be flame resistant.

B. PROPER METHODS OF REMOVAL AND HANDLING FOR LARGE, SMALL AND MINOR ASBESTOS ABATEMENT PROJECTS

1. Initial activity in the work area shall be conducted in the following order:
 - a. Remove filters from all heating, ventilating, and air conditioning systems. Wet the filters and place them in polyethylene bags, double bagged with visible labels, for disposal as asbestos-containing waste. Squeeze all excess air out of the bag before sealing to prevent puncture during disposal. Secure bags by twisting, taping, folding over, and sealing them with duct tape.
 - b. The contractor shall wet clean and/or HEPA vacuum all non-removable non-asbestos items such as radiators and suspended light fixtures in the work area, including built-in equipment; and shall cover with two layers of polyethylene sheeting taped securely in place;
 - c. The contractor shall detach and wet clean removable electrical, heating, and ventilating equipment and other items, which may be connected to the asbestos surfaces. These items shall be removed from the work area and returned and reattached to their proper place when the work area has been decontaminated and final air testing has provided satisfactory results.
 - d. The contractor shall seal all floor, wall, and ceiling penetrations with suitable material such as expanding foam insulation before covering the surfaces with polyethylene sheeting. The contractor then shall seal all openings between the work area and uncontaminated areas including but not limited to, windows, doorways, elevator openings, skylights, corridor entrances, floor and sink drains, air ducts, grills, grates and diffusers with critical barriers consisting of two layers of polyethylene sheeting taped securely in place or stapled or fastened by spray-on adhesives, glue beads, or horizontal wood battens or the equivalent. Floor drains shall be sealed individually and then covered as all other floor surfaces with two layers of polyethylene sheeting. Separation barriers may be constructed to support the critical barriers. Separation barriers shall not block any required means of egress;

- e. For floor covering two layers of polyethylene sheeting shall be used. The first layer of floor sheeting shall extend up the wall at least 12 inches. The second layer shall be extended up walls at least 24 inches. Sheeting shall be located at the joints between walls and floors.
- f. Wall sheeting shall consist of one layer of polyethylene sheeting. It shall be installed to minimize joints and shall overlap floor sheeting by at least 18 inches. No seams shall be located at the corners. Wall coverings shall be taped first to the upper most edge of the wall and shall hang straight down;
- g. When a strippable coating is used in place of polyethylene sheeting, it must be manufactured for the specific application required for walls, floors, or windows:

When dry, the strippable coating must have a class A rating as a building material, and must meet the following requirements when tested in accordance with ASTM-E-84: flame spread no greater than 20, fuel contributed 0, and smoke developed no more than 110.

The strippable coating shall be applied uniformly in such a manner as to achieve a minimum uniform final thickness of six mil for each layer required pursuant to this subchapter.

Manufacturer's specifications shall be followed for the method of application and for the protection of the applicators and building occupants.

Use of the product shall be authorized in advance by the asbestos safety control monitor firm. The materials shall be delivered to the project site in unopened, factory-labeled containers.

- h. As all existing ventilating systems in work area are to be sealed throughout the removal operation, an alternative system shall be utilized. Install approved HEPA equipped air filtration units with filters in place. HEPA equipped air filtration units shall be of sufficient number and capacity to ensure that total air volume is exchanged at least once every 15 minutes and an acceptable pressure differential is established and maintained. These units shall be rated by the manufacturer as to their actual working air capacity and field tested pursuant to manufacturer's specifications.

Sequence of asbestos removal activities shall be as follows:

The asbestos-containing material shall be sprayed with water containing an additive to enhance penetration (amended water) or removal encapsulant. All wetting agents shall be tested on a small area before use to ensure effectiveness. A fine low-pressure spray of this solution shall be applied to prevent fiber disturbance preceding removal. The removal encapsulant or

amended water shall be sprayed on as many times and as often as necessary to ensure that the asbestos material is adequately wetted throughout (especially that asbestos nearest the substrate) to prevent dust emission.

1. As a method of organizing the asbestos removal work, workers shall begin working on the areas nearest to the decontamination unit and work towards the HEPA equipped air filtration units. If this is not feasible, the asbestos safety control monitor firm shall approve an alternative to this requirement.
2. The wet material from each section shall be packed and sealed into labeled six mil polyethylene bags and double bagged with visible labels or placed in labeled, leak-proof containers, prior to starting the next section. Water-soaked fallen material shall be picked up while wet.
3. Contaminated material containing sharp edged items shall be cut to manageable size while adequately wet, and then placed in suitable leak tight and puncture-proof containers or wrapped individually into two separate polyethylene sheets and double bagged.
4. Bags and drums shall be marked with the label prescribed by 40 CFR Part 61, Subpart M of the US EPA, 29 CFR 1926 of OSHA, and 49 CFR-Parts 100-199 of the US DOT Hazardous Waste Hauling regulations. The outside of all containers shall be wet-cleaned or HEPA vacuumed before leaving the work area.
5. After completion of this removal phase (stripping), all surfaces from which asbestos has been removed shall be scrubbed using nylon or bristle brushes and wet sponged or cleaned by an equivalent method to remove visible asbestos-containing material. During this work, the surfaces being cleaned shall be kept wet using amended water or a removal encapsulant. All disposable equipment shall be packaged for disposal. Containers shall be washed with amended water or a removal encapsulant and shall have all exterior particulate matter removed prior to removal from the contaminated area.
6. All accessory equipment shall be moved to the equipment room and decontaminated for removal.
 - i. All free water (in contaminated areas) shall be retrieved and added to asbestos-contaminated waste and/or placed in plastic lined leak-tight drums and/or solidified with an acceptable polymer or it shall be filtered using a five micron filter and disposed of in the sanitary drain, if allowed by local treatment works by regulation or as allowed by permit.

C. DECONTAMINATION PROCEDURES

1. The contractor shall provide an adequate decontamination unit consisting of a serial arrangement of rooms or spaces adjoining the work area or a decontamination trailer. Each airlock shall be clearly identified and separated from the other by three polyethylene crossover sheet doors designed to minimize fiber and air transfer as people pass between areas. A minimum of two layers of polyethylene sheeting shall be required for floors, walls, and the ceiling for on-site constructed decontamination units. Polyethylene crossover sheet doors shall have at least three layers of polyethylene sheeting and be weighted so as to fall into place when people pass through the area. Decontamination chamber doors shall be of sufficient height and width to enable replacement of equipment that may fail and to safely stretch or carry an injured worker from the site without destruction of the chamber or unnecessary risk to the integrity of the work area. Such doors must be at least four feet wide, and the distance between sets of doors must be at least four feet.

2. The decontamination unit shall consist of the following:
 - i. Clean room: In this room persons remove and leave all street clothes and put on clean disposable coveralls. Appropriate NIOSH approved respiratory protection equipment is also picked up in this area. No asbestos contaminated items are permitted in this room. The front entrance shall be equipped with a lockable louvered door to prevent unauthorized entry.

 - ii. Shower room: this is a separate room used for transit by cleanly dressed people entering the work area from the clean room and for showering by them after they have undressed in the equipment room. This is a contaminated area.

 - iii. Equipment room: Work equipment, footwear, and all other contaminated work clothing shall be stored here. This is also a change and transit room for people. All areas between the shower room and work area shall be considered part of the equipment room. This is a contaminated area.

 - iv. Each room shall be separated by individual airlock.

3. In order to prevent contamination of the environment, the contractor shall be responsible for controlling access at the work area and shall maintain a daily log of personnel entering the work area. A list of names of workers shall be posted with, their start and stop times for each day. In addition, the contractor shall ensure that all persons who enter the work area shall observe the following work area entry and exit procedures.

- i. Person enters clean room and removes street clothing, puts on protective clothing and a respirator, and passes through shower room into equipment room.
 - ii. Any additional required clothing and equipment previously deposited in the equipment room is put on.
 - iii. Person proceeds to work area.
 - iv. Before leaving the work area, the person shall remove all gross contamination and debris from the coveralls using a vacuum with a high efficiency particulate air (HEPA) filter. In practice, this is usually carried out by one person assisting another.
 - v. The person then proceeds to equipment room and removes all clothing except approved respirators. Extra clothing may be stored in contaminated end of the unit. Disposable coveralls are placed in a bag for disposal with other material.
 - vi. The person then proceeds directly into the shower room. Respirators shall be taken off last to prevent inhalation of fibers during the removal of contaminated clothing, and shall not be removed until they have been washed free of dust.
 - vii. Respirators are picked up, washed thoroughly, and disinfected as required, wrapped and stored in the clean room.
4. The contractor shall ensure that filters in cartridge type respirators used during the preparation and abatement phase of the project are removed, wetted, and discarded as contaminated waste. All new filters shall be in place in the respirator prior to reuse. For powered air purifying respirators or supplied air respirators, the manufacturer's instructions shall be followed about the proper decontamination sequence.
5. There shall be no smoking, eating, or drinking in any contaminated areas (shower room, equipment room, and work area). Respirators shall be worn in all contaminated areas.
6. Non-disposable footwear shall remain inside the contaminated area until completion of the activity, and shall be thoroughly cleaned at that time.

D. HOUSEKEEPING

Equipment, operational sites, vehicles and work areas shall be maintained in a clean and safe condition. Areas and surfaces shall be kept free of debris, unnecessary materials and tools, and any other items capable of causing falls, slips and trips.

E. FINAL CLEAN-UP

1. The contractor shall first clean all surfaces in the work area using a fine spray or mist of amended water or removal encapsulant applied to all surfaces followed by the wet-wiping procedure using disposable cloths. These cloths shall be disposed of or rinsed thoroughly on a frequency sufficient to eliminate visible accumulation of debris. The contractor shall allow all surfaces to dry for 12 hours before re-entering the work area to begin 2nd cleaning.
 - i. The contractor shall notify the asbestos safety technician in writing that a pre-sealant inspection is requested.
2. After completion of cleaning all surfaces in the work area and upon receiving a satisfactory pre-sealant inspection the contractor shall spray coat all dried expose surfaces with a sealant. The color of this coat shall be separate and distinct from the underlying substrate. The surfaces to be coated shall include surfaces from which asbestos-containing materials have been removed (such as ceilings) and polyethylene which has been used to cover walls, floors and non-removable fixtures and equipment.
3. The polyethylene sheeting used to protect floors, walls, fixtures, equipment shall be carefully removed and rolled up, with the contaminated portion of the inside, and packaged for disposal. Tape and any debris shall also be disposed on in sealed polyethylene bags labeled asbestos-contaminated waste.
4. Wet clean with amended water or a removal encapsulant all walls, woodwork, ceilings, electric light fixtures and other surfaces. Allow faces to dry and repeat procedure. Cloths or sponges used in the cleaning operation shall be disposed of as contaminated waste.
5. The polyethylene sheeting used to maintain critical barriers between work areas and clean areas such as those in doorways, windows and it shall be sprayed with encapsulant, but not removed until air monitoring is completed and satisfactory results have been obtained.
6. After completion of the cleaning operations the contractor shall:
 - i. Notify the asbestos safety technician that a clean-up inspection performed to ensure all visible asbestos has been removed an the are is dust free;

- ii. Request final air clearance monitoring of the work area.
- 7. After the work area is found to be in compliance with the acceptance criteria, the following tasks shall be performed by the contractor:
 - i. All critical barriers shall be removed and bagged in polyethylene bags for disposal;
 - ii. The inside of windows shall be washed;
 - iii. Any walls, floors, trim, doors, furniture or other items needed during the work shall be repaired and refinished to match existing.
- 8. Notice for a final inspection shall be made by the owner or contractor to the asbestos safety control monitor.
- 9. Upon receiving a satisfactory final inspection, application for a Certificate of Completion may be made.

F. GLOVEBAG REMOVAL (Not Applicable)

The following procedures shall be followed for the use of glove bags or other techniques or work practices approved by the Department which similarly contain asbestos fibers. The glove bag work area enclosure shall be either an enclosure, built out of polyethylene sheeting around the glove bag, or the entire room if no enclosure is built.

The preparation of the work area for glove bag removal shall include the following:

- 1. A minimum of two persons shall perform a glove bag removal project. A third person may be required to conduct air monitoring or assist with supplies.
- 2. The work area where the technique is to be utilized shall be roped off and appropriate caution and/or danger signs posted on the perimeter to prevent unauthorized personnel from entering the work area.
- 3. All necessary materials and supplies shall be brought into the work area before any removal begins.
- 4. One air change every 15 minutes shall be provided in a glove bag work area enclosure.
- 5. If no mini-enclosure is established, then the contractor shall arrange for shutting down and sealing off all electrical, heating, cooling, and ventilating or other air handling systems.

6. If approved by the asbestos safety control monitor, the lighting and receptacles in the work area may be used if these are properly protected by ground fault circuit interruptors and can be adequately cleaned following abatement.

The following is a list of equipment and tools for the removal of asbestos by the glove bag technique.

1. Glove bag(s) in suitable number, size and configuration for the specific abatement project. The glove bag is an air-tight, tear-resistant enclosure, designed to enclose an object from which asbestos-containing material is to be removed, constructed of a minimum of six mill polyethylene or other suitable material with inward projecting long sleeved gloves, a tool pouch or other place where tools can be placed, and facilities for water application and a HEPA equipped vacuum attachment.
2. A pump-up sprayer (garden type) with a two or three gallon capacity;
3. Wetting agent; amended water (water with a surfactant) or a removal encapsulant;
4. Six mil polyethylene disposal bags or leak-proof containers with the proper markings for asbestos waste;
5. A HEPA filtered vacuum with a capillary tube for insertion into the glove bag;
6. Tools such as a small scrub brush, a utility knife for cutting the insulation, a stapler, wire cutters, smoke tubes with aspirator bulb, a bone saw or other appropriate tool, tin snips, duct tape and wettable cloths;
7. A roll of six mill polyethylene; and
8. An encapsulant (tinted).

Removal procedures shall be conducted as follows:

A visual inspection of the pipe where the work will be performed shall be made to determine if any damaged pipe covering (such as broken lagging, or hanging) exists. If there is damage, then the affected portion of the pipe shall be wrapped in polyethylene and fully secured with duct tape. This procedure will prevent excessive airborne fiber concentrations from occurring during the glove bag work caused by pipe lagging hanging several feet or even several yards away which may be jarred loose by the activity. All dust and debris on the floor and other surfaces which has accumulated due to the abatement project and which contains asbestos shall be cleaned up as necessary, if the pipe is undamaged, one layer of duct tape shall be

placed around the pipe at each end where the glove bag will be attached. This permits a good surface to which to seal the ends of the glove bag, and it minimizes the chance of releasing fibers when the tape at the ends of the glove bag is peeled off at the completion of the project.

1. Slit the top of the glove bag open (if necessary) and cut down the sides to accommodate the size of the pipe (about two inches longer than the pipe diameter).
2. Place the necessary tools into the pouch locate inside the glove bag. This will usually include the bone saw, utility knife, rags, scrub brush, wire cutters, tin snips and pre-cut wettable cloth. Cut out a donut shape in the cloth with the inner diameter one-half inch small than the diameter of the pipe beneath the insulation. The outer diameter of the donut should be three inches longer than the diameter of the pipe insulation being removed. Finally, cut a slit in each of the two donuts so then can be slipped around the pipe. A piece of cloth that can be easily bent around the surface to be cleaned may be used instead of the donut-shaped cloth.
3. One strip of duct tape shall be placed along the edge of the open top slit of the glove bag for reinforcement.
4. Place the glove bag around the section of pipe to be worked o and staple the top together through the reinforcing duct tape. Staple at intervals of approximately one inch. Next, fold the stapled top flap back and tape it down with a strip of duct tape. This should provide an adequate seal along the top. Next, duct tape the ends of the glove bag to the pipe itself, previously covered with polyethylene or duct tape (see (d) 1 above). The bottom seam of the glove bag shall be sealed with high quality duct tape or equivalent to prevent any leakage from the bag that may result from a defect in the bottom seam.
5. Before the commencement of the abatement work, but after the glove bag is attached, the contractor shall smoke test each glove bag to ensure that it does not leak. The asbestos safety technician shall personally witness the smoke testing of each of these glove bags. Using the smoke tube and aspirator bulb or other approved smoke generating device, place the tube into the wetting agent sleeve (two-inch opening to glove bag). Fill the bag with visible smoke. Remove the smoke tube and twist the wetting agent sleeve to close it. While holding the wetting agent sleeve tightly, gently squeeze the glove bag and look for smoke leaking out, especially at the top and ends of the glove bag. If leaks are found, they shall be taped closed using duct tape and the bag shall be re-tested.

Exception: If negative pressure is established and maintained at .02 inches, w.c., smoke testing of glove bags is not required.

6. Insert the wand from the wetting agent sprayer through the wetting agent sleeve. Using duct tape, tape the wetting agent sleeve tightly around the wand to prevent leakage.
7. One person places his hands into the long-sleeved gloves while the second directs the wetting agent spray at the work.
8. If the section of pipe is covered with a protection jacket, this is removed first, using the wire cutters to cut any bands and the tin snips to remove the jacket. It is important to fold the sharp edges in to prevent cutting the bag when it is placed in the bottom. A box may be put in the bottom of the bag when the tools are placed in, and the metal placed in the box to further protect the bag from being cut.
9. With the insulation exposed, using the bone saw, cut the insulation at each end of the section to be removed. A bone saw is a serrated heavy-gauge wire with ring-type handles at each end. Throughout this process, wetting agent is sprayed on the cutting area to keep dust to a minimum.
10. Once the ends are cut, the section of insulation should be split from end to end using the utility knife. The cut should be made along the bottom of the pipe and the wetting agent continuously supplied. Again, care should be taken when using the knife not to puncture the bag. Some insulation may have wire to be clipped as well. Again, a box may be used as in (d)9 above to protect the bag from puncture.
11. Rinse all tools with wetting agent inside the bag and place back into punch.
12. The insulation can now be lifted off the pipe and gently placed in the bottom of the bag, while the side of the insulation adjacent to the pipe is being thoroughly wetted.
13. Using the scrub brush, rags and water, scrub and wipe down the exposed.
14. Wet the donut-shaped pieces of wettable cloth over the exposed ends of insulation remaining on the pipe.
15. Remove the wetting agent wand from the wetting agent sleeve and attaché the small nozzle from the HEPA-filtered vacuum. Turn on the vacuum only briefly to collapse the bag.
16. Remove the vacuum nozzle and twist the wetting agent sleeve closed and seal with duct tape.
17. Remove all the tools and draw them out into one of the arm sleeves, twist the sleeve tightly, and seal with tape, and cut the sleeve away from the bag, cutting

through the tape. In this manner, the contaminated tools may be placed directly into the next glove bag without being cleaned. Alternatively, the sleeve with the tools in it can be placed in a bucket of water, opened underwater and dried without releasing asbestos into the air. This water shall be handled as asbestos-contaminated waste. Rags and scrub brushes cannot be cleaned in this manner and should be discarded with the asbestos-contaminated waste. No more than one use of a glove bag shall be permitted.

18. With removed insulation I the bottom of the bag, twist the bag several times and tape it to keep the material in the bottom during removal of the glove bag from the pipe.
19. Slip a six mil disposal bag over the glove bag (still attached to the pipe). Remove the tape and open the tope of the glove bag and fold it down into the disposal bag.
20. All surfaces in the work area should be cleaned using disposable cloths wetted with wetting agent. These cloths shall be disposed of or rinsed thoroughly to eliminate visible accumulation of debris. Then, when these surfaces have been allowed to dry, all surfaces shall be cleaned again using a HEPA filtered vacuum. If no mini-enclosure was built, then the entire room shall be cleaned.
21. Place any contaminated articles or debris into the bag with the waste.
22. Twist the top of the bag closed, fold this over, and seal with duct tape. Label the bag with labels prescribed by 40 CFR Part 61, Subpart M of the USEPA, 29 CFR 1926 of OSHA and 49 CFR – Parts 100-199 of the US DOT Hazardous Waste Hauling regulations.

G. ENCAPSULATION (Not Applicable)

Encapsulation constitutes spraying friable asbestos-containing material with a liquid sealant (not including paint) that helps bind the asbestos together with other material components to adhere it firmly to the building structure.

1. The requirements of this section are set forth in order to prevent the contamination of the building environment which may be caused by improperly performed asbestos encapsulation work.
 - i. Encapsulation shall not be performed where:
 - a. Asbestos-containing material is friable, damaged, or deteriorating;
 - b. Effective long-term inspection of the encapsulated site cannot be assured;
 - c. The source of asbestos is highly accessible to building occupants and damage to materials is possible;
 - d. The asbestos-containing material does not adhere well to the substrate;

- e. There is existing or potential water damage to asbestos containing material;
 - f. The asbestos-containing material is more than one inch thick; and is used to cover ceilings, walls, beams, or other structural members;
 - g. The asbestos-containing material is subject to high vibration.
- ii. Encapsulation may be performed when:
- a. Damage to the material is improbable;
 - b. The asbestos-containing material is granular or cementitious;
 - c. The encapsulating material is known to bond asbestos to the subsurface and asbestos-containing material and also retains its bonding integrity;
 - d. Asbestos-containing material has been removed and loose fibers remain which should be bonded.
- iii. If encapsulation is used as a method of asbestos abatement the following maintenance procedures shall be employed:
- a. A periodic monitoring and maintenance program consisting of inspection at least annually to check for damage to all encapsulated surfaces;
 - b. Maintenance of records by the building owner, on the locations and condition of the encapsulated material;
- iv. Sealants considered for use in encapsulation shall first be tested to ensure that the sealant is adequate for its intended use. A section of the asbestos-containing materials shall be evaluated following this initial test application of the sealant to quantitatively determine the sealants effectiveness in terms of penetrating and hardening the asbestos-containing material, its toxicity, its flammability, its tolerance to disturbance or abuse, its solubility (dissolvability) in water, its effects on the acoustical properties of the asbestos-containing material, and its tolerance to top-covering paints. The United States Environmental Protection Agency, Office of Toxic Substances, has developed guidelines for the use of encapsulants on asbestos-containing materials which discuss advantages and disadvantages of encapsulation. The American Society of Testing and Materials (ASTM) Committee E06.221.06E on Encapsulation of Building Materials has developed a guidance document to assist in the selection of an encapsulant once a decision to encapsulate has been made. When a choice of an encapsulant has been made, written justification of this choice (based on the characteristics of the encapsulant, the asbestos-containing material to be encapsulated, and the substrate surface underneath the asbestos-containing material) shall be included in the job specifications, and a copy of this justification shall be available for review at the job site.
- v. Before encapsulation is performed, all loose and hanging asbestos-containing material shall be removed while damp, and disposed of in accordance with Federal, State and Local guidelines.

- vi. Filler materials used to repair damaged and missing areas of asbestos-containing material shall contain no asbestos, shall adhere well to the substrate and shall provide an adequate base for the encapsulating agent.
- vii. Encapsulated asbestos-containing materials shall be identified by signs, labels, color coding or some other mechanism to warn persons who may be required to disturb the material that asbestos is present.
- viii. Where encapsulants are sprayed on asbestos-containing materials:
 - 1. Low pressure airless spray shall be used. The airless spray gun shall have an appropriately sized tip which shall be tested by briefly spraying the encapsulant onto a surface from approximately 12 inches away. An appropriately sized tip will spray the encapsulant in a fan approximately eight inches wide; it will also distribute the encapsulant uniformly within the fan, giving even coverage.
 - 2. A suitable quantity of HEPA filtration units shall be used during the encapsulation process which shall have sufficient capacity to cause one complete air exchange every 30 minutes.
 - 3. At least three coats of the encapsulant shall be applied to the surface of the asbestos-containing material. Each coat shall be applied in a two-step procedure. The first step is to apply a light mist coat to moisten and seal any loose fibers and keep them from breaking away from the surface. This mist coat should be applied in three or four quick passes with the gun held 18 to 24 inches from the surface. After an area of 16 to 20 square feet has been given the mist coat, a heavier coating is applied, using 8 to 10 passes with the gun held 10 to 12 inches from the material. The gun should be kept in constant motion to create a smooth and even coat. This two-step application shall be considered one coat of encapsulant. Each subsequent coat shall be applied at a 90 degree angle to the direction of the preceding coat application, to ensure complete coverage of the asbestos-containing material. When questions arise regarding drying time, curing time, dilution, or use under different weather conditions, the manufacturer's recommendations and instructions shall be consulted.
 - 4. All other preparation, decontamination, and work requirements and procedures used in encapsulation projects shall be the same as those used in removal projects.
 - 5. Sealants used in the encapsulation shall not alter the existing fire rating and shall be flame resistant and meet the flame spread and smoke generation requirements of Federal, State and Local guidelines.

H. H. ENCLOSURE (Not Applicable)

Enclosure constitutes construction of a permanent (that is, for the life of the building), air-tight, impact-resistant, solid structure of new construction materials which must be built around the asbestos covered pipe or structure to prevent the release of asbestos-containing materials into the area beyond the enclosure and to prevent these materials from casual contact during future maintenance operations. The enclosure shall not alter the existing fire rating and shall be flame resistant and meet the flame spread and smoke generation requirements of federal, state and local guidelines.

1. The requirements of this section are set forth in order to prevent the contamination of the building environment which may be caused by improperly performed asbestos enclosure work. The following procedures shall be adhered to:
 - i. Before constructing the enclosure, all electrical conduits, telephone lines, recessed lights, and pipes in the area shall be moved to ensure that the enclosure will not have to be reopened later for routine or emergency maintenance. If for any reason, lights or other equipment cannot be moved, removal of the asbestos-containing materials rather than enclosure shall be the appropriate control method to use;
 - ii. Enclosure walls shall be made of tongue and groove boards, boards with spine joints, or gypsum boards having taped seams. All joints between the walls and ceiling of the enclosure shall be caulked to prevent the escape of asbestos fibers;
 - iii. The underlying structure must be able to support the weight of the enclosure. Suspended ceilings with laid-in panels do not provide air-tight enclosures and shall not be used to enclose structures covered with asbestos-containing materials;
 - iv. The surface of the asbestos-containing materials which will be disturbed during the installation of hangers, brackets or other enclosure supports shall first be sprayed with amended water or a removal encapsulant using a low pressure airless spray;
 - v. Power drills or other tools which may disturb asbestos-containing materials shall be equipped with or used in conjunction with HEPA vacuum filters;
 - vi. Loose and hanging asbestos-containing materials shall be removed while damp and disposed of in accordance with federal, state and local regulations;
 - vii. After the installation of hangers, brackets or other supports and before the asbestos-containing material is enclosed, asbestos-containing materials shall be repaired, using materials which do not contain asbestos;
 - viii. Enclosures for asbestos-containing materials shall be identified by signs, labels, color coding or some other mechanism to warn persons who may be required to disturb the enclosure that asbestos is present; and
 - ix. Enclosures shall be inspected at least annually to ensure their integrity.

I. EMERGENCY PROCEDURES

OSHA requires a written emergency action plan and fire prevention plan. The requirements are detailed in 29CFR 1910.38. The essential items of the plan should include:

- The manner in which emergencies are announced.
- Emergency escape procedures and emergency escape routes.
- Procedures for employees who must remain to operate critical plant operations which may take time to shut down.
- Procedures to account for all employees after evacuation.
- Rescue and medical duties.
- Names and/or job titles of people to be contacted for additional information.
- A list of the major workplace fire hazards.
- Names and/or job titles of people responsible for maintenance of fire prevention equipment.
- Names and/or job titles of people responsible for the control of fuel source hazards.

Establish a system for alerting workers of an emergency or other problem that may require evacuation of the work area. A compressed air boat horn provides an effective alarm that can be heard and does not rely on a power source. All persons entering the work area should be familiar with the evacuation alarm signal and primary and secondary exits. A simple floor plan drawing of the work area should be posted to familiarize persons entering the work area with the site and location of exits.

Written emergency procedures should cover procedures to be used in case of the following fire, which may include heavy smoke conditions; power failure; compressor failure with the use of air-supplied respirators; accident; or employee injury.

J. ELECTRICAL SYSTEMS LOCKOUT AND TEMPORARY POWER IMPLEMENTATION

- The use of wet methods increases the potential for electrical shock when working around electrical panels, conduit, light fixtures, alarm systems, junction boxes, computers, transformers, etc.
- De-energize as much equipment as possible. Use portable flood-light systems for lighting and regularly check the system and wiring for damage. Twelve volt lights systems are available that work very well.
- Consider using dry removal in areas immediately adjacent to energized electrical equipment if de-energizing is not feasible. Consultation with local NESHAP authorities is necessary to prevent citation for failure to use wet methods.
- Use non-conductive scrapers and vacuum attachments (wood, plastic, rubber).
- Supply workers with heavy insulated rubber boots and /or gloves when working around energized wiring or equipment (lighting, panel boxes, transformers).
- Ensure all electrical equipment in use is properly grounded before the job starts. This means checking outlets, wiring, extension cords and power pickups. Check for the ground-pin on plugs. These checks should also be made while setting up and regularly during the job.
- Use care not to violate insulated coverings with scrapers, scaffolding wheels, etc. Rolling a heavy cart of scaffold over a flex cord can easily cause internal damage.
- Avoid stringing electrical wiring across floors. Elevate wiring if possible to keep it away from water on the floor and damage from foot traffic and rolling scaffolds. Duct tape is effective for this.
- Do not allow water to accumulate in puddles on work area floors. NESHAP regulations require damp conditions, not standing water!
- Ensure electrical outlets are tightly sealed and taped to avoid water spray.
- Always perform a pre-work walk-through to identify potential sources of electrical hazards to abatement workers, or equipment that may be damaged by wet removal methods.
- Use stable wooden or fiberglass ladders not metal.
- Determine operating voltages of equipment and lines before working on or near energized parts. De-energize and lock-out when possible.

- Electrical equipment and lines should be considered energized unless tested and determined otherwise.
- Energized parts must be insulated or guarded from employee contact and any other conductive object.
- Extension cords used with portable electrical tools and appliances must be the three-wire grounded type and connected to a GFI (Ground Fault Interrupter) circuit.
- Extension cords:
 - Should be protected from accidental damage.
 - Should not be fastened with staples, hung from nails, or suspended by wire (tape is an acceptable alternative).
- Portable electrical hand tools should meet the following requirements:
 - Should be equipped with a 3-wire cord having a ground wire permanent fixed to the tool frame; or
 - Should be of double-insulated type and labeled as such.
- For circuits over 600 volts, if electrical disconnects are not visible and open or locked out, the following requirements should be met:
 - Circuits to be de-energized are clearly identified and isolated from all energy sources.
 - Notification received from a designated employee that all switches and disconnectors that could supply energy have been de-energized, locked out, and plainly tagged to show men at work.
 - Visual inspections and tests made to assure de-energizing of lines and equipment.
 - Protective grounds applied to disconnected lines or equipment.
 - Separate tag and lockout attached for each crew requiring de-energizing of same line or equipment.
 - Tags and lockouts should not be removed from completed work until designated employees report that all crew members are clear and protective grounds they installed have been removed.

K. FLOORING ABATEMENT (Not Applicable)

For removing vinyl and asphalt flooring materials which contain ACM or for which in buildings constructed no later than 1980, the contractor has not verified the absence of ACM, the contractor shall ensure that employees comply with the following work practices and that employees are trained in these practices.

- Flooring or its backing shall not be sanded.
- Vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) shall be used to clean floors.
- Resilient sheeting shall be removed by cutting with wetting of the snip point and wetting during delamination. Rip-up of resilient sheet floor material is prohibited.
- All scraping of residual adhesive and/or backing shall be performed using wet methods.
- Dry sweeping is prohibited.
- Mechanical chipping is prohibited unless performed in a negative pressure enclosure.
- Tiles shall be removed intact, unless the employer demonstrates that intact removal is not possible.
- When tiles are heated and can be removed intact, wetting may be omitted.
- Resilient flooring material including associated mastic and backing shall be assumed to be asbestos-containing unless an industrial hygienist determines that it is asbestos-free using recognized analytical techniques.

L. SIDING AND ROOFING ABATEMENT FOR DEMOLITION OF STRUCTURE WORK ONLY (Not Applicable)

For removing roofing material which contains ACM the contractor shall ensure that the following practices are followed:

- Roofing material shall be removed in an intact state to the extent feasible.
- Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards.
- Cutting machines shall be continuously misted during use, unless a competent person determines that misting substantially decreases worker safety.
- When removing built-up roofs with asbestos-containing roofing felts and an aggregate surface using a power roof cutter, all dust resulting from the cutting operation shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. When removing built-up roofs with asbestos-containing roofing felts and a smooth surface using a power roof cutter, the dust resulting from the cutting operation shall be collected either by a HEPA dust collector or HEPA vacuuming along the cut line, or by gently sweeping and then carefully and completely wiping up the still-wet dust and debris left along with cut line.
- Asbestos-containing material that has been removed from a roof shall not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane or hoist.
- Any ACM that is not intact shall be lowered to the ground as soon as it practicable, but in any event no later than the end of the work shift. While the material remains on the roof it shall either be kept wet, placed in an impermeable waste bag, or wrapped in plastic sheeting.
- Intact ACM shall be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift.
- Upon being lowered, unwrapped material shall be transferred to a closed receptacle in such manner so as to preclude the dispersion of dust.
- Roof level heating and ventilation air intake sources shall be isolated or the ventilation system shall be shut down.

Notwithstanding any other provision of this section, removal or repair of sections of intact roofing less than 25 square feet in area does not require use of wet methods or HEPA vacuuming

as long as manual methods which do not render the material non-intact are used to remove the material and not visible dust is created by the removal method used. In determining whether a job involves less than 25 square feet, the contractor shall include all removal and repair work performed on the same roof on the same day.

When removing cementitious asbestos-containing siding and shingles or transite panels containing ACM on building exteriors (with the exceptions noted above) the contractor shall ensure that the following work practices are followed:

- Cutting, abrading or breaking siding, shingles, or transite panels, shall be prohibited unless the contractor can demonstrate that methods less likely to result in asbestos fiber release cannot be used.
- Each panel or shingle shall be sprayed with amended water prior to removal
- Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.
- Nails shall be cut with flat, sharp instruments.

WASTE REMOVAL PROCEDURES

- A. All asbestos and asbestos contaminated waste, after thorough wetting, shall be placed in two properly marked 6-mil polyethylene bags, a properly marked drum, or items of waste too large to place in these containers shall be wrapped with two layers of 6-mil polyethylene sheeting, as permitted by applicable regulations.
- B. The bags shall be independently twisted and sealed. Drums shall be closed and sealed. Wrapped items shall have each layer of polyethylene sealed with duct tape.
- C. The asbestos containers shall then be moved to the debris port and stockpiled until a sufficient quantity is acquired for removal operations.
- D. Prior to removal operations, remove the duct tape from all doors of the waste decon.
- E. A workman in the sealed work area shall use brushes or HEPA vacuums to remove gross asbestos from each debris container and then rinse it with a water spray prior to passing it through the door of the first chamber (Packaging Area) of the waste decon. A worker in the Packaging Area of the waste decon shall hold open a 6-mil polyethylene bag into which the worker in the work zone shall place the cleaned

debris container. For large wrapped items, a sheet of 6-mil polyethylene shall be laid on the floor of the Packaging Area onto which the cleaned, passed-through item shall be placed and wrapped with all items shall then be passed through the door leading to the second chamber (Holding Area) of the waste decon.

- F. All polyethylene bags shall be properly marked and polyethylene wrapped items shall be properly labeled in accordance with all regulatory requirements. Labeling shall include the name of the waste generator and the location at which the waste was generated.
- G. Debris containers shall then be moved through the outer door of the Holding Area of the waste decon and immediately taken to and deposited in the truck or dumpster provided for disposal purposes. This procedure must be completed by the end of each shift. The truck body or dumpster shall be totally enclosed, lined with 6-mil polyethylene, locked, and labeled. The truck or dumpster utilized for disposal shall be non-compaction type. NOTE: containers shall be removed from the Holding Area by workers who have entered through the outer door of the Holding Area from a clean area.
- H. Workers outside of the work area who are removing and/or loading waste containers shall wear a full set of clean protective clothing and the specified respirator.
- I. Unless otherwise indicated, specified, or specifically approved, the area through which the debris containers are transported from the waste decon to the truck/dumpster shall be enclosed with an opaque material such as black polyethylene to prevent public view of debris removal operations.
- J. The storage compartments of trucks or dumpsters shall be thoroughly HEPA vacuumed and wet cleaned following the disposal of each load of waste material at the landfill. At the conclusion of the Project, or before transport vehicles or dumpsters are utilized for other purposes, the polyethylene lining shall be properly removed and disposed of as contaminated waste. After this is accomplished, the compartments shall be wet cleaned and/or HEPA vacuumed.
- K. The number and type of waste containers taken from the work area and deposited in the truck or dumpster shall be recorded in the Contractor's narrative daily log.
- L. The waste hauler shall have obtained all permits, licenses or approvals required for hauling asbestos. The vehicle utilized for waste transport shall be labeled in accordance with all regulatory requirements.
- M. The waste shall be taken to a properly licensed and approved landfill or processing facility. There, it shall be unloaded in a manner which does not break open the sealed waste containers. Waste delivered to a landfill shall be buried within 24 hours from the time of its delivery.

- N. The Contractor shall fill out and retain copies of manifests of all loads of waste removed from the job site. Copies of all such manifests shall be forwarded to the Consultant.

18C NOTIFICATION PROCEDURES

The purpose of this sub-chapter is to establish the requirements for notifying the proper authority as to when and where asbestos work will be undertaken.

This sub-chapter shall be applicable to all employers who are required to possess an asbestos license pursuant to federal, state and local agencies and who enter into a contract to perform asbestos work in the State of New York

12:120-7.2 NOTIFICATION REQUIREMENTS

- A. Every employer under the scope of this sub-chapter who plans to perform asbestos work in New York shall submit a written notification of intent to perform asbestos work at least 10 calendar days prior to beginning such work on forms specified by the NYC DEP/NYS DOL/EPA except where such work is exempted.
 - 1. The date of submission of the notice is determined to be the date as postmarked by the United States Postal Service on the transmittal envelope.
 - 2. If the postmark is not legible, or if metered mail is used, the date of submission of the notice is determined to be the date of receipt by the proper regulatory agency(s).
 - 3. If an earlier mailing date is established by proof of mailing with a recognized United States Postal Service receipt, the date of submission of the notice is determined to be the established date.
 - 4. The pick-up date of a recognized overnight delivery or courier service shall be deemed equivalent to a United States Postal Service postmark.
 - 5. Facsimile transmissions of written notifications of intent to perform asbestos work are only accepted as submissions where emergency circumstances are warranted pursuant to this sub-chapter.
- B. The written notification required by (A) above shall include:
 - 1. The name, address, and telephone number of the licensee.
 - 2. The license number and type of license held by the licensee.
 - 3. The name and address of the owner of the facility.

4. The location and description of the facility.
5. A description of the asbestos work to be performed.
6. The starting and scheduled completion dates of the asbestos work.
7. The name and address of the waste disposal site where the asbestos-containing material will be disposed.
8. The name, address and New York Waste Hauler identification number of the registered waste hauler, and
9. Any other relevant information which the regulatory agencies determines to be necessary.

C. Amended written notifications shall be submitted in accordance with federal, state and local guidelines, if required. Amended notifications to the proper regulatory agency(s) are required when:

1. The starting date is delayed beyond the scheduled completion date as submitted on the initial notification.
2. The scheduled completion date will extend beyond the scheduled completion date as submitted on the initial notification.
3. The scope or description of the asbestos work to be performed for the facility changes.

D. The local authority, as the case may be, may allow less than 10 calendar days prior notification where emergency circumstances warrant less than a 10 calendar day prior notification may be granted, the notifying party shall:

1. Submit a written explanation from the facility owner or from the third party environmental engineer representing the facility owner.
2. Detail the unexpected situation or sudden occurrence of a serious and urgent nature that demands immediate action, and
3. The impact upon the facility owner should a waiver of the 10 calendar day prior notification not be granted.
4. By facsimile transmission or express delivery, submit a written notice for the emergency circumstance.

5. A request for a waiver of the 10 calendar days prior notification may be reviewed for approval by the local authority when received by facsimile transmission or express delivery. Only after the local authority has determined and authorized that the emergency circumstance warrants a waiver, may the asbestos work proceed as notified.



AEi2, L.L.C.

Asbestos Abatement & Environmental Cleanup



FIELD EQUIPMENT

Construction/Remediation Equipment

- * Bobcat 753 Backhoe with Hydraulic Hammer & Sweeper
- * CAT 416 Rubber Tire Backhoe
- * CAT 426B Rubber Tire Backhoe
- * Mitsubishi MS180 1.5CY Excavator
- * Volvo with Guzzler Model XCR 4816TC Wet/Dry Vacuum Truck & Swing Out Cyclone for direct loading

- * Ford with Guzzler Model XCR 4816TC Wet/Dry Vacuum Truck & Swing Out Cyclone for direct loading
- * Ford L8000 20CY Dump Truck
- * 30' Field Office/Decontamination Trailer
- * Ford F150 Van
- * Ford F250 Van
- * Ford F350 14' Box Trucks

Asbestos Removal Equipment

- * Air Flow Testers
- * Paramount Leaf Blowers
- * Geyer Utility Pumps
- * HEPA Negative Air Filtration Units (micro)
- * Nilfisk Vacuums
- * Hako Minute Man HEPA 15-gallon Vacuums
- * Hako Back Pack Vacuum

- * Binks Airless Spraying Compressors
- * Fog Master Tri-Jet Misting Machines
- * Homelite Portable AC Power Generators
- * Wicno Portable AC Power Generators
- * Triden Air Circulation HEPA Units
- * Insulazer High Pressure Washer
- * Type C Supplied Air System

Miscellaneous Equipment

- * Scaffolding Frames (complete)
- * Platforms
- * Pressure Washers
- * 3" Aluminum Double Diaphragm Pumps
- * 2" Aluminum Double Diaphragm Pumps
- * 3/4" Plastic Double Diaphragm Pumps

- * Spin Jet Nozzle
- * Drum Pump
- * 2" Trash Pump
- * Complete Torch Sets
- * Nitrogen Tank Inerting System

Direct Reading Environmental Indicator

- * Photoionization Detector
- * LEL/O2 Indicator
- * Colormetric Indicator Tubes
- * Chemical Resistant Boots & Gloves

Personal Protective Equipment

- * Full Face Air Purifying Respirators
- * Supplied air Respirators
- * Plastic Coated Tyveks

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J. C. Broderick & Associates
Environmental Engineers

October 12, 2001

Mr. Lawrence R. Gilbert
Lawrence R. Gilbert
47-30 162nd Street
Flushing, New York 11358

Re: **Suspect Asbestos Containing Bulk/Dust Material Sampling**
Various Floors and Roof Areas
Building of Atta M. Batah
102-104 Greenwich Street
New York, New York
October 11, 2001

JCB#: 01-2260

Dear Mr. Gilbert:

J. C. Broderick & Associates, Inc. (JCB) performed sampling of suspect asbestos containing bulk and dust materials observed at the above referenced location that were expected to be associated with the World Trade Center Tragedy that occurred on September 11, 2001. The inspection and bulk sampling was performed by New York State Department of Labor (NYS DOL) certified inspectors and sampling technicians. Chain of custody forms were prepared and the samples delivered to an independent Environmental Laboratory Approval Program (ELAP) certified laboratory for analysis.

The suspect materials were identified by JCB inspectors based upon visual observations, and information provided at the time of the inspection. The suspect asbestos containing materials were then identified and categorized with an identification number, and then a representative number of samples were collected. Sampling of the suspect asbestos containing materials was performed essentially in accordance with the "Specifications for Sampling Materials and Selecting a Qualified Laboratory to Analyze for Asbestos" as written in Appendix G of the Environmental Protection Agency (EPA) publication "Guidance for Controlling Asbestos Containing Materials in Buildings."

The samples were delivered to Long Island Analytical Laboratories, Inc. (LIAL) for analysis of asbestos content. LIAL's ELAP number is 11693. The friable suspect material was analyzed by ELAP Method 198.1/198.4 as per 40 CFR, Subpart F, Appendix A. Technical information regarding PLM method of analysis is available upon request.

An asbestos material is defined in Part 56 of Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York as any material containing more than one percent (>1%) by weight of asbestos. By this definition, the results of the samples analyzed were recorded in the table below.

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