DISPOSING OF ASBESTOS CONTAINING MATERIALS FROM STRUCTURES IMPACTED BY HURRICANE SANDY

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ISSUE

Reports have been received that homes are being demolished without testing for or removing asbestos.

HAZARD

Asbestos is extremely hazardous to human health. Even small amounts of asbestos can cause serious illness and death years after exposure. Also, asbestos was a common building material. Consequently, all persons who are removing walls or other parts of homes damaged by Hurricane Sandy should be cautious and determine if asbestos is present prior to removal.

SUMMARY

The homeowner should first determine if the house contains asbestos by contracting with a professional asbestos inspector certified by the U.S. Environmental Protection Agency to conduct an inspection and take samples of any suspect asbestos-containing material. This is the most critical step to protect your health and the health of those who work on your home, your neighbors and anyone who may come in contact with the material you remove.

Removal of any asbestos, or demolition of a home that potentially contains asbestos, must be done in accordance with local, state, and federal rules. See requirements and attachments below.

If anyone but the homeowner removes the asbestos, they must be licensed by the Department of Labor. This includes volunteers. Extensive training is required, including how to use personal protection equipment. While a homeowner is not required to be licensed, we recommend that only licensed professionals remove asbestos.

REQUIREMENTS

Prior to the demolition of any structure, the presence of asbestos containing materials (ACM) must be determined and any ACM removed. This is necessary to obtain a municipal demolition permit. Under current New Jersey Department of Health (NJDOH) and New Jersey Department of Labor Regulations (NJDOL), there is nothing that prohibits the homeowner from removing, packaging and disposing of asbestos roofing, siding and insulation from his personal residence. However, anyone but the homeowner removing the asbestos from a residence must have a license issued by the NJDOL. This includes volunteers who are assisting in Hurricane Sandy clean-up efforts. NJDOL regulations can be found at N.J.A.C. 12:120, Asbestos Licenses and Permits.

The asbestos packaging and disposal procedures issued by the NJDEP, NJDOL and the appropriate local and county entities apply to everyone, including the homeowner.

Attached is a summary of the relevant requirements, including some Frequently Asked Questions about Asbestos. The rules should be consulted for specific requirements. These Frequently Asked Questions may also be found at http://www.state.nj.us/health/iep/asbestos_faq.shtml.

The following are other websites which can be consulted for addition information:

NJ Department of Community Affairs, Bureau of Code Services

http://www.nj.gov/dca/divisions/codes/offices/asbestos.html

NJ Department of Environmental Protection, Division of Solid and Hazardous Waste

http://www.nj.gov/dep/dshw/rrtp/asbestos.htm

ATTACHMENT

Asbestos Guidance for Sandy Home Demolition

1. Obtain all appropriate permits as required by the residences' municipality and/or other government agencies for demolition activity before beginning any demolition activity.

2 Note that removing asbestos improperly or conducting demolition activities without complying with all State and Federal asbestos regulatory requirements may jeopardize FEMA reimbursement.

3 Demolition of homes as a result of Hurricane Sandy are subject to the New Jersey rules implemented by the Departments: Environmental Protection; Labor and Workforce Development; Health; and Community Affairs.

4 Demolition of homes may also be subject to the Asbestos National Emission Standard for Hazardous Air Pollutants (Asbestos NESHAP).

5. The State of New Jersey Department of Health (DOH) provides comprehensive **General Information** for asbestos detection, removal, management and disposal activities at the following website:
http://www.nj.gov/health/iep/asbestos_faq.shtml#Training_and_Permitting_in_NJ.

   You may contact the DOH office at 609-826-4950, for assistance.

6. Demolition of homes involving asbestos must be conducted by a contractor licensed by the State of New Jersey Department of Labor and Workforce Development (DLWD). Additionally, the contractor must submit a notification of the work 10 days prior to date of demolition. Information regarding licensing of contractors and DLWD requirements can be found at the following website:
http://lwd.dol.state.nj.us/labor/lsse/employee/asbestos_control_and_licensing.html

   You may contact DLWD at 609-633-2159, for assistance.

7. Asbestos Containing Waste must be disposed of as ID 27A Solid Waste in New Jersey. Guidance for asbestos waste disposal is available at the following New Jersey Department of Environmental Protection (NJDEP) website:
http://www.nj.gov/dep/dshw/rrtp/asbestos.htm .You may contact the NJDEP's Bureau of Landfill and Hazardous Waste Permitting at telephone number: 609-984-6985, for assistance.

8. The following sections of **the DOH Asbestos General Information** website are excerpted below. Note that there may be other sections of the DOH Asbestos General Information website document that are relevant for and/or can inform persons of relevant

aspects of asbestos detection, removal, management, and disposal activity so please review the entire document.

DOH Asbestos General Information Website Excerpt:

Testing for Asbestos

Q. How can I find out if I have asbestos in my home or not?

It is recommended that you hire a professional asbestos inspector certified by the U.S. Environmental Protection Agency to conduct an inspection and take samples of any suspect asbestos-containing material. If you can't afford to hire an inspector, you can contact an accredited laboratory to find out how much it would cost to analyze a sample and how they prefer it to be submitted.

Q. What types of testing methods are available?

There are a number of recognized testing methods for asbestos. Samples are typically analyzed by three main methods: Polarized Light Microscopy (PLM), Transmission Electron Microscopy (TEM), and Phase Contrast Microscopy (PCM). Not all techniques can be used for all sample types. Below is a description of each:

PLM - Typically fast and inexpensive; can distinguish asbestos fibers from other fibers such as fiberglass and cellulose; most common procedure for bulk samples; TEM recommended for accurate determination for samples such as floor tiles.

TEM - More expensive; state-of-the-science; magnification of at least 25,000X; accurately identifies fibers which PLM and PCM cannot confidently identify as asbestos or non-asbestos; recommended for dust wipe samples so that asbestos fibers are accurately identified; can be used for both bulk and air samples

PCM - Typically fast and inexpensive; cannot identify asbestos directly; for lower detection limits or confirmation of asbestos, TEM is recommended; common analytical technique used for analysis of air samples

Following is a chart indicating the type of sample and appropriate testing methodologies for that sample:

Sample Type	Method of Analysis
Bulk Sample	Polarized Light Microscopy (PLM)
	Transmission Electron Microscopy (TEM)
Surface/Wipe Sample	Transmission Electron Microscopy (TEM)
Air Sample	Phase Contrast Microscopy (PCM)
	Transmission Electron Microscopy (TEM)

Q. How do I know for sure whether or not something contains asbestos?

Unless the insulation is labeled as asbestos you cannot tell if it is asbestos-containing by merely examining it. To determine the presence of asbestos, a sample of the material must be analyzed by a laboratory that is accredited for analyzing asbestos. We recommend using a laboratory accredited by one of these two following organizations:

- *American Industrial Hygiene Association (AIHA)* Asbestos Analysts Registry
- *National Voluntary Laboratory Accreditation Program (NVLAP)* Directory of Accredited Laboratories

Q. What is the proper way to take an asbestos sample so that it doesn't contaminate the area?

We recommend that a professional take the sample, however, homeowners/building occupants should be informed about the proper procedures to make sure the area isn't contaminated during the sampling process. Following are the steps that should be taken:

- Lightly wet the area with a fine water mist where the sample is to be taken. A small amount of detergent should be added to the water to help it penetrate the asbestos fibers better.
- A small sample of no more than one square inch of material is necessary (the laboratory where the sample will be taken will generally have guidelines on the size of the sample they need).
- The sample should be placed in two zip lock bags (one inside the other) or some other type of air tight container.
- The container should then be labeled with a description of the material, where it was taken and the date the sample was taken.

- To seal any loose asbestos around the sample area, clear spray lacquer can be used. Make sure the nozzle is far enough away to mist the exposed area before applying a heavier coat. If there is any asbestos dust it should be wiped up with a wet disposable cloth or paper towel. Any towels or cloth used for this purpose should be disposed of immediately.

What to Do if You Have Asbestos

Q. How can I protect my health?

- Do not sand, cut or break any asbestos containing materials (ACM). Even if materials are non-friable they will release fibers if they are disturbed in this manner.
- If you must work in an area where asbestos dust may be present, wet the area down thoroughly with a garden sprayer (or a regular spray bottle) filled with water and a few drops dish detergent. The detergent reduces the surface tension of the water and allows it to penetrate any asbestos fibers more readily, thus keeping them from becoming airborne. Dispose of any rags used to clean up ACM dust.
- Never use a regular household vacuum on asbestos containing dust. Even if the vacuum is equipped with a High Efficiency (HEPA) filter, you will not be able to decontaminate it properly once you have vacuumed up the asbestos dust. Special vacuums are used on asbestos containing dust. They are equipped with a HEPA filter and are specifically designed to filter out asbestos fibers and be easily decontaminated after use.

Q. Do I have to remove asbestos if I have it?

There are no state or federal laws that specifically require you to remove asbestos in your home just for the sake of getting rid of it. Most of the time, asbestos in the home is not hazardous. The most common home construction materials that contain asbestos are floor tiles, roofing and siding. These materials are very strong and don't readily crumble or release asbestos fibers unless they are subjected to strong forces. Occasionally, other materials, such as asbestos pipe insulation, boiler lagging, asbestos-containing thermal insulation (such as batt or blown-in insulation), were used in home construction. If you determine that you have this type of material, through inspection and analysis by a qualified professional, you should seek the help of a consultant to aid you in determining what you need to do to remedy your situation. If you never disturb these materials, you may be able to leave them alone. However, if you know that a needed repair or renovation will disturb the material, you may want to start planning with your consultant to abate the asbestos before the renovations begin.

Q. I've heard that vermiculite might contain asbestos, is that true?

Vermiculite is a naturally occurring mineral which may contain asbestos. The uses of vermiculite vary. It has been used in potting soil for aeration purposes as well as in attics for insulation. The US Environmental Protection Agency has a considerable amount of information on their website regarding this topic. Click on the following links for more information:

- Asbestos and Vermiculite
- Zonolite, Hamilton Township, Mercer County, New Jersey

Q. What can I do to make sure my asbestos doesn't become dangerous?

If you suspect or know that there is asbestos in your home, periodically check it for breakage, tears, abrasions, or water damage. If you discover slightly damaged material, limit access to the area and do not touch or disturb it. If the asbestos material is more than slightly damaged, or if you are going to make changes in your home that might disturb it, professional repair or removal is needed.

Q. Can I remove the asbestos in my home myself?

Technically, there are no regulations that forbid a homeowner from removing asbestos in their own home themselves, but we strongly advise against it for a number of reasons:

- Asbestos is a known human carcinogen. If it is removed improperly, it can cause your home to be seriously contaminated. Professional cleanup of the contamination could be more costly than if the abatement had originally been performed by professionals.
- Children are particularly susceptible to asbestos related disease. The normal latency period for an asbestos related disease in adults can be anywhere from 20 to 50 years after exposure. However, among children, the latency period can be much shorter, striking them very early in life.
- Asbestos is difficult to control without the proper equipment. Special equipment has been designed for abating asbestos properly. This equipment must be used and cleaned in a proper manner to ensure that little or no exposure to asbestos fibers occurs during or after abatement.
- Asbestos fibers can be too small for the human eye to detect. Professional asbestos abatement contractors use specialized cleaning equipment and confinement techniques to remove and contain asbestos materials and fibers. Once complete, air samples should be taken to ensure that there are no asbestos fibers remaining.

Q. How can I find someone who is qualified to remove asbestos?

NJ requires all contractors who abate asbestos-containing materials, to have a NJ Department of Labor and Workplace Development (DOLWD) license. In addition, all of the contractor's employees (who conduct the abatement) must possess either a DOLWD worker or supervisor permit.

For information on how to contact the DOLWD to request a list of contractors or check to see of a contractor is licensed, please refer to the Indoor Environments Contacts page

Please Note: The only exception to licensing requirements for the removal of asbestos containing materials is if the contractor has acquired an exemption for certain types of non-friable asbestos materials such as floor tile. For more information regarding exemption requirements, you should contact the Compliance Assistance Project within Indoor Environments Program. For more information on how to contact this project, please refer to the Indoor Environments Contacts.

Q. What can I do to make sure the contractor I hire is competent?

To be sure you are hiring a contractor who will do a safe and satisfactory job, you may want to do the following:

- Call the NJ Department of Labor and Workplace Development at 609-633-2158 to ensure that the contractor is licensed and reputable.
- Ask the contractor about their abatement history and for references from similar projects.
- Obtain a detailed estimate of the exact services to be provided, including monitoring, design, replacement, damages, etc.
- Ask about their liability insurance, including the type, what it covers and the amount.
- Obtain numerous estimates, they can vary significantly. Make sure all estimates are based on the same job requirements and specifications.
- Consider hiring a monitoring firm (which has no financial relationship to the abatement contractor) to oversee the removal. Generally these projects are done better, but can be more costly.
- Most importantly, talk to each contractor and learn exactly what they will do for you. Check your comfort level with each contractor and then hire one based upon an overall evaluation of services, not just cost.
- Educate yourself regarding what occurs during an asbestos abatement so you know what to expect and can understand what must be done.

Q. What steps take place during an asbestos abatement?
Following are the primary steps of an asbestos abatement project:

1. All movable objects should be moved out of the area. All of these objects should be wiped down and/or vacuumed off (the only vacuum to be used for this purpose is one specifically designed to filter out asbestos fibers) prior to being removed. Any objects remaining in the area as well as the area itself should also be wet wiped and vacuumed.
2. Any vents or other portals (doors, windows, outlets, etc.) leading to the area should be sealed with plastic. These are referred to "critical barriers" and should be given special attention when sealing, because they are the most likely areas where asbestos fibers would escape during an abatement. Filters (such as from the HVAC system) which may have been contaminated, should be removed and disposed of. In addition, all non-removable objects, which are not part of the structural components to be abated, should also be covered with plastic. Finally, the remaining area should then be covered with

plastic to protect all surfaces which are not involved in the abatement.

Please Note: At this point, depending on what type of material is to be removed, a three-stage decontamination chamber may be set up. That chamber should consist of a series of three rooms. The three rooms are a "clean room", a "shower room", and a "dirty room" (in that order). Workers entering the work area should always change out of their street clothes and into disposable overalls, don appropriate respiratory protection, and then enter the work area through the decontamination unit. When leaving the work area, workers must leave the disposable overalls in the dirty room and take a shower, at which time they will also decontaminate their respirator. Additionally, there may be a filtration unit set up to create a "negative pressure" environment within the containment. This simply means that a specially designed air filtration unit will exhaust, through a High Efficiency Particulate Air (HEPA) filter (which is 99.9 % efficient in filtering asbestos fibers down to .3 microns in size), air from the contained area to the outside. This will prevent air from "back drafting" through decontamination unit into other areas of the building. If the material to be abated is pipe material, there may be general isolation of the work area (with plastic) and then they will use something called a glovebag to remove the ACM pipe lagging.

3. The ACM will be removed.
4. The area will be cleaned by wet wiping and HEPA vacuuming all surfaces within the containment area.
5. A visual inspection should be conducted to insure all visible asbestos has been removed. If any material is found is should be removed and the area should be recleaned.
6. A sealant should be applied to all surfaces to "lock down" any remaining microscopic fibers.
7. Non-critical barriers are removed and the entire area should be cleaned again.
8. Air sampling should be conducted to ensure that fibers which cannot be seen, or have not been "locked down" by the sealant, are not present. This sampling should be conducted in a fashion to simulate occupancy (often conducted with fans running). The acceptable limit for these air samples are anything below 0.01 fibers per cubic centimeter (f/cc) of air. If the air sample is above this, the area should be re-cleaned and re-sampled.
9. Once acceptable air levels are reached, the remaining plastic barriers can be removed and the area can be re-occupied.

Q. Where can asbestos-containing waste be disposed?

The transportation and disposal of asbestos-containing waste in NJ is regulated by the Department of Environmental Protection (DEP). For more information contact the DEP.

Regulations

Q. Who regulates Asbestos Containing Materials (ACM)?

Federal Regulatory Agencies:

The U.S. Environmental Protection Agency (USEPA) is responsible for developing and enforcing regulations necessary to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health.

The Occupational Safety and Health Administration (OSHA) is responsible for the health and safety of workers who may be exposed to asbestos in their work place, or in connection to their jobs.

NJ State Regulatory Agencies:

Department of Health

The NJ Department of Health (DOH) is the lead agency for the asbestos and environmental health information in NJ.

The Indoor Environments Program administers the Asbestos Hazard Emergency Response Act (AHERA), provides site audits and a Quality Assurance/Quality Control program for asbestos abatement in schools. The DOH also provides training and accreditation for asbestos training providers and conducts studies to evaluate asbestos abatement and management methods.

The Public Employee Safety and Health Program regulates asbestos exposures among public employees.

Department of Environmental Protection

The NJ Department of Environmental Protection (DEP) regulates the management, transportation and disposal of ACM. In concert with county health departments, the DEP investigates reports of unregistered transporters, illegal disposal and oversees the review of the 10-day notification submissions.

Department of Community Affairs

The NJ Department of Community Affairs (DCA), regulates asbestos remediation in schools and buildings in which public employees are located and regulates the air monitoring firms for

asbestos abatement projects. To find out who to contact at the DCA, please refer to the Indoor Environments Contacts page.

Department of Labor and Workplace Development

The NJ Department of Labor and Workplace Development (DOLWD) licenses abatement contractors, permits abatement workers and supervisors, and investigates complaints of improper abatements in private homes and commercial buildings. For more information on how to contact the DOLWD, please refer to the Indoor Environments Contacts page.