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Guidance for Buying a Hazard-Free Home

This guidance has been prepared by the Massachusetts Department of Environmental Protection (DEP). Acknowledgment is given to Orchard Environmental Consultants for the use of material in their Brookline Environmental Guidebook, March 1994.

If you are a homeowner considering placing your home on the market, or you are looking at properties to buy, this guidance will help you in your evaluation. You should allow a minimum of six months to complete work suggested in this guidance. Information may change as more is learned about environmental and health risks. Various state agencies, including the Department of Environmental Protection, The Department of Public Health and the Department of Public Safety have programs and regulations related to household hazards and environmental matters. Environmental issues are sometimes addressed under the rubric of 'public health and safety' and the 'state sanitary code.' The Secretary of State has prepared a summary of the State Sanitary Code which addresses numerous health, safety and environmental matters regulated by State and Local Government. See:

<http://www.sec.state.ma.us/cis/cissfsn/sfsnidx.htm>

Asbestos

Asbestos is a fibrous material that often appears flaky if in poor condition. When inhaled, it can damage your lungs and respiratory system. It was used in the past to insulate pipes, furnaces, and some roofs and siding. If wrapping the asbestos will secure it, "encapsulation" with approved materials is permitted. State law requires that if the asbestos material in your home is in poor condition and not repairable, removal by a licensed contractor is mandatory.

Your local Health Department must approve all asbestos removal or encapsulation plans. For a list of private, licensed asbestos inspectors and removal contractors, call the Massachusetts Department of Labor and Industries at 1-800-425-0004. If removal is necessary, get quotes from several removal contractors.

For all asbestos abatement jobs, state regulations require prior notification of the job and set forth strict work practice and disposal requirements. For some asbestos removal jobs, federal and state regulations require a hygienist to certify the work area as safe following the removal. Residents may want to hire an industrial hygienist to take air samples to ensure that no asbestos fibers remain.

Drinking water

There are several ways in which drinking water is regulated in Massachusetts. If drinking water is supplied by a private well the homeowner is responsible for having the water tested by certified laboratory. Call your local Board of Health to learn what minimum private well testing requirements exist in your community. If your drinking water comes from a municipal or public source, the water supplier is required to test for a variety of contaminants and make these test results available to consumers. For information on the latest testing results, call your local water supplier. For general information regarding testing requirements, call DEP's Drinking Water Program (617-292-5770).

Lead in drinking water

Homes that may have drinking water with high lead levels fall into one or more of the following categories:

- homes built between 1982 and 1986 and which have copper pipes with lead solder (50% lead 50% tin);
- homes with lead service pipes that bring the water from the street mains to the building;
- homes with interior lead plumbing, including brass faucets and fixtures; and
- homes with brass submersible pumps.

There is no way to tell whether you have lead in your water except by testing. Call your local health department for a list of area laboratories certified to test for lead in drinking water. Costs range from \$10 to \$30 per sample. Instructions for sampling will be given by the testing laboratory. A plumber or municipal plumbing inspector can tell you if you have lead pipes or lead-based solder. The EPA has set an "action level" of 15 parts per billion for lead content. You may want to call EPA's Safe Drinking Water Hotline (800-426-4791) for further details.

Note: Most water filters do not remove dissolved lead.

If your water sample indicates you have a high lead level, call your local water and sewer department to determine if you have a lead service pipe. A private contractor can replace a pipe in a week's time.

If you have copper pipes with lead solder, you may not want to replace the plumbing. The best short-term solution may be to flush the pipes in a manner that conserves water and reduces your exposure to the lead. Water that has spent only a few seconds rushing through a pipe may have a lower level of that metal than water that has been standing in the pipe for several hours. For this reason, flushing the water before cooking or drinking can help minimize your intake of lead. For example, fill a jug with water right after other uses, such as washing dishes or taking a shower, and keep it in the refrigerator for drinking and cooking.

Replacing your faucets and fixtures may actually increase lead being leached into the water because new fixtures still contain a certain amount of lead while older fixtures often develop a protective film that inhibits lead from getting into the water.

Foam Insulation

Urea Formaldehyde Foam Insulation (UFFI) has been in use as an insulation material in the U.S. since the 1960's, with installations peaking in the late 1970's. The insulation material consists of three basic ingredients: urea formaldehyde resin, a surfactant often referred to as a foaming agent or catalyst, and air. Use of the material was banned by the Massachusetts Department of Public Health in 1979 because of formaldehyde emissions. However, removal of the insulation is not recommended at this time because the emissions have substantially abated.

Hazardous Household Products

Before placing your home on the market, take an inventory of your storage areas—under the sink, in the garage, basement, or hobby shop. Be sure that all containers are intact. Keep materials in their original containers and double pack if there is rust or leakage. Do not consolidate in one container! Each of these products has unique characteristics.

In your list, note what may be usable, what is solid and what is liquid. Once you have itemized these materials, you will need to develop a plan of action. Some items you may want to take with you to your new home. Others you may donate or put in your yard sale. Some may safely go in your trash. If you have a private well and/or septic system, be particularly cautious with liquids which may be hazardous. For items which cannot be used, and are unacceptable to the trash, you may have to do some research. For information to help you with future purchases and substitute products, or possible solutions to your waste problems, call DEP's Household Hazardous Waste Hotline (1-800-343-3420). To learn if your community is planning to hold a household hazardous waste collection (usually in the spring or the fall) contact your town's public works department. If no collection is planned, call DEP for the name of a hazardous waste disposal company to which you can bring your products.

Any of the following products may contain hazardous ingredients:

Older pesticides, herbicides, and lawn care products.

Commonly encountered banned products with the following active ingredients must be saved for a special collection:

- Aldrin
- Chlordane
- DDT
- Heptachlor
- Silvex
- 2,4,5-T

If your product is not on the above list, use up according to directions. However, products sold before 1977 may not have been labeled and should not be used.

Do not dump pesticides and herbicides in sewers, septic systems, or trash. Store away from living areas and out of reach of children. Empty containers can be wrapped and put in the trash after being triple rinsed and the rinsewater used as a pesticide. If you have

questions, call the State Pesticide Bureau before using or disposing of a product (617-727-3020).

Paints, Solvents and Wood Preservatives

Some older paints may contain lead, mercury or other toxic ingredients and will not qualify for recycling or continued use. If the paint container is nearly empty, paint has been frozen, or otherwise cannot be used, add sand or kitty litter to dry up the contents and place in the trash. Today's home buyers often prefer not to have a residue of partially filled paint cans left in the home they purchase. Offer your usable paint to a neighbor, theater group, or non-profit organization. An alternative is to call your local department of public works to see if your community offers a surplus paint or hazardous household products collection.

Automotive Products

If you have, or had, a "do-it-yourself" auto mechanic in your home, you may find auto cleaning products, used motor oil, car batteries and tires being stored. These materials may contain hazardous ingredients and must be handled carefully. A small splash of battery acid can burn through skin. Antifreeze is a poison which attracts children and animals because of its sweet taste. Depending on the concentrations inhaled and the length of exposure, gasoline can cause injury ranging from minor nose and throat irritations to nervous system disorders and even death.

Used motor oil can be returned to the store where it was purchased if you have a receipt. Some retailers (Caldors, Valvoline Instant Oil Changes are an example) will accept the oil without proof of purchase. For assistance in finding a store near you, call DEP's Used Oil Hotline (617-556-1022). Also check with your community's department of public works to learn if there is a municipal drop-off for waste oil and/or batteries and tires. Transmission oil can be mixed safely with motor oil. However, do not mix brake fluid with oil.

Batteries (lead acid) are banned from disposal in Massachusetts. There is a good market however for the lead. Return your battery to a local service station, auto parts dealer, or battery company. Most battery retailers will give a discount when you purchase a new battery and return the old. Check your Yellow Pages and call in advance. Take care that the battery is not leaking and is handled carefully, with gloves, when you move it.

Tires are banned from disposal in Massachusetts landfills unless they are shredded or "quartered." Most municipal waste-to-energy facilities can accept tires in small quantities. A number of new technologies for reuse and recycling used tires have been proposed and there are a small number of tire recyclers in the state but typically used tires are burned for fuel under environmentally controlled conditions in solid waste incinerators. You therefore must dispose of whole tires through your community collection program or a local service station. Call your public works department for assistance or call DEP (617-556-1021) for a Recycling Services Directory.

Antifreeze should not be disposed down the drain, on the ground or in the trash. Some automotive services and car dealerships may have antifreeze recycling capability.

Gasoline, diesel fuel, and brake fluid is flammable and should be stored in the original container or containers made for this purpose. If the product cannot be used up, and there

is no collection event planned in your community, call DEP for the name of a hazardous waste disposal company.

Miscellaneous products

Aerosol cans when empty can be recycled, or put in the trash in most communities. If there is still product in the can, donate it or use it up before discarding. If the can is still under pressure, it will explode if punctured or exposed to extreme heat. Do not put pressurized aerosol cans in the trash.

Photographic chemicals, unused, can be donated, for example, to a photography club. Silver, which is an ingredient, is toxic. Therefore, spent solutions should be brought to a household hazardous waste collection, or call DEP's Household Hazardous Waste Hotline (1-800-343-3420) for assistance.

Pool chemicals should never be poured down the drain. Use up, donate leftover chemicals to others, or bring to a collection.

Household cleaners and chlorine bleach should be used up or given to someone who can use it. Some products, such as drain openers, are extremely caustic and in some areas of the state, may be banned from use. Others may contain phosphates or heavy metals, such as arsenic and zinc. If you have questions about any of these products and their safe use or disposal, call your municipal sewer authority or department of public works.

Propane tanks which are empty may be acceptable to a scrap metal yard.

Lead Painted Wood

Since 1971 Massachusetts has had one of the most progressive lead paint laws in the country. Because lead paint is the primary source of lead exposure for children, the law states that a child under age six cannot occupy a dwelling with lead hazards present. The law also prohibits discrimination against families with children. Buildings built before 1978 typically contain lead-based paints on interior and exterior walls, window sills and other surfaces accessible to young children. In de-leading operations at residential properties, chips and dust, surplus stripping solutions, work clothes, wall and ceiling plaster, plastic sheets and tape used to cover work areas and wash water, as well as lead-painted woodwork, are no longer subject to classification as a toxic hazardous waste. In some cases soil around the building is also hazardous. The de-leading contractor is responsible for any wastes which result from their work. More information about the lead paint law is available at:

<http://www.mass.gov/Eeohhs2/docs/dph/environmental/lead/ptnnew.pdf>

Sellers are under no obligation to test for lead before selling a home but may choose to be prepared to show documentation that the home is in compliance with the lead law, the inspection was done by a certified inspector and any deleading work done by a licensed de-leader. Although not a substitute for a lead inspection, lead samples may be tested through the following programs:

- Paint chip samples can be sent to the Childhood Lead Poisoning Prevention Program in Jamaica Plain. Call them at 617-753-8400, or (800) 532-9571 to receive instructions. You may also want to contact your local board of health to inquire about their services.

- Lead in soil. For written instructions, call the Soil Testing Lab at the University of Massachusetts (Amherst) at 413-545-2311.

Should you, the homeowner, know or find that lead paint is present, this information must be divulged under State consumer protection and lead laws. Sellers of pre-1978 residential properties must provide to prospective purchasers, prior to the signing of the purchase and sale agreement, a “Property Transfer Notification” package, a document issued by the Department of Public Health and available through your real estate agent, which provides important information on lead poisoning and the lead law. Home buyers have the legal right to have the house inspected for lead before signing the purchase and sale agreement. For a list of licensed contractors, call the Department of Labor and Workforce Development (800-425-0004).

For a pamphlet on home renovation and lead paint, send \$1 to the Conservation Law Foundation, Dept. G, 62 Summer St., Boston, MA 02110.

Radon Gas

The Massachusetts Department of Public Health estimates that one in four homes contains high levels of radon. Radon is a naturally occurring radioactive gas that escapes to the atmosphere from uranium-bearing surface rocks and soil or from groundwater containing dissolved radon. Radon can appear in drinking water and is also found in some construction materials such as brick or concrete, if they are made from uranium-bearing rock. The EPA ranks radon as its greatest environmental problem in terms of potential cancer deaths per year, a more severe risk than hazardous waste and toxic chemicals. EPA, the Surgeon General, and the Massachusetts Department of Public Health recommend that every homeowner, not just those buying or selling homes, test for radon.

Radon test kits for homeowners are on the market at a price under \$25. The test must be performed in an undisturbed area for 48 hours. It is best to test in the winter when radon levels are highest because of limited ventilation. Test results over 4 pico Curies per liter (pCi/l) are a warning. EPA recommends immediate retesting and appropriate mitigation if a second reading confirms levels in excess of that amount. Radon measurements vary greatly from one building to the next. If you have above normal levels of radon and a private well, you may want to have the drinking water tested. For people on public water supplies a Federal law will soon require all public water suppliers to test for radon. If remediation is required, mechanical ventilation systems can be installed.

For information about technical mitigating measures, contact DPH at 413-586-7525. Radon information packets are also available by calling DPH at 617-727-6214 and EPA at 617-918-1534. For more information see:

http://www.mass.gov/?pageID=eohhs2terminal&L=7&L0=Home&L1=Consumer&L2=Community+Health+and+Safety&L3=Environmental+Health&L4=Environmental+Exposure+Topics&L5=Radiation+Control&L6=Radon&sid=Eeohhs2&b=terminalcontent&f=dph_environmental_radiationcontrol_c_radon_factsheet&csid=Eeohhs2

Septic/On-Site Systems (Title 5)

An on-site wastewater disposal system (a “Title 5 system”) may be a conventional septic system, a cesspool, or an innovative/alternative (I/A) system. The most important thing to remember is that it is always the system owner’s responsibility to ensure that the on-site

system is adequately maintained and repaired. Systems must be inspected periodically, most typically upon the sale of a single family house. Larger systems serving condominium must be inspected on a more regular basis.

DEP information regarding septic systems is available at:

<http://www.mass.gov/dep/water/wastewater/septicsy.htm#inspects>

An on-site system that is properly designed, constructed, and maintained will effectively and efficiently treat wastewater. DEP recommends that systems be pumped at least once every 3 years for homes not having a garbage disposal. If the home's system has a garbage disposal, it should be pumped every year. Always keep copies of your pumping records. Additional routine operation and maintenance (O&M) may be necessary for systems using advanced treatment.

For more information on how on-site wastewater systems operate, pumping and inspection issues, regular maintenance schedules, financial programs available for failed systems, things to know when you're buying or selling a property in Massachusetts with an on-site system, as well as other on-site/septic related issues for consumers, go to: <http://www.mass.gov/dep/water/wastewater/maintfaq.htm>

Basement and Underground Fuel Tanks

By September 30, 2011, homeowners who heat with fuel oil must upgrade home heating system equipment to prevent leaks from tanks and pipes that connect to the furnace. By making a relatively small expenditure now, homeowners can prevent a much greater expense in the future. Massachusetts has a new law to address oil leaks from home heating systems (Chapter 453 of the Acts of 2008, as most recently amended in 2010). This law has two major provisions that require:

- the installation of either an oil safety valve or an oil supply line with protective sleeve on systems that do not currently have these devices; and
- insurance companies that write homeowner policies to offer coverage for leaks from heating systems that use oil.

Most homeowner policies do not currently include such coverage, leaving many to pay for costly cleanups out of their own pocket. Although it is mandatory that insurance companies make this coverage available by July 1, 2010 to homeowners whose systems are upgraded, the insurance is an optional purchase.

You should verify from your records or knowledge of previous owners whether your home ever had an underground fuel oil tank ("UST") and when it was installed and/or removed. If the tank is currently in use, it may need to be upgraded to meet new leak detection standards. Tanks older than 15 years are likely to have corroded and must be replaced to prevent contamination of soil and groundwater and an expensive clean up.

If there is evidence of a leaking tank, be prepared to hire a cleanup contractor and a tank removal service. All contents of the tank will be removed and the tank must be made inert

(reduced of oxygen), capped and all holes plugged before excavation begins. This can be a significant cost item. Buyers should be aware of this potentially hidden problem.

Records of underground fuel oil storage tank removal are available from the municipal fire department. Records of a site clean up are available from the DEP.

<http://db.state.ma.us/dep/cleanup/sites/search.asp>

DEP offers 'help for homeowners' at this website:

<http://www.mass.gov/dep/cleanup/helpforh.htm>