

# RENOVATION AND DEMOLITION



## ENVIRONMENTAL HEALTH & SAFETY REQUIREMENTS YOU SHOULD KNOW ABOUT



THE STATE OF CONNECTICUT  
DEPT. OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT  
ENGINEERING & ENFORCEMENT DIVISION  
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### BROUGHT TO YOU BY CONNECTICUT DEP IN ASSOCIATION WITH:

The Connecticut Department of Public Health

The U.S. Department of Labor, Occupational Safety & Health Administration (OSHA)

The Connecticut Department of Labor, Division of Occupational Safety & Health (CONN-OSHA)

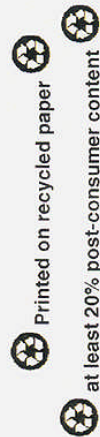
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### **Do you do renovation or demolition work, or hire or oversee those who do?**

If so, there are a number of environmental, health, and safety requirements that may apply to you.

Some of the more common and important of these requirements are listed in this flyer. Please note that not every possible requirement is listed, and that this information is only intended as a helpful summary.

If you would like more information about the requirements that apply to renovation and demolition, please contact the agencies listed in Table 1 inside.



The Department of Environmental Protection is an equal opportunity/affirmative action employer, and its programs and services are offered without regard to race, color, religion, national origin, age, sex, or disability. In conformance with the Americans with Disabilities Act, the DEP makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities needing auxiliary aids or services for effective communication should call 424-3035 or TDD 424-3333

# ENVIRONMENTAL, HEALTH, AND SAFETY REQUIREMENTS YOU SHOULD KNOW ABOUT

## ASBESTOS

Asbestos may be present in materials such as pipe, boiler, or tank insulation, plaster, siding, and roofing. Residential structures with 5 or more units, and commercial, industrial, institutional, and public structures must be inspected by an asbestos consultant before renovation or demolition is started, to determine if asbestos is present. A notification must be submitted to DPH whenever more than 10 linear or 25 square feet of asbestos will be disturbed. A notice must also be submitted to DPH when any structure is demolished. Consultants and contractors are licensed by DPH. Asbestos is regulated as a "special waste," and cannot be disposed of with regular trash. Asbestos work must be done in accordance with worker protection requirements. Table 1, Key A1, B1, C2, C3, D, & E.

## LEAD-BASED PAINT

Lead abatement activities in dwellings where children under six live and child day care facilities must be performed in accordance with CT's Lead Poisoning Prevention & Control Regulations. Authority for enforcement of these regulations is delegated to local health departments. Lead inspectors, consultants and abatement contractors must be licensed.

The EPA Lead Pre-Renovation Education (PRE) Rule requires that anyone disturbing more than 2 square feet of existing painted surface in a pre-1978 house (i.e., contractors, landlords, property managers) must distribute the EPA lead hazard information pamphlet to the owner and the occupants of the residence, and obtain written acknowledgement of receipt from the owner and occupants.

The HUD Lead Safe Housing Rule applies to HUD funded rehab projects in pre-1978 housing, and to maintenance activities required by the HUD Housing Quality Standards in pre-1978 HUD-assisted residences (e.g., Section 8 Housing). Lead inspections, lead risk assessments, lead hazard screens, and clearance examinations must be performed by a certified risk assessor or lead inspector.

Lead-based paint wastes must be properly characterized to determine whether or not they are hazardous wastes, and the removal of any lead paint must be done so as not to violate air or water pollution control requirements.

Worker safety requirements often apply to lead removal work (see separate section below).

Table 1, Key A2, B1, D, & E.

## FUGITIVE DUST & AIR EMISSIONS

Dust emissions must be controlled (e.g., with water misting) to ensure that they do not cross any property line. Also, if crushing or other processing equipment is going to be used on-site, it may trigger certain air permitting requirements. On-site emissions of silica, nuisance dust or other particulates may pose a safety hazard, and may be subject to certain worker protection requirements. Table 1, Key B8, B9, C2, D, & E.

## WASTEWATERS

Activities like power-washing can generate wastewaters that must be collected and properly disposed. Such wastewaters must either be hauled off-site by a licensed hauler, or treated and discharged to the sanitary sewer (discharge to septic is not allowed). For a sanitary sewage discharge, permission must be obtained from the municipal sewer authority as well as from DEP under its "Miscellaneous General Permit." In addition, sites over five acres in size are subject to the DEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities. Table 1, Key B1 & B7.

## SANDBLASTING & POWER-WASHING

Sandblasting creates large amounts of dust that can present a safety hazard both to the workers performing the sandblasting, and to any occupants of the structure and neighboring properties. This is particularly a concern if lead-based paint or asbestos is present. Sandblasting activities must be properly contained to prevent fugitive dust emissions. Spent sandblasting grit must be properly disposed of and may be a hazardous waste if lead-based paint is present. Power-washing creates a wastewater that must be collected and properly disposed. Table 1, Key A1, A2, B1, B7, B8, B9, D, & E.

## WORKER SAFETY REQUIREMENTS

The federal Occupational Safety and Health Administration (OSHA) has numerous worker safety requirements that would apply to most companies involved in renovation or demolition. In particular, OSHA requirements address issues such as physical hazards (e.g., fall protection, confined spaces, trenching, use of tools), and chemical exposure hazards (e.g., asbestos, lead-based paint, solvents). Public-sector agencies (e.g., state and local governments) are subject to the similar requirements of CONN-OSHA, a Division of the Connecticut Department of Labor. Table 1, Key D, E.

## CONSTRUCTION & DEMOLITION WASTE

Construction and demolition waste (or "C&D waste") can include anything from individual architectural components (i.e., doors, windows, siding, etc.) to whole-building demolition debris. C&D waste may be contaminated with asbestos, lead-based paint, or chemical residues and require special disposal (see separate sections on these topics for more information). Uncontaminated C&D waste that is disposed of must be sent to a landfill or volume reduction facility (VRF) that is permitted to take C&D waste. Uncontaminated C&D waste can also be recycled or reused. Many C&D components can be sent to permitted recycling facilities to be made into new products. Clean rock, brick, ceramic, concrete, and asphalt may be utilized on-site as fill material. However,

see the section on fugitive dust and air emissions for requirements that may apply if crushing is required in order to use these materials as fill. Table 1, Key B1 & B5.

### TREATED WOOD

There are a number of types of treated wood, including pressure-treated wood, and wood that has been treated with pentachlorophenol ("penta") or creosote. Pressure-treated wood may contain the toxic metals chromium or arsenic. Penta and creosote are both pesticides whose use has been restricted since 1986. Pressure treated wood may not be buried or burned on-site or processed into mulch, but must instead be sent to a permitted facility for disposal. Wood that has been treated with penta can be classified as a hazardous waste if the concentrations of penta are high enough. Table 1, Key B1 & B5.

### LAND-CLEARING DEBRIS

Land-clearing debris includes items such as trees, stumps, and brush that must be removed as part of site preparation work. Land-clearing debris may not be buried on-site, but can be sent to a recycling or disposal facility that is permitted to take such items. If there is a need for mulch or wood chips at the work site, equipment may be brought in to process the land-clearing debris into the desired form (however, see section on fugitive dust and air emissions for requirements that may apply to such processing). Processing of materials from off-site cannot be conducted without a solid waste permit. Table 1, Key B1 & B5.

### CHEMICAL PRODUCTS

Commercial and industrial sites may have process chemicals, oils, cleaning products, or other chemical products stored inside them. Many of these products may be classified as hazardous waste when disposed, and most others may not be disposed of with regular trash. These materials must be shipped to a permitted disposal facility by a licensed transporter. Residential sites may also contain chemical products (paints, solvents, pesticides, cleaners, etc.). Although household wastes are not subject to hazardous waste requirements, most of these products may not be disposed of with regular trash. However, in many cases, these materials may be disposed of at a local household hazardous waste collection center or one-day collection event (check with your local recycling coordinator for more information on the services available in your area). Table 1, Key B1.

### MERCURY

Fluorescent lamps, thermostats, mercury switches, manometers, natural gas meters, and other items can contain enough mercury to be classified as a hazardous waste, and may therefore not be disposed of as regular trash. However, lamps and thermostats are eligible for management under a new, special set of hazardous waste requirements known as the Universal Waste Rule. Table 1, Key B1, B5.

### POLYCHLORINATED BIPHENYLS (PCBs)

PCBs can be found in a number of items, including transformers, capacitors, fluorescent light ballast and other oil-containing equipment, and in certain building materials (i.e., roofing, flooring, insulation, etc.). PCB-containing items such as these must be managed and disposed of in accordance with special PCB requirements. Table 1, Key B1, B2, and C4.

### USED ELECTRONICS & BATTERIES

Used electronics and batteries may contain enough lead, mercury, cadmium, or acid electrolytes to be classified as hazardous waste. In such cases, they may not be disposed of as regular trash. However, like mercury thermostats, these items are eligible for management under a new, special set of hazardous waste requirements known as the Universal Waste Rule. Table 1, Key B1, B5.

### CONTAMINATED EQUIPMENT/STRUCTURES/SOIL

Commercial and industrial facilities may contain contaminated equipment or structures (e.g. tanks, ductwork, piping, process equipment, wood flooring, etc.). Contaminated soil may also be present, either under the building footprint, or outside it. In some cases, these materials may be classified as hazardous waste when disposed. In other cases, they may not be hazardous waste, but may still be restricted from disposal at a solid waste landfill without authorization from DEP. Table 1, Key B1, B4.

### A.C. & REFRIGERATION EQUIPMENT

Such equipment must be removed and disposed of in such a manner so as to prevent the venting of CFCs (e.g., Freon) to the atmosphere. Table 1, Key C1.

### UNDERGROUND STORAGE TANKS (USTs)

Commercial and industrial sites often have petroleum USTs that may be subject to certain procedures for registration, removal and abandonment. In cases where such tanks have leaked, the affected area must be cleaned up to specified remediation standards, as determined through confirmation sampling. Residential USTs are not subject to the same rules as commercial and industrial USTs, but should still be properly removed or abandoned, and underlying soils tested to determine if there have been any releases to the environment. Wastes generated from the removal and cleanup of all USTs must be properly tested and disposed of in accordance with solid and/or hazardous waste requirements. Table 1, Key B1, B3.

### SITE CLEANUP ISSUES

There are a number of soil and groundwater cleanup requirements that may apply. Some industrial and commercial sites are required to be cleaned up under DEP's Property Transfer Program. Others may be under cleanup orders from DEP. Table 1, Key B4.

## SPILLS

Any spill of oil or petroleum, chemical liquids or solids, or hazardous waste must be reported immediately by calling the DEP's 24-hour spill reporting number: (860) 424-3338. Table 1, Key B6.

## DRINKING WATER SUPPLIES

There are certain public health requirements relating to:

1. the potable water source at the site (well or public water system),
2. plumbing materials used in renovations (must be free of lead solder),
3. the potential for any cross connections that may contaminate the potable water supply; and,
4. the electrical wiring/components of the water supply system (must meet applicable CT Building Code requirements). Table 1, Key A3.

## OTHER ISSUES

**RADON** is a naturally-occurring radioactive gas that is emitted from the bedrock in many parts of Connecticut. Testing should be performed both before and after renovation activities to ensure that indoor air is safe. Table 1, Key A1.

**MOLD** can be produced when building materials are exposed to moisture. The mold spores that are subsequently released can cause irritation and allergic reactions in workers and building occupants. For more info, see the DPH web site at [www.dph.state.ct.us/bch/eooh/iaqcm.htm](http://www.dph.state.ct.us/bch/eooh/iaqcm.htm).

**CALL BEFORE YOU DIG** is a free service you should use prior to excavation to check for underground utilities. Go to [www.cbyd.com](http://www.cbyd.com), or call toll free at 1-800-922-4455.

**THE DEPARTMENT OF PUBLIC SAFETY** has certain rules that apply to renovation and demolition projects and the contractors that perform them. For more information, see their web site at [www.state.ct.us/dps/DFEBS](http://www.state.ct.us/dps/DFEBS).

**TABLE 1: List of Contacts for Additional Information**

AGENCY	KEY	DIVISION / PROGRAM	TELEPHONE NUMBER / WEB SITE
CT Dept. of Public Health (DPH)	A1	Indoor Air Program (asbestos and radon)	(860) 509-7367 <a href="http://www.dph.state.ct.us/BRS/Asbestos/asbestos_program.htm">www.dph.state.ct.us/BRS/Asbestos/asbestos_program.htm</a> <a href="http://www.dph.state.ct.us/BRS/radon/radon_program.htm">www.dph.state.ct.us/BRS/radon/radon_program.htm</a>
	A2	Lead Environmental Management Unit (lead-based paint)	(860) 509-7299 <a href="http://www.dph.state.ct.us/BRS/Lead/lead_program.htm">www.dph.state.ct.us/BRS/Lead/lead_program.htm</a>
	A3	Water Supplies Section	(860) 509-7333 <a href="http://www.dph.state.ct.us/BRS/water/dwd.htm">http://www.dph.state.ct.us/BRS/water/dwd.htm</a>
CT Dept. of Environmental Protection (DEP)	B1	Waste Engineering & Enforcement Division (solid and hazardous waste)	(860) 424-3023 <a href="http://www.dep.state.ct.us/pao/WEEDfact/specasbs.htm">www.dep.state.ct.us/pao/WEEDfact/specasbs.htm</a> <a href="http://www.dep.state.ct.us/wst/hazardous/hwd.htm">www.dep.state.ct.us/wst/hazardous/hwd.htm</a> <a href="http://www.dep.state.ct.us/wst/recycle/flist.htm">www.dep.state.ct.us/wst/recycle/flist.htm</a> <a href="http://www.dep.state.ct.us/wst/mercury/uwrule.htm">www.dep.state.ct.us/wst/mercury/uwrule.htm</a> <a href="http://www.epa.gov/epaoswer/hazwaste/id/infocus/rif-c&amp;d.pdf">www.epa.gov/epaoswer/hazwaste/id/infocus/rif-c&amp;d.pdf</a>
	B2	PCB Program	(860) 424-3368 <a href="http://www.dep.state.ct.us/wst/pcb/pcbindex.htm">www.dep.state.ct.us/wst/pcb/pcbindex.htm</a>
	B3	Underground Storage Tank Program	(860) 424-3374 <a href="http://www.dep.state.ct.us/wst/ust/indexust.htm">www.dep.state.ct.us/wst/ust/indexust.htm</a>
	B4	Waste Planning & Standards Division (site cleanup requirements)	(860) 424-3705 <a href="http://www.dep.state.ct.us/wtr/remediation/index.htm">www.dep.state.ct.us/wtr/remediation/index.htm</a>
	B5	Waste Planning & Standards Division (recycling programs)	(860) 424-3365 <a href="http://www.dep.state.ct.us/wst/recycle/ctrecycles.htm">www.dep.state.ct.us/wst/recycle/ctrecycles.htm</a>
	B6	Oil and Chemical Spill Response Division	(860) 424-3338 <a href="http://www.dep.state.ct.us/wst/oilspill/index.htm">www.dep.state.ct.us/wst/oilspill/index.htm</a>
	B7	Water Bureau Permitting & Enforcement Division (wastewater)	(860) 424-3018 <a href="http://www.dep.state.ct.us/wtr/index.htm">www.dep.state.ct.us/wtr/index.htm</a> <a href="http://www.dep.state.ct.us/pao/download.htm#Water">www.dep.state.ct.us/pao/download.htm#Water</a>
	B8	Air Compliance & Field Operations Division (enforcement)	(860) 424-3028 <a href="http://www.dep.state.ct.us/air2/index.htm">www.dep.state.ct.us/air2/index.htm</a>
	B9	Air Engineering & Technical Services Division (permitting)	(860) 424-4152 <a href="http://www.dep.state.ct.us/air2/index.htm">www.dep.state.ct.us/air2/index.htm</a>
U.S. Environmental Protection Agency (EPA)	C1	Global Programs Division (ozone depletion/freon)	(800) 296-1996 <a href="http://www.epa.gov/ozone">www.epa.gov/ozone</a>
	C2	Asbestos NESHAPs Program	(617) 918-1852 <a href="http://www.epa.gov/asbestos">www.epa.gov/asbestos</a> <a href="http://www.epa.gov/NE/enforcement/asbestos/index.html">www.epa.gov/NE/enforcement/asbestos/index.html</a>
	C3	Asbestos Hazard Emergency Response Act (AHERA) Schools Program	(617) 918-1524 <a href="http://www.epa.gov/asbestos/schools.html">www.epa.gov/asbestos/schools.html</a>
	C4	PCB Program	(617) 918-1527 <a href="http://www.epa.gov/pcb">www.epa.gov/pcb</a>
U.S. Dept. of Labor	D	Occupational Safety & Health Administration (OSHA)	Hartford: (860) 240-3152      Bridgeport: (203) 579-5581 <a href="http://www.osha.gov">www.osha.gov</a>
CT Dept. of Labor	E	Division of Occupational Safety and Health (CONN-OSHA)	(860) 263-6900 <a href="http://www.ctdol.state.ct.us/osha/osha.htm">www.ctdol.state.ct.us/osha/osha.htm</a>

Check the Internet at [www.dep.state.ct.us](http://www.dep.state.ct.us) for an upcoming web version of this flyer with additional information and links!