Construction Waste

There are many small remodeling projects happening on campus that generate construction waste. Special handling may be required for some of these types of waste.

Specific Disposal Guidelines

- Asbestos
- Capacitors
- Ballasts
- Lead Paint Chips
- Transformers

Asbestos Disposal

Example of friable asbestos pipe insulation (sample contains 14% chrysotile and 12% amosite asbestos). Unauthorized persons are prohibited by law from disturbing asbestos containing materials (ACM). All asbestos waste generated on campus must be properly contained, labeled and disposed at a licensed landfill.

Some common Asbestos Containing Materials (ACM) include:

- Thermal System Insulation (TSI) (e.g., pipe insulation)
- Surfacing material on walls or ceilings
- Textured surfacing material
- Acoustical material
- Transite panels (e.g., garage door panels, fume hood walls, fire walls, etc.)
- Electrical insulation
- Fire-proofing material
- Fire-protective clothing
- Fire-rated asbestos core doors
- Fire-stop material and fire-resistant drywall
- Thermal laboratory gloves and clothing
- Floor tile (especially 9-inch tile) and tile mastic
- Vinyl sheet flooring
- Personal hair dryers (insulating material)
- Heating pads
- Siding, Roofing Paper, Shingles and Adhesives
- Theatrical lamps (insulation)
- Theatrical (fire) curtains
- Brake pads / Clutch disks
- Roofing shingles and adhesives
- Some varieties of ceiling tile
- Some plasters
- Some cements
- Some spackling compounds
- Asbestos cement pipe

**DNR Factsheet on Asbestos Disposal:**

This information based on DNR's "[Asbestos Disposal Factsheet](http://example.com)," prepared by the Solid Waste Program, Bureau of Waste Management, DNR (v. 3/25/2002).

- **Types of Asbestos**
- **Regulatory Program Authority**
- **Regulatory Requirements**

**Types of Asbestos:**

Proper management of asbestos containing material (ACM) depends on whether it is friable or nonfriable; if nonfriable, whether it is category I or II; & if category I, whether it is a construction & demolition (C&D) material. Definitions of asbestos types are provided below.

**Category I Nonfriable ACM:**

"Category I nonfriable ACM" is defined as "...packings, gaskets, resilient floor covering & asphalt roofing...containing...asbestos...that...cannot be crumbled...to powder by hand pressure." Category I ACM is pliable (not brittle), breaks by tearing rather than fracturing, and does not easily release asbestos fibers upon breaking.

**Example of Category I material at UWM might include plywood covered with asbestos mastic (tile adhesive).**

**Category II Nonfriable ACM:**

"Category II nonfriable ACM" is defined as "any material, excluding category I nonfriable ACM, containing...asbestos...that...cannot be crumbled...to powder by hand pressure." This includes rigid exterior siding & boards known by the trade name "transite". Category II ACM is not pliable, breaks by fracturing rather than tearing, and does release some asbestos fiber release upon breaking.
Examples of Category II material at UWM may include transite board, transite acoustical panels, and transite lab benches. At UWM, we generally treat vinyl asbestos floor tile as Category II waste even though, by definition, it may be considered a Category I waste.

![Image of a Category II waste: ACM lab bench top (transite). Category II waste must be wetted, containerized, and labeled prior to disposal. The small sample on top is from a stone lab bench.](image)

Friable ACM

"Friable ACM" is defined as "any material containing...asbestos... that...can be crumbled...to a powder by hand pressure." Friable ACM has little structural strength and contains asbestos fibers which are readily released upon breaking.

Common types of friable ACM at UWM may include pipe or thermal system insulation (TSI), sprayed-on insulation, some wall/ceiling/acoustical plasters, some ceiling tiles, thermal protective clothing, etc.

The actual state of materials may vary, so the definition of "friable" must be referred to when classifying materials. Also, nonfriable materials may become friable during grinding, cutting, burning, crushing, and similar operations, including some types of building demolition which may generate and release asbestos fibers.

**Regulatory Program Authority:**

Three different state regulatory programs have authority over ACM removal, transport and disposal.

**Removal** of ACM is regulated by:

- Wisconsin Department of Health & Family Services (DHFS), Division of Health.
- Wisconsin Department of Natural Resources (DNR), Air Management Program.

**Transportation & disposal** of ACM is regulated by:

- WDNR Air Management Program
- WDNR Solid Waste Program

**Division of Health** administers training and certification programs for inspectors and contractors performing ACM removal. Detailed information about these requirements is not provided in this factsheet. Contact DHFS for additional information.

**Air Management Program** regulates friable ACM, & category I & II nonfriable ACM if it becomes friable. Air Management must be contacted if friable or nonfriable ACM removal is being considered, or if any building will be demolished. Contact DNR for additional information.

**Solid Waste Program** regulates transport and disposal of solid wastes, including any construction and demolition (C&D) material & any ACM for disposal. Contact DNR for additional information.

**Regulatory Requirements for Disposal:**
The DNR factsheet only summarizes the requirements; it does not replace the rules regulating ACM or construction and demolition (C&D) materials:

**Removal and packaging procedures** to prevent asbestos fiber emission are prescribed:

- **Friable ACM** must always be removed before demolition, and wetted and placed immediately into leak tight containers or bags.
- **Category II ACM** must usually be removed before demolition, and wetted as needed to prevent dusting and placed in covered containers.
- **Category I ACM** must be removed before building demolition if the ACM has or will become friable.

**The DNR Air Management program** must be notified for all building demolitions (whether or not any ACM is present). Both DHFS and DNR must be notified for all required ACM removal of at least 260 linear feet, 160 square feet or 35 cubic feet. When required, building demolition notice or ACM removal notice must be made at least 10 business days before the demolition or removal occurs.

**Transport** of all solid wastes must be by a licensed solid waste transporter. No other transport license is needed for ACM in Wisconsin. ACM can only be transported to proper disposal locations. All ACM must be transported to prevent any visible emission of dust from the load, & the following procedures must be met for the ACM type specified:

- **Friable ACM** must be wetted and bagged prior to transport.
- **Category II ACM** may be transported in bulk containers, but must be wetted as needed to control dust, and containers must be covered to prevent spilling and dusting.
- **Category I ACM** may be in bulk containers, but covers must be used to prevent spilling. Wetting is not required to prevent asbestos emissions during transport.

**Disposal requirements for ACM** are as follows:

**Category I ACM which is not a C&D material,** all friable ACM and all category II ACM must be disposed at an approved landfill engineered with a liner and leachate collection, and the landfill must be specifically approved to accept asbestos. On a case by case basis, the Solid Waste Program may approve disposal of these ACM materials at other landfills, if the landfill operational practices will be consistent with the ACM disposal requirements in s. NR 506.10 (2), Wis. Adm. Code:

- Dispose in a trench excavated into existing refuse and cover with at least 3 feet of non-asbestos waste or soil prior to compaction.
- Record each disposal location by vertical and horizontal coordinates.
- Do not dispose within previous ACM disposal areas or in locations proposed for future construction of landfill components, such as leachate headwells or gas extraction wells.
- **Category I ACM which is C&D material** may be disposed at an approved C&D landfill, including an approved one time disposal landfill, or at any other landfill with a plan of operation approved under s. 144.44 (3), Stats. No special operational requirements apply to disposal of category I ACM.
- Burning is prohibited for all types of ACM.

**Please Note**
DOA-DSF Rationale on Category I non-friable Material, general statement for Capital Renewal Projects:

All caulking, sealants, glazing compounds, gaskets, asphalt roofing materials and miscellaneous adhesives are assumed to contain asbestos and are considered to be Category I non-friable asbestos containing material (ACM) as defined in NR 447. Category I non-friable ACM, which is construction and demolition waste, may be disposed at an approved construction and demolition landfill. If contractors’ demolition methods cause Category I non-friable ACM to become friable, the contractor is responsible for the disposal of the friable asbestos waste at a landfill specifically approved to accept asbestos. A copy of the signed waste manifest for the disposal of all friable asbestos waste shall be provided to DSF prior to final payment.

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Questions regarding asbestos other than at UWM should be directed to your local health or building department. Many private laboratories in the Milwaukee area also provide asbestos testing services.

Capacitor Disposal

General Information

For proper disposal of any capacitors containing Polychlorinated Biphenyls, or PCBs, contact Environmental Protection staff. If equipment containing PCB capacitors is to be surplused, the person taking the equipment must be notified of the PCB potential by the previous owner.

Capacitors are used in electrical equipment and can contain PCBs, which are regulated upon disposal. The two common types are running capacitors and starting capacitors. Starting capacitors are used to help start small motors and are usually free of PCBs.

Running capacitors are used to help improve the efficiency of electrical motors. PCBs are often found in running capacitors manufactured before 1976. However, these PCB components have found their way into appliances manufactured as late as 1984.

Starting capacitors typically have a rectangular cross section and are usually housed in a plastic or aluminum shell. Running capacitors are often larger, usually circular or oval in cross-section, and have a steel jacket. A magnet can be employed to distinguish the two types of jackets.

Household Appliances

PCB capacitors have been found in air conditioners, microwave ovens, furnace blower motors, fluorescent light ballast, and sometimes in refrigerators and freezers. Capacitors used in clothes dryers, dishwashers, hot water heater, garbage disposers and compactors, ovens, ranges and stoves are not likely to contain PCBs. Campus units which have appliances for surplus or disposal must notify the persons taking the appliances of the potential PCB contents.

Industrial and Laboratory Equipment

PCB fluids have long been associated with oil-filled switches, capacitors and transformers. Certain hydraulic equipment, especially hydraulics used in high temperature applications, are known to contain PCBs. Equipment containing electrical motors should be checked for capacitors before disposal. Anyone with equipment manufactured
before the late 1980s should be aware of the PCB content potential when surpling, disposing or servicing the equipment.

**Ballast Disposal**

**General Information**

Ballasts are used in Fluorescent light fixtures. Many ballasts contain an oil filled capacitor, roughly the size of a bar of soap. Ballasts manufactured before 1981 have capacitors containing Polychlorinated Biphenyls (PCBs), an environmental pollutant. UWM recycles ballasts. While PCB ballasts are recycled through a commercial processor, the PCB portion is incinerated at a special site licensed to handle PCBs. Other ballasts, not containing PCBs, are also shipped for recycling.

**Procedures for Disposal:**

- If you notice any oily substance outside of ballast(s) assume that it could be PCBs and handle appropriately:
  - Handle ballast(s) with disposable gloves
  - Place ballast(s) in plastic bags
  - Put disposable gloves into bag with ballast and close bag securely.
- If you are not currently on a regular waste pick up schedule, please contact Environmental Protection staff to request a waste pick up.

**Lead Paint Chip Disposal**

**Lead (Pb) Bearing Surfaces in State-Owned Facilities**

Elemental lead (Pb) has been used since ancient times in art, plumbing, paint pigments, ammunition, ceramic glass, and leaded gasoline. The primary sources of lead today include soil, painted surfaces of water towers and bridges, and homes built before 1978. Lead can cause a range of health problems when ingested or inhaled, particularly in children and pregnant women. Some of the health effects include increased hearing problems, slow growth, nerve damage, kidney damage, mental retardation, coma, convulsions and even death in extreme cases. Although the use of lead in paint, gasoline additives, solder, pipes and other uses has been significantly reduced, installed products or residuals from their use are present in many State of Wisconsin properties. The most common location is probably lead painted surfaces, particularly in buildings or equipment constructed prior to 1980.

Renovation and demolition projects involving lead bearing surfaces do not typically require special handling of the waste if lead bearing surfaces are not separated from the substrate. Building components coated with LBP can be disposed of as construction and demolition (C&D) waste. However, if a lead bearing paint or surface coating is separated from the substrate, the work may generate a hazardous waste. Paragraph 4, of the General Requirements of the DSF construction documents identifies applicable OSHA standards regarding lead. All renovation/demolition contractors are responsible for compliance with applicable OSHA standards.

Paragraph 31 of the General Requirements of the DSF construction documents identifies cleaning and waste disposal requirements at construction sites. The demolition/renovation contractor is responsible for disposing of waste in accordance with all applicable laws, regulations, codes, rules, and standards. DOA maintains a contract for hazardous waste management and disposal services for disposal of materials that meet the definition of a hazardous waste (Wis. Admin. Code NR 600). The renovation/demolition contractor is responsible for coordinating hazardous waste characterization and disposal through the DSF’s Project Representative. Charges for transport and disposal of hazardous waste under State procurement’s hazardous waste service contract will be paid directly by the State from project funds.

In addition to waste generated by a renovation/demolition contractor, hazardous waste may also be generated by the agency resulting from routine building maintenance activities. In either case, the party responsible for generating the
waste has “cradle to grave responsibility” and is responsible for its proper containment and management at the worksite, and is also responsible for its proper disposal.

**Disposal of Transformers**

Electrical transformers come in two categories, wet and dry. The dry type transformer is generally not a disposal problem. The wet type transformer may contain oil which contains Polychlorinated Biphenyls, or PCBs. The disposal of any oil-filled transformer should be coordinated through Environmental Protection.

The transformer should be completely disconnected from any power source. If the unit has a large enough reservoir, we will draw a sample to determine whether the oil contains PCBs. Once the laboratory results return, we will schedule a pickup by a contractor specializing in transformer disposal, specifically permitted to handle PCBs.

Once contacted, the disposal contractor can usually schedule a pickup within one month. The pickup will be made from the building where the transformer was used if that building has a loading dock. If the building does not have a loading dock, or the loading dock is for some reason inaccessible or unavailable, contact Environmental Protection staff to coordinate moving the transformer to an alternate shipment location. Please do not move the transformer without contacting Environmental Protection.

Unnecessary expenses incurred, caused by someone not following these policies, will be charged to the appropriate party or their department.