

## **Construction & Demolition Waste Management**

### **Goals:**

Lehigh University has a goal of achieving a sixty five percent (65%) landfill diversion rate by 2022 and 85% by 2025 for non-capital construction and renovation projects with values between \$250,000 and \$5,000,000, where dumpsters are provided. The Lehigh Representative will indicate in the bid documents if a certain project meets the criteria.

For capital projects (projects over \$5,000,00), Consultants and Contractors must comply with the waste diversion goals of LEED Silver standards, or higher.

All regulated waste and material must be disposed of per Lehigh University's Waste Disposal Policy, found here: [Regulated Waste Disposal Policy](#)

### **Definitions:**

*Clean:* Untreated and unpainted; not contaminated with oils, solvents, caulk or similar products.

*Construction and Demolition Waste:* Solid wastes typically including building materials, packaging, trash debris and rubble resulting from construction, remodeling repair and demolition operations. Hazardous materials are not included.

*Diversion from Landfill:* To remove, or have removed, from the site for recycling, reuse or salvage material that might otherwise be sent to a landfill. Diversion from Landfill shall not include using the material as alternative daily cover at a landfill site, nor shall it include burning, incinerating, transformation processing or thermally destroying waste.

*Recyclable:* The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product.

*Recycle (recycling):* To sort, separate, process, treat or reconstitute solid waste and other discarded materials for the purpose of redirecting such materials into the manufacture of useful products. Recycling does not include burning, incinerating, transforming or thermally destroying waste.

*Return:* To give back reusable items or unused products to vendors.

*Reuse:* To reuse excess of discarded construction material in some manner on the Project site.

*Salvage:* To remove waste material from the Project site for resale or reuse.

*Waste:* Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable and reusable material.

*Waste Management Plan:* A Project-related plan for the collection, transportation and disposal of waste generated at the construction site. The purpose of the plan is to ultimately reduce the amount of material going to landfill.

**Waste Management Requirements:**

Construction Waste Management plans shall be submitted for review by LU Facilities prior to the commencement of work.

All projects shall generate the least amount of waste possible and the process shall ensure the generation of as little waste as possible due to error, inaccurate planning, breakage, mishandling, contamination, or other factors.

Of the inevitable waste that is generated, as many of the waste materials as feasible, and as stated here, shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

A minimum of sixty five percent (65%) of total project demolition and construction waste (by weight or by volume) shall be diverted from the landfill and projects shall attempt to divert eighty five percent (85%). The following waste categories are likely candidates to be included in the diversion plan.

- Inerts (and clearing debris, rock and dirt)
- Concrete
- Bricks
- Concrete Masonry Units (CMU)
- Asphalt
- Metals (e.g. banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, brass, bronze)
- Cardboard, packaging
- Clean dimensional wood
- Asphalt shingles or roofing
- Drywall
- Carpet and pad
- Ceiling tiles
- Glass
- Shrink- or stretch-wrap from furniture/palletized deliveries
- Green waste and organic landscaping materials (brush, chips, trees, stumps)
- Reuse items indicated on the Drawings and/or elsewhere in the Specification

All fluorescent lamps, HID lamps and mercury-containing thermostats removed from the site shall be recycled and disposed of per local regulations.

**Submittals:**

The General Contractor shall be responsible for the development and implementation of a Construction Waste Management plan, which shall be submitted for review by the LU Facilities Department prior to the commencement of work

**Waste Management Plan:**

Before any work begins, the General Contractor shall submit to the Lehigh Representative its Waste Management Plan containing the following:

- Estimate of the total proposed jobsite waste to be generated, including types and quantities (by weight).
- Proposed alternatives to Landfilling: A list of each material proposed to be salvaged, reused, or recycled during the course of the Project, the proposed destination for each material and the projected amount (by weight).
- Material handling procedures. A description of the means by which any waste materials identified in item (b) above shall be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with the requirements for acceptance by recycling processors to be utilized.
- List of documentation to be provided in Progress Reports.
- Tiered pricing for waste removal to reflect potential hauling costs as Class 1, Class 2 and Class 3 materials for disposal at landfills.

**Progress Reports:**

The Contractor shall submit Waste Management Progress Report(s) at a regular time interval specified by the Lehigh Representative.

The Progress Report shall contain the following information:

Project title, name of company completing report, and dates of period covered by the report.

Report on the disposal of all jobsite waste, including:

Recycled materials. For each material, provide the following:

- Amount (in tons)
- Dates removed from the jobsite
- Receiving Party

Reused or salvaged materials. For each material, provide the following:

- Amount (in tons)
- Description of intended or actual use

Landfilled materials. Provide the following:

- Amount (in tons)
- Dates removed from the jobsite
- Identity of the transfer station or landfill

Include legible copies of on-site logs, weight tickets, receipts and bills of lading. Receipts shall be from recycling and/or disposal site operators who can legally accept the materials for the purpose of reuse, recycling or disposal. If mixed construction and demolition waste is sorted off-site, provide a letter from the processor stating the average percentage of mixed waste they recycle. The Contractor shall save original documents and provide certified weight tags for the duration of the contract. Any incentives or rebates received from the recycling of waste material will be passed along to Lehigh University.

This plan and all reports shall be submitted to the solid waste/recycling manager on campus, for inclusion in campus waste generation and diversion reports.

**Project Meetings:**

Waste management plans and implementation shall be discussed at the following meetings:

- Pre-demolition meeting
- Pre-construction meeting
- Regular job-site meetings

**Summary:**

This section applies to all Lehigh University projects. The information and activities required in this section shall meet the most recent version of the LU Design Guidelines & Standards, or USGBC Leadership in Energy and Environmental Design (LEED) criteria, where applicable to a given project.