

**Management Plan –Construction Waste
(CWMP)**

LEED® for BD+C:NC v4

Construction and Demolition Waste Management

Goals and Scope of Work

The _____ will be pursuing a LEED® for New Construction Platinum certification. Pursuant to this end, the owner is committed to minimizing reliance on landfills as the primary disposal destination for waste and recognizes that recycling is only one part of a comprehensive waste reduction program.

A Construction and Demolition Waste Management Plan has been implemented with the following goals:

1. Outline at least five materials targeted for diversion.
2. Provide the anticipated % of total waste that these materials will represent
3. Include on-site diversion strategies
4. Improve the sustainability of construction practices, from procurement to disposal in order to reduce the amount of waste generated.
5. Divert construction and demolition waste from disposal in landfills and incineration facilities by redirecting recyclable and reusable materials to appropriate management companies.
6. At least 75% of construction and demolition waste (by weight) will be diverted from the landfill.

Responsible Parties

_____ has appointed a Waste Management Coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. This coordinator shall be present at the project site full time for the duration of project.

The coordinator will be responsible for training workers, subcontractors, and suppliers on proper waste management procedures as appropriate for the work occurring at project site.

The coordinator will distribute this waste management plan to each subcontractor when they first begin work on-site. Workers, subcontractors, and suppliers shall be trained on proper waste management procedures as appropriate for the work occurring at project site.

The procedures and locations established for salvage, recycling, and disposal will be reviewed in regular construction management meetings. The specific areas of the project site designated for separating materials to be salvaged, recycled, reused, donated, and/or sold are noted on the site plans and building plans in Appendix A.

Implementation Guidance

Waste Reduction

The following strategies are recommended to reduce the quantity of waste generated on site:

1. Give preference to supply companies that can provide material in the dimensions specifically needed for the project or in quantities closer to the exact amount needed.
2. Give preference to supply companies that provide minimal packaging beyond that required for product protection, or those that ship materials in reusable or returnable packaging such as pallets or containers.
3. Give preference to supply companies that accept returns of unused construction material.
4. Protect materials from damage by storing them away from equipment traffic patterns, elevating them off the ground, storing them under cover, and keeping them level to prevent warping or twisting.
5. Use products efficiently by keeping them organized and emptying one pallet or shipment before opening the next.
6. Additional waste reduction strategies should be considered by each contractor and brought to the construction manager for approval. These efforts are optional, but popular strategies include:
7. Clean concrete chunks, old brick, broken blocks and other masonry rubble can be used as backfill along foundation walls.
8. Left over dirt and aggregate from excavation may be stored separately and sold or reused in site landscaping.
9. Branches and trees from site clearing can be stored separately and chipped for use on the site as landscaping mulch.
10. Set aside, in a marked and designated area, lumber and plywood/oriented strand board (OSB) cut-offs that can be used as fire blocking, spacers in header construction and in other ways.
11. Set aside, in a marked and designated container, clean sawdust for use in compost piles or around planting areas. Avoid sawdust that might contain painted or treated wood. This should be bagged separately and sent to appropriate facilities.
12. Set aside, in a marked and designated area, large drywall scraps for use as filler pieces in small hidden areas.
13. Install leftover insulation in interior wall cavities if it cannot be used on another job.

Recycling and Salvage

This project's waste hauler has determined the criteria for separation of recyclable and salvageable waste from landfill waste, and the Waste Management Coordinator will designate and label specific areas on the project site as necessary for separating salvaged, recycled, reused, donated and sold materials.

Appropriately marked containers or bins will be provided for controlling diverted waste until it is removed from project site. A list of acceptable and unacceptable materials will be included at each container and bin. Containers and bins will be inspected weekly for contamination, and contaminating materials will be removed if found.

Stockpiles of salvaged and porous recyclable materials will be protected from water and dust.

C&D Waste to be Diverted

This project must divert at least five different waste streams, and the construction manager predicts that these materials will represent the following % of the total waste stream.

- | | |
|----------------------------------|-----|
| 1. Common Waste: | 40% |
| 2. Cardboard/Plastic/Recyclable: | 25% |
| 3. Wood: | 10% |
| 4. Soil: | 10% |
| 5. Steel: | 10% |

6. Concrete: 5%

Excavated materials, land clearance debris, and hazardous waste is not included in this calculation. Alternative daily cover (ADC) and most incinerated waste are not considered diverted.

Composted, recycled, or salvaged waste, and wood waste used as a fuel are considered diverted. Any incinerated material other than wood is not considered diverted unless the waste to energy plant follows the European Commission Waste Framework Directive 2008/98/EC and Waste Incineration Directive 2000/76/EC and meets the applicable European Committee for Standardization (CEN) EN 303 standards.

The materials listed below are compostable, recyclable or salvaged by this project's waste processing facilities. Every effort should be made to ensure that these materials are placed in the correct waste collection areas:

- Asphalt
- Bricks and masonry
- Cardboard
- Concrete
- Food and beverage containers
- Glass and glazing
- Metals
- Packaging Materials:
 - a. Paper
 - b. Cardboard
 - c. Boxes
 - d. Plastic sheet and film
 - e. Polystyrene packing
- Slurry wall materials
- Plastics.
- Wood sheet material
- Wood studs and joists
- Wiring

Special Handling Instructions

The special instructions listed below are required by the construction manager or the waste hauler in order to maximize this projects diversion rate. Please conduct the following activities prior to placing waste in the correct collection area:

- Acoustical ceiling panels and tile: stack large clean pieces on wood pallets and store in a dry location
- Separate suspension system, trim, and other metals from panels and tile and sort with other metals
- Cardboard and boxes: Break down packaging into flat sheets, bundle and store in a dry location. Paper and cardboard containers should remain covered to prevent blow-out.
- Carpet and pad (clean, dry): store in a closed container or trailer provided by carpet reclamation agency or carpet recycler.
- Roll large pieces tightly after removing debris, trash, adhesive, and tack strips
- Compost: Waste containers should remain covered to prevent infestation.
- Crates and Pallets: For crates and pallets that remain on site, break down into component wood pieces and comply with requirements for recycling wood.
- Equipment: Drain tanks, piping, and fixtures – seal openings with caps or plugs. Protect equipment from exposure to weather.
- Electrical devices: Separate by type and size.
- Lighting fixtures: Separate lamps by type and protect from breakage
- Metals: Separate metals by type
- Paper: Include paper and beverage containers used by on-site workers in addition to construction waste. Paper and cardboard containers should remain covered to prevent blow-out.
- Piping: Reduce piping to straight lengths and store by type and size - separate supports, hangers, valves, sprinklers, and other components by type and size
- Plumbing fixtures: Separate by type and size

- Polystyrene packaging: Separate and bag material pallets as much as possible, require deliveries using pallets to remove pallets from project site. Containers for plastic should remain covered to prevent blow-out.
- Structural steel: Stack members according to size, type of member, and length
- Remove and recycle bolts, nuts, washers, and other rough hardware

Submittals

All construction and demolition waste removed from the site other than excavated soil and land-clearing debris must be tracked.

On a monthly basis and within 30 days of the last pickup, the Waste Management Coordinator will compile a waste management report or spreadsheet which tracks the following for each waste category:

- | | |
|---|--|
| 1. Name of hauler | 4. Quantity of waste salvaged, by weight |
| 2. Destination of waste (by facility name/location) | 5. Quantity of waste recycled, by weight |
| 3. Quantity of waste landfilled, by weight | 6. Total quantity of waste |
| | 7. Total % of waste diverted |

The report will be backed by:

1. Records of all landfilled or incinerated waste sent to a facility licensed to accept it. Records of each pickup will include date, weight of material, and destination or waste hauler name.
2. Records of all recyclable or salvageable waste sent to a facility licensed to accept it. Records of each pickup will include date, type of waste, weight of material, and destination or waste hauler name.
3. Records of salvageable waste donated or sold to individuals and organizations. Records of each donation or sale will include date, type of waste, weight of material, and destination or purchaser name.
4. Statements of Refrigerant Recovery signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to United States Environmental Protection Agency regulations. The name and address of technician and date refrigerant was recovered will be included.
5. For waste diverted to a waste-to-energy facility, provided documentation that the facility follows the European Commission Waste Framework Directive 2008/98/EC and Waste Incineration Directive 2000/76/EC and meets the applicable European Committee for Standardization (CEN) EN 303 standards.

For Projects Diverting Commingled Waste

If the project team diverts commingled waste, documentation will be provided to verifying the diversion rate. Documentation can either be a project-specific diversion rate(s) provided by the sorting facility or, if the method of recording and calculating is regulated by the local or state governing authority, the average annual recycled rate for the sorting facility.

Excluded from Requirements

The only materials excluded from construction and demolition waste management requirements are hazardous waste, excavated natural materials and land-clearing debris. These do not need to be tracked.

Quality Control

The waste reduction progress reports described above will be reviewed by the LEED Consultant to ensure compliance with LEED requirements.

Appendix A

Attach building and site plans highlighting locations of waste handling areas and the types of materials collected at each area.

Appendix B (SAMPLE)

Below is a sample table showing how information can to be tracked during construction & demolition.

Material Description	Material Type	Material Stream	Total Waste (specify unit*)	Commingled Waste Average % of ADC Produced by the Sorting Facility	Diverted Waste (specify unit*)

*The unit of measurement should be measured as weight.

Weight (Ex. Kilograms, tons, tonnes, etc.)