



A Series of Factsheets on New Construction Issues

Construction Waste Minimization Methods

Construction Waste Facts



Most construction waste currently goes into landfills, increasing the burden on landfill loading and operation. Nationally, construction waste contributes a large portion to the waste stream destined for our nation's landfills. It is estimated that 2.5 to 4 tons — about 3 to 5 pounds per square foot — of waste is created during the construction of a typical home. Very little reuse or recycling is currently practiced. Construction waste consists mainly of lumber and manufactured wood products, 35 percent; drywall, 15 percent; masonry materials, 12 percent; and cardboard 10 percent. The remainder is a mix of roofing materials, metals, plaster, plastics, foam, insulation, textiles, glass and packaging.

With the implementation of an effective construction waste minimization effort, a high percentage of all waste materials listed above can be diverted from the landfill and recycled into new products.

How To Develop A Construction Waste Minimization Program



To develop a successful Construction Waste Minimization Program, a builder should evaluate each of the following steps and determine the best and most cost-effective approach.

Step 1) Design To Prevent Waste

- Paying attention to waste potential in the building's design stage can lead to less waste on the site. Some issues to consider in the design phase of a building are:
- Optimize building dimensions to correspond to standard lumber dimensions.
- Modify framing details to optimize lumber use and reduce waste and costs when ordering.
- Develop framing layouts to avoid waste and costs when ordering lumber.
- Order drywall in optimal dimensions to minimize cut-off waste. Drywall is available in different lengths, and designed dimensions should correspond to standard sizes.
- Minimize the number of blueprints and reproductions necessary during the design and construction.
- When remodeling, evaluate if salvaging used lumber is possible.

Summary

Waste prevention is even more beneficial than recycling. Activities that prevent waste production, such as reusing building materials, not only cut garbage and recycling collection costs but also reduces materials' expenses. Small changes to building practices and extra attention to detail can add up to significant savings to the builder, the homebuyer and the environment.

Step 2) Plan For Waste Prevention

- Estimate the types and quantities of waste the project will generate and determine a schedule of when the wastes will be developed.
- Work with all suppliers to reduce waste on a project by asking them to buy back unused product.
- Ask suppliers to deliver supplies using sturdy, returnable pallets and containers. Then have the suppliers pick up the empty containers when delivering new building materials.
- Ascertain if storage and handling practices prevent loss from weather and other means and make revisions as needed.

Step 3) Prevent Waste On-Site

- Store lumber on level blocking and under cover to minimize warping, twisting and waste.
- 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.
- 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.
- Set aside, in a marked and designated area, large drywall scraps for use as filler pieces in small hidden areas.
- Reuse joint compound buckets for tool or material storage by clients or crews.
- During construction, collect, stack and cover brick and other masonry materials to prevent soiling or loss.
- Clean concrete chunks, old brick, broken blocks and other masonry rubble can be used as backfill along foundation walls.
- During remodeling, separate metal radiators, grates, piping, aluminum siding and old appliances.
- Install leftover insulation in interior wall cavities or on top of installed attic insulation if it can not be used on another job.
- Branches and trees from site clearing can be stored separately and chipped for use on the site as landscaping mulch.

Step 4) Purchase To Prevent Waste

- Avoid excessively packaged materials and supplies. Packaging should be adequate to prevent damage and waste.
- Minimize waste of vinyl siding, flooring and countertop materials by ordering only the quantity needed in building specific lengths.
- Evaluate estimating procedures to make sure that excess material is not delivered to the site.

Step 5) Document Waste Prevention Savings/Costs

- Keep accurate project records of the costs and savings associated with Waste Prevention. Provide the information to the building owner and, if possible, estimate the cost savings and the corresponding environmental impacts.
- Develop a list of suppliers and recycling contacts for easy reference and use in future projects.

Nebraska Green Building Program



Builders participating in the Nebraska Green Building Program are encouraged to reduce construction waste during all phases of the construction of their homes. Construction Waste Minimization options provide builders with “Green

Building” credit in each of the following phases of construction:

Site Development

- A construction waste reduction, recycle and reuse plan is written and followed by the builder that includes recycle bins for wood, drywall, cardboard, metal. A waste specification document is prepared and followed. Burying construction waste is prohibited.

Foundations

- Aluminum foundation forms are used during construction. The use of wood forms, which are often landfilled after one use, is prohibited.

Building Envelope Construction

Buildings constructed under the program are provided “credit” when the following materials are installed:

- Minimum 30-year roofing material including concrete, slate, clay, composition, metal or fiberglass
- Finger-jointed wood windows
- Large dimension, solid lumber — 2’ x 10’ or greater — is avoided
- Engineered wood “I” joists are used for flooring
- Trusses or “I” joists are used for roofs
- Finger-jointed top and bottom plate material is used
- Finger-jointed studs or engineered stud material is used
- Structural insulated panels used for walls or roofs
- Engineered lumber products for beams, joists or headers is used
- Optimum value engineering framing (24” O.C. studs, 3 or less stud corners, etc.)
- Engineered alternatives to wood framing

Interior Finishing

Buildings constructed under the program are provided “credit” when the following materials are installed:

- Finger-jointed trim

Resources

Seattle/King County Contractors’ Guide to Preventing Waste and Recycling - 2001
www.neo.ne.gov/home_const/factsheets/CDLguide.pdf

Connecticut Department of Environmental Protection
www.ct.gov/dep/cwp/view.asp?a=2714&q=437786&depNav_GID=1645

Sustainable Building Sourcebook — Construction Waste
constructionwaste.sustainablesources.com/

U.S. Department of Energy — Green Building Guidelines
www.eere.energy.gov/



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Construction Waste Minimization Methods is one in a series of factsheets on issues related to energy and resource efficient construction of new homes and buildings.

Other factsheets and additional information can also be found at: www.neo.ne.gov/home_const/design_build.htm

This fact sheet was partially financed through the Nebraska Department of Environmental Quality Litter Reduction and Recycling Program.

