



# Construction Waste Reduction Case Study

Department of Environmental Conservation  
Waste Management Division

## Program Highlights

### Benefits/Cost Savings:

- \$165 saved in tipping fees
- 1.7 tons recycled or reused
- 6.32 tons disposed of
- 21% diversion rate

### Waste Prevention Strategies

- Shop-fabricated steel sub-framing
- Pre-fabricated roof system with pre-cut sheets
- Limited use of interior walls or finishes

### Materials Recycled:

- **Clean Wood:** 300 lbs.
- **Cardboard:** 200 lbs.
- **Scrap Metal:** 2000 lbs.

### Project Statistics:

- **Completion date:** May 2002
- **Size:** 5,272 square feet
- **Location:** Middlebury, VT

### Architect/Builder:

Jan Becker, Architect  
David S. Kirby, Project Manager  
Bread Loaf Corporation  
1293 Route 7 South  
Middlebury, VT 05753

### Middlebury Project Contact

Connie Leach Bisson  
(802) 443-5043



Newly constructed Material Recycling Facility at Middlebury College.

## Designing for Less Waste

Middlebury College contracted the services of Bread Loaf Corporation to design and build a 5,272 square foot recycling facility. One goal for the project was to minimize the amount of waste produced. This was done by planning for waste prevention during the design stage. Pre-cut steel framing and roofing sheets eliminated on-site woodcutting and thus greatly reduced the amount of wood waste generated. In addition, the facility was designed to limit the use of interior walls and finishes.

Bread Loaf maintained separate, labeled containers on site for clean wood, scrap metal, cardboard and mixed waste. Bread Loaf's Superintendent held weekly meetings with subcontractors, each agenda included recycling.

*"The recycling plan reduced the waste management costs by the avoided tipping fee amount...the recycling plan was cost-effective."*

– Connie Bisson

The prevention strategies used helped to reduce the total waste generated and to create a durable new facility that will continue to reduce Middlebury's waste stream in the future.

## TIPS FOR WASTE PREVENTION

1. Use designs that use materials efficiently. Use **standard dimensions** to reduce wasted lumber, drywall and other materials.
2. **Centralize woodcutting** operations to promote wood reuse. Centralized woodcutting operations can reduce wood waste by 15%.
3. **Protect materials from deterioration.** If materials can be damaged by exposure to the sun or rain, store them in covered areas. Keep lumber off ground to protect it from rotting.
4. Choose products that come with **little or no packaging.**
5. Use **durable, locally produced, recycled content** materials and finishes where available.
6. Make sure the **correct amount** of each material is delivered to the site at the appropriate time. Ask suppliers to take back or buy back substandard, rejected or unused items.

## RESOURCES

### **Vermont Business Materials Exchange:**

A free service that matches companies with excess goods with companies that can use the materials.

<http://www.vbmex.net>

### **Vermont Construction Site Reuse and Recycling Directory:**

Lists markets for reusable or recyclable C&D materials.

Available online or in booklet form (802-241-3477).

[http://www.anr.state.vt.us/dec/cf/wm/CandD\\_SearchList.cfm](http://www.anr.state.vt.us/dec/cf/wm/CandD_SearchList.cfm)

Visit Vermont's Construction Waste Reduction Page Online  
<http://www.anr.state.vt.us/dec/wastediv/recycling/c&d.htm>

For more information:

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***Green is  
Good Business***

