BRING
reduce | reuse | recycle | rethink

Construction Materials Recovery and Reuse Toolkit
Greetings from BRING,

In order to comply with Oregon’s recycling regulations, Lane County implemented a Construction and Demolition (C&D) recycling requirement at the Glenwood Central Receiving Station and Short Mountain Landfill locations. The rule also requires that all self-haul C&D loads over six (6) cubic yards be sorted for recycling by the generator or delivered to a material recovery facility for sorting. Since July 1, 2018, Lane County’s Glenwood Central Receiving Station and Short Mountain Landfill no longer accept C&D loads containing recyclable materials.

To assist contractors, architects, and other building professionals in meeting these new requirements, BRING, in partnership with Lane County Waste Management and the City of Eugene, has developed a free, hands-on technical assistance program that helps recover materials acceptable for reuse, recycle properly, and save money on your next construction project.

On the following pages you will find BRING’s Construction Materials Recovery and Reuse (CMRR) Toolkit to help you navigate the changes to our area’s recycling requirements. The Toolkit offers resources and best practices for reducing waste in all aspects of construction—from design and planning to recovery of reusable materials and recycling what’s left.

For program information and assistance, please contact Kyle Shepherd, CMRR Program Manager at kyles@BRINGrecycling.org.
Introduction

**WHO IS THIS TOOLKIT FOR?**

The Construction Materials Recovery and Reuse (CMRR) Toolkit is a reference guide for contractors, architects and design professionals, and building owners. This guide provides practical tips and information to reduce construction related waste, recover reusable and recyclable building materials, and save money on disposal fees.

**WHY IT MATTERS**

Conventional disposal of construction related waste costs money and strains waste management systems. Construction and Demolition related waste makes up nearly a third of Lane County's waste stream. Reducing disposal of this material represents real savings and reduced burden on the local waste management system.

### Design, Deconstruction, and Waste Reduction

#### Design

Good design minimizes waste throughout the lifecycle of a building. There are several strategies to consider, including:

- **Responsible sourcing of materials**—By sourcing materials that minimize toxics including paints, adhesives, and carpeting, designers can be sure that those products will have less impact across the useful lifecycle of the material.
- **Durability**—The durability of buildings depends on relatively few specific factors that can be addressed through design and construction including, moisture, heat, sunlight, materials failure, building function, and style. (You can find out more in the Directory section.)
- **Focus on Energy**—Prioritizing energy efficiency in design helps to save on heating and cooling costs down the road. Installing energy efficient windows and utilizing solar energy are a few examples of energy efficient design.
- **Responsible Use of Materials and Minimizing Waste**—Designing to minimize cutoffs, integrating reclaimed materials into buildings, and scaling buildings appropriately for the intended use are a few techniques that can reduce construction-related waste and conserve resources.

#### Deconstruction

The old methods of demolishing buildings create pollution and waste reusable materials. In many ways, the better alternative is deconstruction. Deconstruction is the process of intentionally disassembling a structure in reverse order of construction to recover salvageable and reusable items. Items such as doors and windows, light and plumbing fixtures, trim and lumber, and masonry and concrete may be reusable. Salvaging these items can reduce disposal costs.

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**Dry Landfill C&D Waste**

Much of the material we landfill can be reused or recycled.
WASTE REDUCTION

Before construction begins make a plan to reuse materials as much as possible. If they can’t be reused on your project, consider donating them to a non-profit organization. Wood trim and flooring, masonry, light fixtures, doors, windows, and sinks are just a few items that can be reused or donated. For whatever is left, recycle appropriately including, cardboard, wood waste, and rubble. The extra effort conserves resources and reduces disposal fees.

Reusable Materials

LIST OF MATERIALS

The following is a list of materials that may be recovered for reuse from deconstructed buildings and new construction.

- **Masonry**
  - CMU and usable “urbanite.”

- **Metal**
  - Hardware, fasteners, rebar, roofing.

- **Plywood**
  - Clean, mold-free, usable sizes.

- **Insulation**
  - Rigid, clean, usable sizes.

- **Dimensional lumber and beams**
  - Nails are generally okay. Material cannot be split or contaminated with rot or concrete/adhesives.
Reducing, Reusing, Recycling

There are many opportunities to prevent waste during your deconstruction or build. Here is a list of suggestions for maximizing material use and recovery in your project.

MAKE A PLAN

Planning for reducing waste involves all stages of construction and deconstruction, and should begin as early in the process as possible. Some ideas:

• Develop a Materials Management Plan that tracks the disposal of all materials, including hazardous waste (see directory).
• Develop plans for implementation of the MMP and workforce training.
• Designate a Materials Management Coordinator to implement, monitor, and report on the plan execution.
• For deconstruction, look for a reputable, licensed contractor, and plan for carefully removing reusable and recyclable materials as part of the tear-down.

PLAN FOR REUSE

As early as possible, finding for-profit and non-profit reuse operations to recover usable materials from your job can reduce disposal costs or even make you money. Materials can be sold via internet and trade group marketplaces, and donating materials to nonprofits may result in tax benefits and good publicity. Questions to consider:

• What materials can be recovered from your project?
• Are there markets or non-profits that will accept the material?
• Is it financially feasible to recover this material?
• Unfortunately, not everything that is reusable can find a new home! Talk with potential buyers or non-profit organizations and your financial managers to find the best course for your project.

A CASE STUDY - MAHONIA

Mahonia is a three-story, 34,000 square foot mixed-use commercial and office building, made of wood and steel construction with strawbale-infill walls. BRING’s CMRR program assisted the owners with materials-management planning, construction-related waste recovery, and recycling monitoring and training.

CMRR staff provided best practices and training to contractors and their employees, recovering over 15,000 pounds of reusable materials. By prioritizing reuse, the building owners saved nearly $30,000 on disposal fees. BRING also helped the owners to source over 37,000 pounds of reclaimed materials to include in the building.

Mahonia Material Recovery by Weight

- Concrete 28%
- Plywood 21%
- Steel Product 28%
- Plastic 2%
- Softwood lumber 21%

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Supply Chain

As a building professional, you can minimize waste in your material procurement through careful planning and by working with your vendors.

- Source materials close to your project.
- Plan purchases in quantities that will prevent repetitive trips and deliveries.
- Talk with your vendors about how to avoid excessive shipping materials and how to address mis-orders.
- Source reclaimed or used materials.

Work with Your Garbage Haulers

Builders interested in site-separation of materials should plan for efficient bin selection and placement.

- Select bins based on your site and project needs and timelines.
- Communicate with your hauler to ensure smooth and timely service.
- If self-hauling, make sure you are familiar with county and city regulations (see self-hauling graphic on page 16).

Common issues involving recycling and material bins include:
- Cross-contamination by workers and the public;
- Filling limited space with bins that see little use;
- Frequent relocation of bins.

Plan for these issues, instruct your workforce appropriately, and protect the integrity of your system from the public.

Construction Materials Management

Responsible construction materials management involves early and thorough planning. Comparison of materials management approaches, suggestions about how to prepare management plans, and guidance for how to arrange self-hauled loads for disposal are examined in the following sections.

Source-Separation vs. Mixed Waste

Whether you chose to source-separate materials or arrange for mixed waste bins will depend on factors such as site-constraints, budgets, and your philosophy of waste-management. Below are the pros and cons of each approach.

Source-Separation

Pros
- Reduced tipping fees
- Revenues from saleable materials
- Better material tracking

Cons
- More bins
- More sorting labor

Mixed Waste

Pros
- Fewer bins
- Less sorting labor

Cons
- Higher tipping fees
- Less material tracking

Construction Phase

During construction consider using these ideas to reduce waste:
- Where appropriate, reuse scrap and cutoffs on-site, such as for blocking or temporary work.
- Load bins carefully to avoid dead-spaces and to minimize waste-disposal trips.
- Make sure proper materials management information is communicated to your employees.
- Make sure waste-prevention best practices are adhered to; identify and address issues as they arise.

- Work closely with your haulers and reuse organizations, communicating and documenting your activities.
In order to comply with Oregon’s recycling regulations, Lane County now requires Construction and Demolition (C&D) recycling at the Glenwood Central Receiving Station and Short Mountain Landfill. The rule requires that all C&D loads over 6 cubic yards be sorted for recycling by the generator or delivered to a Materials Recovery Facility. To assist with compliance, the Materials Management Plan has been developed to use in coordination with BRING’s Construction Materials Recovery and Reuse Program.

The Materials Management Plan is a checklist that helps reduce waste throughout the building process using the following strategies:

• Waste Prevention Planning and agreements with subcontractors
• Communication, Education, and Motivation
• Evaluation and Tracking of Reusable Materials, Recycling, and Waste

Specific questions about construction-related material waste-prevention, local resources for reuse, recycling, and disposal, and questions about hauling regulations may be addressed by calling:

• Lane County Waste Management at 541-682-4120, or
• BRING’s Construction Materials Recovery and Reuse Program at 541-746-3023 ext. 310

As always, it is your responsibility to manage and dispose of waste generated by your company. Thank you for your conscientious materials management.
# Materials Management Plan:
Waste materials, disposal method, and handling procedures

<table>
<thead>
<tr>
<th>Material</th>
<th>Disposal Method</th>
<th>Quantity</th>
<th>Handling Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reusable misc.</strong></td>
<td>Reuse on-site, donate, sell</td>
<td>Separated in designated areas</td>
<td></td>
</tr>
<tr>
<td><strong>Land clearing debris</strong></td>
<td>Recycle: LCWM, private</td>
<td>Bin/haul</td>
<td></td>
</tr>
<tr>
<td><strong>Lumber</strong></td>
<td>Reuse on-site, donate, sell</td>
<td>Separated in designated areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycle: LCWM, private</td>
<td>“Wood” container for haul</td>
<td></td>
</tr>
<tr>
<td><strong>Plywood, OSB</strong></td>
<td>Reuse on-site, donate, sell</td>
<td>Separated in designated areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycle: LCWM, private</td>
<td>“Wood” container for haul</td>
<td></td>
</tr>
<tr>
<td><strong>Particle board</strong></td>
<td>Reuse: donate, sell</td>
<td>Keep scraps separate in dry-storage-pallets/bins. PU/haul</td>
<td></td>
</tr>
<tr>
<td><strong>Painted or treated wood</strong></td>
<td>Reuse on-site, donate, sell</td>
<td>Separated in designated areas</td>
<td></td>
</tr>
<tr>
<td><strong>Concrete + CMU</strong></td>
<td>Reuse on-site, donate, sell</td>
<td>Separate, call/haul</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycle: LCWM, private</td>
<td>PU/haul</td>
<td></td>
</tr>
<tr>
<td><strong>Metals</strong></td>
<td>Reuse on-site, donate, sell</td>
<td>Separated in designated areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycle</td>
<td>Place in “Metals” container.</td>
<td></td>
</tr>
</tbody>
</table>

### Gypsum drywall (unpainted)
- **Disposal options**
  - Call LCWM or BRING CMRR for resources
- **Handling Procedure**
  - How will the material be staged, stored, and hauled for disposal

<table>
<thead>
<tr>
<th>Disposal</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Place in “Trash” container.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paint</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Place in “Trash” container.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Insulation</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Place in “Trash” container.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flooring</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Place in “Trash” container.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carpet and pad (new)</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Place in “Trash” container.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glass, plastic, aluminum beverage</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redeem: OR Bottledrop</td>
<td>Bin/baghaul</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plastics, including packaging</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycle: limited on-site</td>
<td>Reuse on site, then “Trash”</td>
</tr>
<tr>
<td>Recycle: limited</td>
<td>Place in “Trash” container.</td>
</tr>
<tr>
<td>Landfill</td>
<td>Place in “Trash” container.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardboard</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycle: limited</td>
<td>Separate dry bin. PU/haul</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paper and newsprint</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycle: limited</td>
<td>Separate dry bin. PU/haul</td>
</tr>
</tbody>
</table>

**TOTAL**
Loading Order For Self-hauled Construction Materials to Glenwood Central Receiving Station

Construction debris that is hauled to solid waste transfer stations often contains reusable and recyclable materials. Disposing of this material wastes resources and costs money! Fortunately, there are opportunities to donate reusables and to recycle in our community and at Lane County facilities.

Before visiting a transfer station, view local reuse organizations websites to see what they take. Some offer pick up or you can drop off your donation before heading to the transfer site.

Save time and money by arranging your load in advance.

You are responsible for safely covering and securing your load before you travel.

1. Follow signs to Recycle area.
2. Off-load metal and cardboard at the designated bins (and look for other recycling opportunities, too!)
3. Proceed to Weigh-in, and follow staff’s directions to off load wood, brush, concrete and rubble.
4. Proceed to pit deck to off-load garbage that cannot be recycled.
5. Tip bed vehicles enter East side as shown.

Success! Thank you for doing your part to reduce waste, conserve resources and save money.

Directory of Materials Management Resources in Lane County

GREEN BUILDING DESIGN & PLANNING RESOURCES

Oregon Construction Contractors Board—
Educational Courses for contractors; http://www.oregon.gov/CCB/education/Pages/CE/coursecatalogs.aspx


Environmental Protection Agency—Resources for all phases of a project; https://archive.epa.gov/greenbuilding/web/html/

Marion County Oregon Environmental Services—Sustainable building guide; http://www.co.marion.or.us/PW/ES/Documents/sustainbldgguide5.pdf


REUSE ORGANIZATIONS & RESOURCES

BRING Recycling—https://bringrecycling.org/donate/

Central Lane Habitat for Humanity ReStore—
Eugene, Springfield, Cottage Grove; http://habitatlane.org/restore/

Habitat for Humanity ReStore—Florence; http://www.florencehabitat.org/content/restore-shop

Habitat for Humanity ReStore—Junction City; http://www.jchmhabitat.org/restore-info.html
FOR-PROFITS & PRIVATE PARTIES

Material exchange online resources—http://www.nwmaterialsmart.org/

Eugene freecycle—https://groups.freecycle.org/group/EugeneOR/posts/all

Craigslist

RECYCLING RESOURCES

Garbage Guru—Online search tool for reuse, recycling, and waste disposal in Lane County; http://www.lanecounty.org/cms/one.aspx?pageld=12064443


WASTE & RECYCLING HAULERS

Action Drop Box (Lane Forest Products)
541-345-9085
service area: Eugene

Central Coast Disposal
541-902-7554
service area: Florence, Mapleton

Coburg Sanitary Service, Inc.
541-683-5929
service area: Coburg & Surrounding, Eugene (drop box only)

Cottage Grove Garbage, Inc.
541-942-8321
service area: Cottage Grove, Saginaw

Countryside Disposal and Recycling
541-687-1259
service area: Crow, Lorane, Elmira, Eugene

County Transfer and Recycling
541-997-8233
service area: Dunes City, Florence, Mapleton

Ecosystems Transfer and Recycling
541-935-2655
service area: Cheshire, Elmira, Crow, Noti, Walton, Lorane, Alvadore

Eugene Drop Box
541-689-6892
service area: Eugene (commercial only)

Junction City Public Works
541-988-2153
service area: Junction City

Lane Apex Disposal Service
541-607-2042
service area: Eugene, Santa Clara

McKenzie Disposal Service
541-988-3016
service area: McKenzie, Camp Creek and Marcola

Oakridge Sani-Haul
541-782-3411
service area: Oakridge, Westfir

Royal Refuse Service
541-688-5622
service area: Eugene and surrounding rural areas

Sanipac
541-736-3600
service area: Creswell, Eugene, Springfield, Veneta, Lowell, Pleasant Hill and surrounding Springfield rural areas

MATERIALS RECOVERY FACILITIES (MRFs)

Ecosort—http://www.ecosort.com/

McKenzie Recycling—http://www.royalrefuseservice.com/page/services/
HAZARDOUS & SPECIAL WASTE

Lane County Waste Management
541-682-4120
http://lanecounty.org/government/county_departments/public_works/waste_management/special___hazardous_waste/