

# Sustainable Construction Guide



## Green Building Tips and Techniques

From Marion County Public Works - Environmental Services

October 2006

# Designing and building a more sustainable home:

## Green Home Remodeling Guide

This guide is designed to encourage the sustainable building efforts of Marion County homeowners and the remodeling industry with technical support, education, information resources, events and financial incentives.

## Acknowledgements

Special thanks to the Portland Office of Sustainable Development of Portland, Oregon for permission to excerpt portions of their Green Home Remodeling Guide.

## Disclaimer

The information provided in these guidelines is intended to assist homeowners, contractors, architects and other professionals in the course of designing and constructing modified structures. They are offered as a public service by Marion County Public Works - Environmental Services to provide community and environmental benefits and reduce costs. The guidelines are not a substitute for the exercise of sound judgment in particular circumstances. Mention of products or services is not an endorsement, nor is absence of a product or service intended as a criticism.



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O R E G O N

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# Green remodeling priorities

What choices and actions will have the greatest impact? Here's how building actions are prioritized by the magnitude of their environmental impact:

- **Small is beautiful.** The size of your remodel will determine the resources to build it and the energy to maintain comfort for many years in the future. Plan multi-use spaces to maximize efficiency and functionality.
- **Focus on energy.** Energy generation pollutes and contributes to global warming. Additionally, inefficient homes are costly.
- **Use the sun.** The sun provides free and plentiful energy in the form of daylight and heat. Use windows well, use direct solar for energy or heating water, and buy renewable power.
- **Reduce waste.** Implement a plan to eliminate construction waste, and recycle any waste you create.
- **Buy local.** Support businesses and jobs, keep dollars in the community, and help create a market for sustainable building. Use the NW Green Directory: [www.nwgreendirectory.org](http://www.nwgreendirectory.org).
- **Durability rules.** Select products and materials that are durable and low maintenance. You will save in the long run.
- **Reuse.** Whenever you reuse building materials, you eliminate the need to extract and process more stuff.
- **Get the whole story.** A product's lifecycle tells the whole story from extraction to end of life. Ask.
- **Avoid toxics.** Using safe, healthy materials helps protect your family and your community.
- **Gather rain.** Install rain barrels or a cistern for irrigation water.
- **Go organic.** Buy locally grown food from local vendors.
- **Walk and bike.** Getting out of your car can improve your health and reduce pollution.
- **Make it beautiful.** We take care of the things we love.

## CHAPTER 1:

# *Welcome to green building*



*Numerous stores, including Habitat for Humanity's ReStore, Aurora Mills Architectural Salvage, and The Rebuilding Center, offer a wide variety of salvaged materials*

Building a new home or remodeling your home remodel is an exciting opportunity to adapt your house to fit your goals for livability, style and budget. By making informed choices, you can also lower your energy bills, reduce future maintenance, make your home healthier, and reduce waste and pollution.

Construction and remodeling projects generate solid waste during demolition, renovation, repair, or construction. This guide is to provide individuals engaged in construction information on green building methods and materials, recycling, reuse/salvage, and disposal options for construction projects.

This guide includes:

- ◆ Suggestions on how to make your home green.
- ◆ An alphabetical listing of materials and who will accept them for recycling or disposal.
- ◆ A list of franchised waste haulers in Marion County.
- ◆ A list of agencies that can answer specific solid waste concerns.

## 1.1 What is “green building”?

Green or sustainable building or remodeling pays attention to:

- ◆ Saving energy.
- ◆ Using renewable energy such as sun or wind power.
- ◆ Saving water.
- ◆ Protecting rainwater and streams from pollution.
- ◆ Recycling construction materials.
- ◆ Reusing materials.
- ◆ Using materials with recycled content.
- ◆ Reducing indoor pollutants, including mold and toxic chemicals.
- ◆ Durability and long life.
- ◆ Reducing maintenance.
- ◆ Using local products and services.

This guide includes many ways to integrate these ideas into your remodel. Whatever your budget or preferences, you can meet your goals while minimizing your impact on the environment.

## 1.2 How you build makes a difference

Marion County Public Works Environmental Services supports green building and remodeling as an important part of creating a sustainable city. Primary community goals are to:

- ◆ Promote salvage, reuse and recycling to minimize construction-related waste.
- ◆ Create healthier and more durable homes.
- ◆ Save energy, water and other resources.
- ◆ Reduce the greenhouse gas emissions that cause global warming.
- ◆ Make housing more affordable by reducing operating costs.
- ◆ Support our local economy, such as manufacturers and suppliers of resource-efficient building materials.

The products and practices contained in this guide were selected for their availability, performance, cost and practicality for Marion County homeowners and remodelers.

Builders and remodeling contractors can use this guide to differentiate themselves in the marketplace, while protecting our environment.

Special thanks to Portland Office of Sustainable Development for permission to use their Green Building

Guidelines to develop guidelines for Marion County.

## 1.3 Making choices and setting goals

You already have your own ideas about living more lightly on the earth. Your own home can be an expression of those values and ideas. There’s satisfaction in knowing that your flooring not only looks great, the forest it came from is still healthy and the people who made it received a living wage.

Green remodeling is about making informed choices. Your choices will be easier if you set goals and prioritize them.

For every decision along the way, you’ll be asking questions like: What’s it made of? Where did it come from? Will it save energy?

Most of us will also ask: How much will it cost?

Some choices may cost more; others might even cost less. For example, the price of safer paints, carpet, adhesives and other finishes is competitive with conventional products. And re-used or salvage materials often cost less than new. Many choices that do cost more now may save you money in the long term with products that reduce energy costs and last longer.

As you read through this guide, think about what you can easily do, and what you might be able to do if you stretch. Trust your instincts, and do the things that are important to you. By learning about building products and making informed choices, homeowners and remodelers can use their purchasing power to transform the market toward more sustainable products and practices.

This section covers the major areas to think about while planning your remodel.

## 1.4 How to use this guide

### Topic areas

The guide is organized into sections that follow the design and construction process. Please use the table of contents to locate the sections that are most relevant to your project.

### Checklists

The guide includes a checklist of green features to consider when doing typical remodels like a kitchen or addition. You can look over the list to spot ideas that appeal to you.

## CHAPTER 2:

# *Things to think about before you start*

### 2.1 Reducing Construction Waste

Although Marion County recycles or recovers 53% of the waste that is generated, debris from construction and demolition still accounts for about 20% of all material disposed of in our landfills and at the Covanta Waste-to-Energy Facility. In 2005, 221,060 tons of waste was disposed of in Marion County, at least 9,336 tons were construction and demolition debris.

Marion County encourages homeowners and the construction and building industry to keep these materials out of the landfill, by:

- ◆ Building “right-sized” houses that function well while reducing energy and materials.
- ◆ Deconstructing instead of demolishing older buildings.
- ◆ Salvage and reuse of materials.
- ◆ Job site recycling of waste materials.
- ◆ Efficient use of materials, such as advanced framing.
- ◆ Use of recycled-content building materials, like wheatboard made from waste straw.
- ◆ Use of durable materials that will need to be replaced less frequently.
- ◆ Use of materials that don’t pollute the waste stream.

All residents and contractors working in Marion County are encouraged to reduce waste whenever possible; reuse materials; and recycle on construction, remodeling, and demolition projects.

For information about recycling services, contact the franchised waste hauler servicing your job site. For general information on construction debris recycling and disposal or information on franchised waste haulers, call 503-588-5169 or visit our website.

### 2.2 Benefits of waste reduction

There are many benefits to waste reduction and recycling of construction materials.



*Salvaged cabinets and wood from the 1909 House in Portland ready to go to The ReBuilding Center*

Construction projects that implement waste reduction practices and use resources efficiently can provide the following benefits:

- ◆ Protect the environment by creating less waste and pollution, and by preserving natural features.
- ◆ Use less toxic materials.
- ◆ Use less energy for operation and maintenance.
- ◆ Use products made from discards, recycled materials, and secondary resources.
- ◆ Provide for the safety and health of construction contractors and occupants.

Recycling, salvaging and reusing construction waste can save you money by reducing disposal costs. In the Marion County, construction waste that is disposed of as garbage will cost \$67.45 to \$87.45 per ton. There may be no fee, or a lesser fee, if this construction waste is dropped off at a recycling facility.

#### **How do I get rid of...**

To find out how to properly dispose of specific materials check out Marion County’s recycling/disposal database at: <http://apps.co.marion.or.us/Recycle/> or call 503-588-5169.



Locally made, Green Seal-certified paint reduces pollution and is cost-competitive. Miller Paint and several other companies also offer non-toxic paints. Look for labeling that says the product exceeds safety standards and is non-toxic.

Recycled paint is another good option. It is available free to the public at the Salem-Keizer Recycling and Transfer Station. Call 503-588-5169 for more information.



When you recycle, you not only save money, but you also help conserve natural resources.

### 2.3 Considerations for waste reduction

When you start a new construction or remodel project there are several important things to consider to make you successful.

#### Minimize waste generation

The best way to reduce waste and save money is to avoid creating waste. Designing a project so that fewer materials are used, using designs that accommodate standard lumber and drywall sizes, and estimating and purchasing only the amount and size of material needed, are just a few of ways to reduce the amount of waste generated.

#### Deconstruction or demolition

In partial or complete demolitions, consider deconstruction over mechanical demolition. Identify if the structure is a good candidate for deconstruction or hand disassembly. Be sure to remove salvageable items as early in the project as possible. Allow time for this at the front end of the schedule. Also, consider placing ads in local publications for material that may be reused. There are several publications where you can list your material, including Roth's IGA Classified and the Nickel Ads. Listing the items on the internet is also a good option (for example: <http://salem.craigslist.org>, [nwmaterialsmart.org](http://nwmaterialsmart.org), and [freecycle.org](http://freecycle.org)).

#### Explore disposal options

Investigate recycling and disposal options before the job begins. Work with your hauler or recycler to determine what materials should be separated for recycling and when they need to be collected.

#### Separation of materials

Materials are easiest to separate for recycling on new construction projects. Waste materials such as wood, drywall, cardboard, metals, plastics, leftover paint, and solvents should be kept separate from garbage

and recycled or reused. Incorporate recycling requirements into all subcontracts.

#### Collection box placement

Place recycling bins in a location that will prevent misuse or contamination by the public. Even a small amount of garbage in a bin of recyclables makes the entire bin unacceptable for recycling.

#### Location of bins

Place multiple containers at convenient locations on the job site. Locate garbage bins next to recycling containers.

#### Identify bins

Make sure the recycling and garbage bins are clearly marked with large signs. If necessary, mark in English and Spanish.

#### Educate subcontractors and employees

Educate subcontractors and employees about what materials will be recycled for the project. Include recycling in their contracts. Teach subcontractors and employees to keep lunch bags, caulking tubes and other garbage out of the recycling bins.

#### Look for continuing opportunities

Look for salvage opportunities as the project progresses. For example, carpet removal may reveal hardwood flooring that is salvageable.

#### Material disposal

All material that can not be recycled or reused must be disposed of at a disposal site permitted by the Department of Environmental Quality (DEQ). Marion County Public Works - Environmental Services operates three permitted sites: Brown's Island Demolition Landfill, Salem-Keizer Recycling and Transfer Station, and North Marion Recycling and Transfer Station. See Chapter 5 to find out what materials are accepted at each site.

#### Hazardous and special waste considerations

Hazardous wastes such as solvents, paints and coat-

ings, adhesives, pesticides, and oils, as well as special wastes such as fluorescent and high intensity discharge (HID) lamps, fluorescent ballasts which contain polychlorinated biphenyl (PCBs), lead-based paint, asbestos, appliances that contain chlorofluorocarbons (CFCs), should be recycled, reused, or disposed of properly. For recycling and disposal options, see Chapter 5 or check out Marion County's website at <http://apps.co.marion.or.us/Recycle/>.

## 2.4 Conserving natural resources

Conventional remodeling consumes large quantities of wood, plastic, cardboard, paper, water and other natural resources, and leads -unnecessarily -to their depletion. You can change that. The key to conserving resources is to ask. As a consumer, you have a big influence on suppliers and contractors when you tell them you want products that are socially and environmentally responsible.

Remodelers have a rapidly expanding range of green building materials from which to choose, including decking, insulation, concrete, drywall, fiberboard, tile, flooring and paint. Much green building is just applied common sense. Reclaimed lumber and other products divert waste from the landfills, while providing quality and durability that often exceed conventional materials. Many green products are also easier to maintain.

### Wood

Wood, for example, is one of the most common remodeling materials. Wood from sustainably managed forests can be easily renewable, traded fairly, require minimal processing, have low embodied energy, cause relatively little pollution and support local economies. Independent certification helps you tell the difference. A Forest Stewardship Council (FSC) label is your assurance that your wood is from a healthy forest.

Salvage or reused wood can be better quality than new wood, and is well worth investigating. You can also ask your contractor to use wood efficiently so

### Embodied energy

"Embodied energy" refers to the energy consumed over the life cycle of a product—the total energy used for resource extraction, processing, manufacturing, transportation and eventually disposal. Some building products have very high embodied energy because raw materials have to be processed at high temperatures to make them: examples include steel, aluminum, cement and glass. Thinking about embodied energy can help with decisions of whether to buy used or new materials.

your remodel doesn't create a lot of scrap.

## 2.5 Healthier homes: indoor air quality

Some building materials can look attractive but may introduce harmful chemicals into the home. The United States Environmental Protection Agency (EPA) reports that the air in new homes can be ten times more polluted than outdoor air.

According to research published in the New England Journal of Medicine, 40% of children will develop respiratory disease, in part due to the chemicals in their homes. Fortunately, a little forethought can eliminate most indoor pollutants for a safer home.

Causes of poor indoor air quality:

- ◆ Offgassing of chemicals from building products and materials
- ◆ Combustion byproducts from open-flame appliances
- ◆ Lead dust from old paint
- ◆ Asbestos from old insulation, floor tiles, siding or fireproofing
- ◆ Dust mites and other biological pollutants like dander and pollens
- ◆ Mold caused by excess moisture and/or poor ventilation
- ◆ Radon that migrates from soil into the house.

### Formaldehyde in particleboard

One of the most common indoor pollutants is formaldehyde, which irritates the respiratory system and may cause other illnesses. Kitchen cabinets, counter-

### FSC certification

The Forest Stewardship Council (FSC) is a non-profit organization with world-wide membership. FSC has established guidelines for managing forests so that they remain healthy while producing wood products and supporting local economies. A forest is certified by a third-party company that applies FSC standards objectively. FSC certification is your assurance that wood you buy is genuine and you are not harming the forest it came from.

Other certification systems found in the marketplace may offer less protection for the forest, but they are evolving quickly in response to consumer demand. For details, go to [www.certifiedwood.org](http://www.certifiedwood.org).

tops, shelving, underlayment and furniture are typically made from particleboard. The wood particles are held together by urea-formaldehyde adhesive. Formaldehyde may be released into the home for years after these products have been installed.

### Volatile Organic Compounds

Many primers, paints, floor finishes, adhesives and caulks also contain unhealthy volatile organic compounds (VOCs). That “new house smell” is actually the odor of VOCs offgassing and is a telltale sign that there are harmful chemicals in the indoor environment. The building products industry has responded to these indoor pollution problems by developing alternative paint, finish, adhesive and caulking products. For example, solvent-free adhesives used in flooring and countertops can eliminate many suspected and known human carcinogens. Paints, varnishes and cleaners that don’t utilize volatile compounds are now commonly available from most major manufacturers at costs comparable to conventional products.

### Safer alternatives

Products are readily available which perform well and are safer and less toxic. This guide includes effective ways of preventing and removing pollutants, based on current best practices as recommended by the EPA and health advocates like the American Lung Association.

The State of Oregon currently has no building code that regulates indoor air quality, so this guide draws on the Washington building code in its recommendations for fresh air ventilation.

We focus on two practical strategies:

- ◆ Avoid introducing hazardous pollutants into the home, and
- ◆ Provide adequate fresh air ventilation.

### Natural building

In addition to the growing number of readily available and cost-effective green materials, an increasing number of builders and remodelers are also using natural building materials such as straw-bale, clay plasters, light-clay and cob. While less common in their use, natural building products have a positive impact on the environment as they are renewable and abundant; energy efficient in production, transport and use; non-polluting; durable and long lasting as well as satisfying and fun to use.

## 2.6 Saving energy and water

Saving energy is one of the smartest investments you can make. Most energy-saving measures will pay back in just a few years. And if the prices of oil, natural gas and electricity rise in the future, the steps you take now will help buffer your family budget from those added costs.

Saving energy also reduces emissions of the gases that cause global warming. In Oregon, coal and natural gas produce about 40% of our electricity. Burning these fossil fuels creates greenhouse gases. For more detail on our Northwest power mix, visit [www.nwppc.org](http://www.nwppc.org) and search for “power supply.”

Saving energy with heating, cooling and weatherization measures like insulation and window selection is a bit more complex. We suggest some proven technologies and practices and point you to financial incentives available.

### Energy efficiency

Energy efficiency is a cornerstone of any green building project. Improving energy efficiency and using renewable energy sources are effective ways to improve air quality and slow global warming. Improving energy efficiency also makes economic sense for consumers. Lowering utility expenses allows you to enjoy financial benefits year after year.

### Cost comparison: 75w incandescent vs. 23w compact fluorescent (CFL) light bulb

Energy	Cost	Life/Hrs	Wattage	\$/kWh	On-time	Annual
INCANDESCENT	\$0.50	750	75	\$0.06	1000 hrs/yr	\$4.50
CFL	\$5.00	10,000	23	\$0.06	1000 hrs/yr	\$1.38
YEARLY SAVINGS:						\$3.12

LIFETIME SAVINGS: One CFL will last as long as 13 incandescent bulbs, making the overall product cost of the incandescent \$6.50 compared to \$5 for the CFL. **Over its life the CFL will save about \$33 - more if electric rates go up.**

Be sure to recycle your CFL’s when they burn out. They contain small amounts of mercury vapor and need to be disposed of properly. For details call 503-588-5169 or check out our website.

The Energy Trust of Oregon and Oregon Department of Energy offer financial incentives and tax credits for saving energy while remodeling and for renewable energy systems.

**Step one:**

The first step to increase energy efficiency while remodeling is to add insulation and seal air leaks wherever possible, install double-glazed/low-E windows and upgrade to high-efficiency appliances.

**Step two:**

If the heating system needs to be upgraded, energy-efficient equipment and duct sealing can save dollars and improve comfort.

**Step three:**

Renewable energy options include installing solar water heaters or photovoltaic panels. These are good long-term investments, and incentives will help pay for them. Even if the budget is tight, you can still purchase renewable power generated from sources like the sun, wind and biomass. Both PGE and Pacific Power offer renewable power.

**Saving water**

Even though Marion County's winters are rainy, our typical summer is very dry. Meanwhile, irrigation use increases the demand for water in the summer. Water conservation helps homeowners save money and ensures that our community will have enough water to meet everyone's needs - without adding expensive additional infrastructure. Today, remodelers can take advantage of a new generation of high-efficiency washers, dishwashers and landscape water-management systems.

## 2.7 Reducing monthly costs

Green building can help you save money.

When considering the cost of your remodel, be sure to think about energy savings and durability. An investment now may pay off in less time than you might expect.

A remodel that includes energy-efficient lights and appliances, weatherization, and efficient space and water heating can cut energy use in half compared to a conventional house. The Energy Trust of Oregon offers home energy reviews that can help you spot ways to target your investment in energy-saving upgrades.

Many green materials are more durable than their conventional counterparts and cost less to maintain.

## 2.8 Supporting local companies

One way to be green is to select products and materials that are produced and sold by local companies. Buying local products:

- ◆ Saves fuel and pollution caused by transporting goods from faraway places
- ◆ Keeps your dollars at work in our community, creating employment opportunities and strengthening local economies.

Just ask, "Where is that made?" when you shop.



The Energy Trust of Oregon offers home energy reviews and financial incentives. 1-866-ENTRUST

The Oregon Department of Energy offers tax credits. 1-800-221-8035 [egove.oregon.gov/ENERGY](http://egove.oregon.gov/ENERGY)

## CHAPTER 3:

# *Green building methods and materials*



*These beautiful homes were built using a variety of environmentally friendly building materials and resource efficient building techniques.*



*clockwise from left:  
Emrick house in Cannon Beach, designed by Nathan Good Architect and mother nature;  
Leafwood Homes in West Salem, designed, built and developed by Leafwood Homes, Inc.;  
Curry home in Salem, designed, built and developed by Curry Brandaw Architects and Construction.*

The following sections provide more detailed descriptions of green building practices, material applications and associated environmental benefits. The items are listed in the order in which they would normally arise during design and construction.

### 3.1 DESIGN AND CONSTRUCTION PLANNING

#### 3.1.1 Financial incentives and applications

In addition to whatever loan documents you may need to prepare for funding your remodel, make sure to check the websites of the Oregon Department of Energy and the Energy Trust of Oregon for procedures regarding state tax credits and cash incentives for improving efficiency and installing renewable energy equipment.

A tax credit reduces your tax obligation by the amount of the credit (as compared to a tax deduction). Oregon offers tax credits for energy-saving dishwashers, refrigerators, clothes washers, heating equipment and water heaters as well as for solar equipment. If you are considering a tankless water heater, check out the tax credit!

**Oregon Department of Energy**  
Residential Energy Tax Credits:  
[egov.oregon.gov/ENERGY](http://egov.oregon.gov/ENERGY)

#### **The Energy Trust of Oregon**

The Energy Trust offers cash incentives for remodeling features like insulation, windows, water heaters and clothes washers as well as major incentives for solar hot water and solar electric systems.

Energy Trust of Oregon Residential Incentives:  
[www.energytrust.org](http://www.energytrust.org)

These web sites explain how to document your purchases and fill out forms to get your tax credit and/or incentive payment.

#### **Mortgage and insurance**

If you plan to buy a fixer-upper and remodel, some local lenders have low interest loans to roll into the mortgage for installing energy-efficiency measures. Make sure you have all the details while you are planning the project.

Ask your homeowners insurance agent if there are any measures for health and safety that might lower your monthly premium, such as fire-resistant exterior materials.

### 3.1 DESIGN AND CONSTRUCTION PLANNING

#### 3.1.2 Salvage reusable building materials

##### DESCRIPTION

Many building materials can be salvaged and reused, such as flooring, doors and windows, tubs and sinks, cabinets, electrical and plumbing fixtures and lumber. The remodeling contractor or a local deconstruction contractor can identify and properly remove reusable materials so they can be reused.

If the owners donate the materials to a non-profit for resale, they may be able to take a tax deduction for the value of the donated materials.

##### APPLICATION

Before preparing construction plans, walk through the project with the designer/architect and general contractor and identify items to be salvaged. The contractor may selectively remove materials for reuse; or there are a number of licensed contractors that offer dismantling services to salvage materials for reuse. Many firms are non-profits and will provide itemized donation receipts. Usable items can also be dropped off at used building material stores. Salvaged items should be stored under cover to protect from weather.

For a list of local salvage businesses, check out Marion County Public Works - Environmental Services' website at <http://apps.co.marion.or.us/Recycle>.

### 3.1 DESIGN AND CONSTRUCTION PLANNING

#### 3.1.3 Recycle Job Site Construction and Demolition Waste

##### DESCRIPTION

Construction waste generally consists of roofing, wood, drywall, metals, concrete, soil, plastic and cardboard. Most materials can be reused or recycled, if they are kept free of garbage.

#### Get a free energy review

Call the Energy Trust of Oregon, 1-866-ENTRUST, to see if you qualify for a home energy review. The review will provide an assessment of insulation, windows, and HVAC equipment along with valuable information on cash incentives and potential Oregon energy tax credits.

See Chapter 5 *Construction Site Recycling and Disposal* for more information. For materials not listed in Chapter 5, go to Marion County Public Works - Environmental Services' website at <http://apps.co.marion.or.us/Recycle/>

##### APPLICATION

Owner and contractor jointly set a recycling goal. In Marion County, recycling at least 50% by weight is a practical goal and many contractors recycle 90%.

The general contractor can set up storage for recyclables to keep them separated. The general contractor will tell specialty trades about recycling, and keep records of amounts recycled for the owner.

If separation is not practical, recyclables can be mixed in a single dumpster or container. It is critical that trash be kept out, including food waste and containers. A mixed load can be recycled through your local garbage/recycling hauler. These mixed loads go to Marion Resource Recovery Facility (MRRF), where the material is sorted.

Call Marion County Public Works - Environmental Services, 503-588-5169 for information.

##### BENEFIT

Recycling reduces pressure on landfills, saves money by reducing disposal fees, and provides raw materials for local companies to recycle into new products.

### 3.1 DESIGN AND CONSTRUCTION PLANNING

#### 3.1.4 Use salvaged materials

##### DESCRIPTION

Salvaged building materials, like old tubs, sinks, doors, light fixtures, marble and stone, flooring and wood trim can add character and history to a remodeling project. They often cost less than new products.

##### APPLICATION

Businesses like Habitat for Humanity ReStore (Salem, Tangent, McMinnville), The ReBuilding Center, Rejuvenation, Endura Wood Products, Hippo

Hardware, Environmental Building Supplies, Craftmark (Portland), My Green Home (Corvallis), and many others sell salvaged materials. Homeowners will need to purchase salvaged items in advance and work out their use with designer and builder.

#### **BENEFIT**

Reusing materials extends their service life and avoids having to manufacture new ones. Salvage wood is often better quality than new wood. Homes with character usually last longer because their owners enjoy and care for them.

### **3.1 DESIGN AND CONSTRUCTION PLANNING**

#### **3.1.5 Use recycled-content materials**

##### **DESCRIPTION**

“Recycled content” means a building material or product made from something that used to be thrown away. Examples include Marion County recycled paint, UltraTouch insulation made from waste denim cotton, Wheatboard made from waste straw, Trex deck boards from scrap wood and plastic waste, Shaw carpet from pop bottles, Traffic ceramic tiles from recycled auto windshields, and Hi-Tek roofing from recycled rubber tires. These products may outperform new materials. For example, strawboard does not emit harmful formaldehyde like the particleboard it replaces. Plus, they may cost less—Metro recycled paint sells for less than half the price of new paint and it comes in a variety of colors.

##### **APPLICATION**

When shopping and selecting materials, ask about recycled content. Today many stores stock Recycled-Content products. A comprehensive product list is available on-line at [www.ciwmb.ca.gov/RCP](http://www.ciwmb.ca.gov/RCP) or [www.NWgreendirectory.com](http://www.NWgreendirectory.com).

#### **What is deconstruction?**

Often, buildings are simply demolished and all the fragments either “downcycled” or sent to the landfill. An example of downcycling is sending wood to be chipped up for boiler fuel. Such wasteful demolition is appropriately described as “crunch and dump.”

Deconstruction is the process of carefully disassembling a building so that its components can be saved and reused. Deconstruction may initially cost more than demolition, but the owner can get a tax deduction for donating materials to a non-profit like The Re-Building Center or Habitat for Humanity ReStore. The value of the tax benefit can make deconstruction competitive with demolition.



*The Rebuilding Center offers a wide variety of salvaged materials*

#### **BENEFIT**

Recycled-content “closes the loop,” turning wastes into usable products, saving the energy and resources used to make the original materials, and reducing landfills.

### **3.1 DESIGN AND CONSTRUCTION PLANNING**

#### **3.1.6 Use rapidly renewable resources**

##### **DESCRIPTION**

“Rapidly renewable” means products made from resources that regenerate quickly—in less than ten years—such as bamboo, straw, poplar wood or cork. Most wood is not rapidly renewable because it takes longer to regrow. Petroleum-based or mineral resources are not renewable at all.

##### **APPLICATION**

Cork flooring, bamboo flooring, bamboo plywood (cabinet facing), wool carpet, strawboard (for cabinets or shelves), linoleum (made with cork, jute and linseed oil), form-release agents made from plant oils, natural paints, erosion-control fabrics from coir and jute, and such textiles as organic cotton and sisal.

#### **BENEFIT**

These resources provide jobs and are easier on the environment. Cork bark, for example, must be harvested by hand, so thousands of people in Mediterranean countries have raised and harvested cork trees for centuries.



*Recycled glass door pulls*

### 3.1 DESIGN AND CONSTRUCTION PLANNING

#### 3.1.7 Use locally harvested or manufactured products

##### DESCRIPTION

Building materials that are manufactured locally support jobs in our local economy. Since they don't travel as far, they reduce fuel use and pollution caused by transportation. Local companies in Oregon generally do a good job of protecting the environment and worker safety and health.

##### APPLICATION

Examples:

- Certified wood from Oregon forests including Warm Springs and Collins Pine
- Medite II and Medex medium-density fiberboard made in Medford
- Aurora Glass from Eugene
- Willamette Graystone pavers from Portland
- Greenline Cabinets in Vancouver, Neil Kelly Naturals in Portland

##### BENEFIT

Reduces transportation, supports the economy and follows local environmental protection laws.

### 3.2 SITE WORK

#### 3.2.1 Control erosion

##### DESCRIPTION

When soil is disturbed and exposed by excavations or grading, it can easily be washed into streets or storm

drains and into local streams. Eroded soil damages streams and aquatic animals like fish.

##### APPLICATION

City code requires erosion control. Generally, minimize soil disturbance, cover exposed soil, install barriers and replace topsoil. Contact your city's planning office for specific requirements.

##### BENEFIT

Keeping soil out of streams benefits aquatic organisms like fish, frogs and insects that depend on clean water.

### 3.2 SITE WORK

#### 3.2.2 Protect existing trees and landscaping

##### DESCRIPTION

A remodel may involve digging, such as for new foundations or to remove an old oil tank. Digging can damage the roots of trees that are valued for landscaping, shade, stormwater management and cooling by evaporation. Mechanical excavation can easily cause unintended damage to trees.

##### APPLICATION

Before remodeling, evaluate the trees and large land-



*Pavers with open corners provide more formal appearance and rainwater drainage*



*Native plants and water provide a home for tree frogs in this North Portland yard*

#### **To reduce pesticide use:**

Check out NCAP's website: [www.pesticide.org](http://www.pesticide.org)

scape features like rhododendrons or hedges to be protected. Best practice is to fence around the trees at the drip line to prevent digging or construction work that could damage roots or bark. It is also good practice not to remove soil in root zones or add more soil over established roots.

Smaller trees and shrubs can be temporarily relocated in a berm and replanted after construction. Landscape professionals can help with this process.

#### **BENEFIT**

Landscape trees add to the value of property, help manage stormwater and improve air quality. Damaged trees may be costly to restore or remove.

### **3.2 SITE WORK**

#### **3.2.3 Install permeable paving**

##### **DESCRIPTION**

Permeable paving allows water to percolate into the soil. For driveways, walkways and paths, utilize gap-spaced unit pavers, decomposed granite, gravel or grass-stabilization systems.

##### **APPLICATION**

Use permeable paving for walkways, patios and driveways. Install like conventional pavers.

For driveways or aprons, combine hard surface with

porous, as in a carriageway where concrete lanes are separated by pavers or gravel. Porous concrete or asphalt is available but may be hard to install in a home project.

##### **BENEFIT**

Allowing stormwater percolation into soil reduces the volume of polluted water that flows into streams and the Willamette River, while replenishing soil moisture and local aquifers. Additional benefits include reduction in irrigation requirements as well as lower risk of flooding.

### **3.2 SITE WORK**

#### **3.2.4 Design native and hardy plant landscapes and gardens**

##### **DESCRIPTION**

Conventional landscapes may require lots of water and chemical fertilizer, pesticides and herbicides. They are sometimes planted without regard for climate and soil conditions. This can result in excess water use, water pollution and waste generation.

##### **APPLICATION**

Specify plants that are appropriate for the climate and soil of the area; select slow-growing, drought-tolerant plants; design with perennials instead of annuals; and site plants appropriately, giving them plenty of room to mature and reducing the need for pruning. Recycle yard trimmings by grasscycling, mulching and composting.

##### **BENEFIT**

Sustainable landscape techniques help conserve water, reduce use of chemicals, create healthier soil and plants and increase biodiversity in landscape areas.

### **3.2 SITE WORK**

#### **3.2.5 Install drip irrigation**

##### **DESCRIPTION**

Drip irrigation systems provide a small but constant water supply to landscape, thus preserving soil moisture and significantly reducing water waste from overspray.

#### **Native Plant Website:**

[http://www.cityofsalem.net/export/departments/spubwork/admin/water\\_res/plants/index.htm](http://www.cityofsalem.net/export/departments/spubwork/admin/water_res/plants/index.htm)

**APPLICATION**

Replace standard sprinkler systems with drip irrigation systems for all landscape applications except turf.

**BENEFIT**

Drip irrigation systems can dramatically reduce landscape water use and water costs.

**3.2 SITE WORK****3.2.6 Install rainwater harvesting systems****DESCRIPTION**

Rainwater is channeled from rooftops through gutters and downspouts to a storage container, such as barrels or a cistern. Stored water may be used for landscape irrigation. Rainwater may be used inside the house for flushing toilet if plumbing is installed per City code. The rainwater harvesting code guide ensures safety and health by separating plumbing for rainwater from plumbing for City water.

**APPLICATION**

Install wherever there is guttered roof runoff and room for storage barrels or a cistern.

**BENEFIT**

Rainwater harvesting reduces the need to use treated, drinkable water for watering of lawns and gardens.

- The Salem Airport receives an average of 40" of rain annually.
- A typical roof (1,500 SF) collects about 35,000 gallons of rainfall each year.
- That much rain is about 25% of average annual family usage.
- Residents of Salem use 83 gallons per person per day on average.
- Some highly water-efficient families have been able to meet most of their use with rainwater, except during the dry summer period.

**3.3 FOUNDATIONS****3.3.1 Incorporate recycled fly ash in concrete****DESCRIPTION**

Fly ash is a waste product of coal-burning power plants. It can be an inexpensive substitute for a portion of Portland cement used in concrete.

**Rainwater Collection Systems**

A permit may be required for some rainwater collection systems. Contact your local building permit department prior to installing a system. The local health department should also be consulted concerning safe, sanitary operations and construction of these systems.

**Basic Components**

Regardless of the complexity of the system, the domestic rainwater harvesting system comprises six basic components:

- ◆ Catchment surface: the collection surface from which rainfall runs off (generally a roof).
- ◆ Gutters and downspouts: channel water from the roof to the tank.
- ◆ Leaf screens, first-flush diverters, and roof washers: components which remove debris and dust from the captured rainwater before it goes to the tank.
- ◆ One or more storage tanks.
- ◆ Delivery system: gravity-fed or pumped to the end use.

**APPLICATION**

Typically, 15-50% of cement can be replaced with fly ash in residential concrete mixes. Be sure to let the ready-mix supplier know you want to replace cement with fly-ash.

Fly ash improves strength of concrete, although it changes the curing time. Normally this should not be an issue in residential construction unless the schedule is very tight.

**BENEFIT**

Fly ash increases the strength and durability of the concrete. Using fly ash also reduces the amount of cement needed, thereby decreasing the overall environmental impacts of cement production. Worldwide, cement production is a major generator of carbon dioxide, the primary cause of global warming.

**3.3 FOUNDATIONS****3.3.2 Reuse form boards or use alternative form boards****Re-use form boards****DESCRIPTION**

Concrete form boards are often 2x10 or larger solid sawn lumber, typically cut from old-growth trees.

**APPLICATION**

Forms are used whenever concrete is poured. By

carefully removing and separating the forms, they can be reused several times.

**BENEFIT**

Reuse of forms saves money and conserves resources. Solid sawn lumber is becoming increasingly expensive and scarce.

**Use aluminum forms****DESCRIPTION**

Aluminum forms come in all sizes and shapes and produce a smooth finished surface on the concrete. They can be used repeatedly.

**APPLICATION**

Aluminum forms can be used in most applications to replace wood forms.

**BENEFIT**

Because they can be reused many times, aluminum forms reduce wood use and, despite higher initial cost, pay for themselves quickly.

**Install rigid foam, insulated concrete forms (ICFs)****DESCRIPTION**

Rigid foam forming systems hold concrete in place during curing and remain in place afterwards to serve as thermal insulation.

**APPLICATION**

Use rigid foam forming systems wherever an insulated foundation is required.

**BENEFIT**

ICFs are not subject to rot and result in a better-insulated foundation.

**3.3 FOUNDATIONS****3.3.3 Use recycled-content rubble for backfill drainage****DESCRIPTION**

Concrete and rubble can be crushed and used for backfill and drainage purposes at the base of foundations.

**APPLICATION**

Use recycled materials for backfill.

**BENEFIT**

Using recycled instead of virgin materials saves money and natural resources.

**3.4 STRUCTURE****3.4.1 Replace solid sawn lumber with engineered lumber****DESCRIPTION**

Solid sawn lumber in sizes of 2x10 or greater typically comes from old-growth forests. Engineered lumber products, on the other hand, usually come from small-diameter and fast-growing plantation trees. These products include glulams, laminated veneer lumber, wood I-joists, oriented strand board, parallel strand lumber, and other manufactured wood-fiber structural materials.

**APPLICATION****A. Floor joists**

2x10 and larger lumber is typically used for floor and ceiling joists and some seismic applications. Large-size lumber can be replaced with engineered lumber in most applications, unless required by seismic codes.

**B. Non-load-bearing headers**

Solid sawn 4x6 beams are often used for headers when smaller dimension lumber would suffice, such as doubled 2x6, unless solid 4x6s are required by seismic codes.

**C. Structural headers and beams**

Engineered lumber should be used whenever structural members are replaced. They substitute for 2x10 and 2x12 in most interior applications such as the structural framing of floors and roofs.

**BENEFIT**

Reducing demand for large dimensional lumber decreases pressure to cut down old-growth forests. Engineered lumber uses wood fiber more efficiently than conventional

**3.4 STRUCTURE****3.4.2 Use Forest Stewardship Council (FSC) certified wood for framing****DESCRIPTION**

FSC certification assures that the forest from which the wood is produced is managed in an environmentally and socially responsible manner.



*I-joists replace solid lumber joists*

#### APPLICATION

Use FSC wood whenever new wood framing is required. Certified framing materials and plywood are available from local suppliers, such as Lumbermens and Disdero Lumber.

#### BENEFIT

FSC certification guarantees that forests are managed in a way that will assure the long-term availability of precious woods while protecting old-growth forest health. For more information go to: [www.fscus.org](http://www.fscus.org).

### 3.4 STRUCTURE

#### 3.4.3 Use wood I-joists for floors and ceilings

##### DESCRIPTION

Wood I-joists are engineered to use only the wood fiber necessary for the structural function required. They typically use oriented strand board (OSB) for the web and either laminated veneer lumber or solid sawn lumber for the chords (top and bottom pieces).

##### APPLICATION

Replace solid sawn lumber with wood I-joists for floor and ceiling joists. Consider using at 19.2" centers to save material.

##### BENEFIT

Wood I-joists use 50% less wood fiber to perform the same structural function as similarly sized solid sawn lumber and will not twist, warp or split. They are stronger and lighter than 2x10 or 2x12 solid lumber and can span greater distances.

### 3.4 STRUCTURE

#### 3.4.4 Use structural insulated panels (SIPs) for walls and

##### DESCRIPTION

SIPs are a sandwich of rigid foam with OSB on either side. They come in nominal 4"-12" thickness and are about R-4 per inch.

##### APPLICATION

Use SIPs for structural exterior walls and roofs in place of framing with lumber. SIPs can be designed to meet Seismic Zone 3 requirements.

##### BENEFIT

SIPs are more energy-efficient, provide excellent soundproofing and reduce air infiltration compared to frame construction. They can be erected quickly, allowing for faster construction. They save wood by eliminating much of the conventional framing lumber. And they can form a strong, lightweight structure that is earthquake resistant.

### 3.4 STRUCTURE

#### 3.4.5 Use salvage lumber

##### DESCRIPTION

High-quality dimensional lumber in long lengths can often be salvaged from old buildings that are being deconstructed.



*This garden shed is built from salvage materials*

**APPLICATION**

Use salvage lumber for non-structural applications, in place of new material. For structural applications, look for reclaimed lumber that has been regraded.

**BENEFIT**

Salvage lumber from deconstructed buildings reduces resource consumption and landfill deposits. Additionally, salvage lumber is often of higher quality than new lumber.

**3.5 EXTERIOR FINISH****3.5.1 Use sustainable decking****A. Recycled composite and recycled-content decking****DESCRIPTION**

Composite decking lumber is made by combining recycled wood fiber and recycled plastic resins that are then formed into deck boards.

**APPLICATION**

Recycled-content decking can be used in place of old-growth wood like redwood, cedar and pressure-treated pine. These products accept screws and nails and cut like wood.

**BENEFIT**

The durability of these materials is greater than wood, providing cost savings to the homeowner over the life of the products. They will not rot, crack or splinter, do not require staining and are not treated with potentially toxic chemicals. Using recycled-content decking also reduces pressure on old-growth forests.

**B. Forest Stewardship Council (FSC) certified wood decking****DESCRIPTION**

Certified, sustainably harvested lumber comes from forests managed in an environmentally and socially responsible manner.

**APPLICATION**

Use FSC-certified lumber for all exterior decking applications or as structural deck members in conjunction with recycled-content decking.

**BENEFIT**

FSC certification guarantees that forests are managed in a way that will assure the long-term availability of precious woods while preserving old-growth forests.



*Recycled-content decking*

**3.5 EXTERIOR FINISH****3.5.2 Use treated wood that does not contain chromium or arsenic for decking and sill plates****DESCRIPTION**

Alkaline Copper Quaternary (ACQ) and Wolman Natural Select are alternative treated woods that do not contain chromium – a heavy metal – and arsenic, which are detrimental to human health. ACQ and Wolman Natural Select eliminate both of these components yet provide long-term protection.

Wood can be treated with borates and used for indoor applications like bottom plates set on concrete.

A new material, TimberSIL, uses sodium silicate technology, a safe, non-toxic treatment.

**APPLICATION**

Use non-chromium/arsenic-treated wood for any application that specifies treated lumber including decking, fencing and site furnishings.

**BENEFIT**

ACQ and Wolman Natural Select use copper as their main component and are healthier alternatives to lumber treated with chromium and arsenic, particularly for children who play on or near decks. Note that only stainless-steel fasteners should be used to avoid corrosion. TimberSIL also inhibits mold growth.

### 3.5 EXTERIOR FINISH

#### 3.5.3 Use fiber-cement exterior siding

##### DESCRIPTION

Fiber-cement siding is composed of cement, sand and cellulose fibers. It is available in shingles, planks or 4x8, 4x9, or 4x10 sheets. It is textured to look like wood siding or stucco finish.

##### APPLICATION

Replace conventional wood siding with fiber-cement siding. This product can be cut with a carbide-tipped saw blade, snapper shears or with a guillotine cutter. Dust protection and control are required when cutting with a circular saw.

##### BENEFIT

Fiber-cement siding is more durable than wood, termite resistant, non-combustible and warranted to last 50 years. Using fiber-cement siding reduces the demand for old-growth wood siding. It may also reduce homeowner's insurance rates due to fire resistance. One drawback is that fiber-cement can't be recycled.

### 3.5 EXTERIOR FINISH

#### 3.5.4 Use exterior plaster

##### DESCRIPTION

Traditional cement and lime-based plasters offer outstanding esthetics and durability, although they are more costly than siding. Because the color is integral to the plaster, they never need painting, so the initial cost can be recovered in reduced maintenance.



*Fiber-cement composite siding is durable and low-maintenance*



*Exterior plaster finish has color built in and requires little maintenance*

Note that acrylic or synthetic stucco has been in the news related to moisture problems, but that is a very different material.

##### APPLICATION

Plaster can be applied over typical framed wall construction.

##### BENEFIT

Plasters last for decades or even longer, reducing maintenance and upkeep.

### 3.6 PLUMBING

#### 3.6.1 Install hot water jacket

##### DESCRIPTION

Water-heater jacket insulation is an insulated wrapper that goes around the hot water tank and is secured in place.

##### APPLICATION

Install on existing water heaters. New water heaters have adequate insulation.

##### BENEFIT

Jacket insulation can reduce heat loss by about 10% or more on older water heaters.

**3.6 PLUMBING****3.6.2 Convert to tankless water heaters****DESCRIPTION**

Tankless water heaters (flash or on-demand heaters) heat water as needed rather than having a tank in which hot water is stored. Their capacity to provide hot water is virtually unlimited.

**APPLICATION**

Install tankless water heater as close to the point of use as possible. The device should have a variable-set thermostat and be appropriately sized. Gas tankless water heaters typically have more capacity than electric tankless heaters.

**BENEFIT**

Typical water heaters lose 15% of their energy through standing tank losses, whereas tankless heaters use energy only for immediate hot water needs. Tankless water heaters often are quicker and more reliable.

A potential safety benefit: when you are away from home, a tankless heater does not operate. The Oregon Department of Energy website has a listing of tankless water heaters that qualify for tax credits. The Energy Trust of Oregon has a list of tank/tankless models that qualify for cash incentives.

**3.6 PLUMBING****3.6.3 Insulate hot and cold water pipes****DESCRIPTION**

Insulating water pipes reduces heat loss or gain in the pipes while the water is standing.

**Tankless or on-demand water heaters**

These water heaters save energy by eliminating the storage tank and its stand-by heat loss. They are widely used in Europe and Asia to save space and energy. They cost more than tank-type heaters, but the Oregon Department of Energy offers a tax credit of up to \$340 on qualified models. See <http://egov.oregon.gov/ENERGY> under "For Residents."

More details on tankless water heaters are available from the US Department of Energy at <http://www.eere.energy.gov> (search under "tankless").



*A tankless water heater eliminates stand-by heat loss of conventional tank-type heater*

**APPLICATION**

Insulate hot water pipes in all runs through unconditioned spaces: basements, crawl spaces, attics, etc. At a minimum, insulate both hot and cold pipes at least 6 feet from the water heater to prevent convective circulation from the water heater through the pipes.

**BENEFIT**

Insulated pipes save energy and water.

**3.6 PLUMBING****3.6.4 Retrofit all faucets and showers****DESCRIPTION**

Most faucets can be fitted with an aerator that reduces water flow. Low-flow showerheads can replace standard showerheads. Oregon energy code requires a showerhead of 2.5 gallons per minute flow (gpm), and 2.0 gpm models are available.

Another option is a showerhead with a button valve that allows water to be shut off while soaping up and turned back on to rinse.

**APPLICATION**

Use flow reducers on all faucets and showers that ac-

cept reducers. Old fixtures may not accept reducers if they do not have screw threads.

When purchasing new faucets and showerheads, ask about the flow ratings. Faucets that are designed for lower flows often deliver a better stream than when retrofitted.

#### **BENEFIT**

Aerators and showerheads can cut hot water usage with little noticeable effect.

### **3.6 PLUMBING**

#### **3.6.5 Replace toilets with low-flow models**

##### **DESCRIPTION**

New toilets use 1.6 gallons per flush compared with old toilets that require 5 to 7 gallons per flush. Dual-flush toilets are available that can flush with either 0.7 gallons or 1.6 gallons, depending on need.

##### **APPLICATION**

Whenever possible, replace existing toilets with new 1.6-gallon models. Kohler and Caroma make dual-flush toilets available at local suppliers. If replacing the toilet is not possible, use a Toilet Tummy or plastic container filled with water to displace the water in the tank, thereby using less water.

##### **BENEFIT**

Low-flow toilets alone can save up to 22,000 gallons of water per year for a family of four.



*Dual-flush toilet use buttons control type of flush.*



*PEX polyethylene plumbing is safe, easy to retrofit*

### **3.6 PLUMBING**

#### **3.6.6 Install water filtration units at**

##### **DESCRIPTION**

Water filtration units can be installed at individual faucets or for the whole house. They reduce chlorine and many other chemicals, particulates and microorganisms.

##### **APPLICATION**

Whole house filters are for drinking water and plumbing (not for hosebibs or toilets). Install filtration system between the cold water line and the main drinking water faucets in the house.

##### **BENEFIT**

House filtration systems reduce the health threat of water contaminants.

### **3.7 ELECTRICAL**

#### **3.7.1 Install compact fluorescent light bulbs (CFLs)**

##### **DESCRIPTION**

CFLs screw in like conventional bulbs but consume about one-fourth of the electricity used by incandescent bulbs to produce an equivalent amount of light.

##### **APPLICATION**

Install CFLs in place of standard incandescent bulbs. Choose a CFL based on its lumen, or light output rating, to get the amount of light equal to the incandescent bulb it replaces.

**BENEFIT**

CFLs use about one-quarter of the energy of incandescent bulbs of similar brightness and last up to ten times longer.

Be sure to recycle your CFLs when they burn out.

**Recessed ceiling light fixtures:**

Conventional recessed light fixtures cause air to leak into the attic or into floor cavities, because they have lots of vent holes to keep the bulb cool.

Specify “ICT” models that are designed to reduce air leakage. These fixtures usually have a double shell that allows air to circulate around the bulb, but keep the air inside the heated space.

**3.7 ELECTRICAL****3.7.2 Install lighting controls****DESCRIPTION**

Lighting controls use sensors and timers to turn lights off in unused areas or during times when lighting is not needed.

**APPLICATION**

Install lighting controls either at specific locations or as a whole-house system.

Dimmers will work on incandescent fixtures and help you to save energy. Motion sensors can control room lights to turn off after you leave, or turn outdoor lights on and off. Most CFLs do not work with a dimmer, although there are some on the market that have special dimming ballasts. Make sure to ask about this when purchasing CFL fixtures. (You can install CFLs in any medium-base light fixture, or there are now dedicated fixtures that have built-in ballasts, so only the bulb would have to be replaced.)

**BENEFIT**

Lighting controls reduce energy use by having the lights on for shorter periods of time.

**3.8 ROOFING****3.8.1 Select light-colored roofing****DESCRIPTION**

Dark roofing materials absorb heat making the house warmer in summer months, whereas light-colored roofing reflects heat away from the building.

**APPLICATION**

For pitched-roof buildings, use light-colored roofing.

**BENEFIT**

Light-colored roofing reduces heat build up through the roof, increasing occupancy comfort in hot weather and decreasing air conditioning bills.

**3.8 ROOFING****3.8.2 Select safe and durable roofing materials****DESCRIPTION**

Forty-year asphalt composition, cement tile, fiber-cement and metal are examples of safe and durable roofing materials. New composition roofing materials have recently been introduced, such as recycled-rubber roofing. Traditional copper, slate and tile are historic roofing materials with lifespans that can be over 100 years. They are fire resistant and less toxic than petroleum-based products.

**APPLICATION**

Applicable anytime roofing material is specified.

**BENEFIT**

A durable and safe roof is cost effective and reduces landfill deposits.

**3.9 APPLIANCES****3.9.1 Install energy-efficient refrigerator****DESCRIPTION**

Older model refrigerators and freezers may be large users of electricity in older homes. New appliances are much more energy efficient.

**APPLICATION**

Select Energy Star®-rated refrigerators when replacing old units.

**BENEFIT**

New, efficient refrigerators can save money on electric bills. The Oregon Department of Energy offers a \$50-70 tax credit on qualifying refrigerators (see <http://egov.ore-gon.gov/ENERGY>).

The Energy Trust of Oregon has a list of Energy Star® refrigerators at [www.energytrust.org/residential](http://www.energytrust.org/residential).



*Recycled tire roofing on completed 1909 House*

### 3.9 APPLIANCES

#### 3.9.2 Replace dishwasher

##### DESCRIPTION

New model dishwashers use both water and energy more efficiently.

##### APPLICATION

Select Energy Star® dishwashers when replacing older models.

##### BENEFIT

Water- efficient dishwashers are also energy-efficient because most energy consumed by dishwashers is used to heat water. Oregon Department of Energy offers a \$50 tax credit on qualifying models (see <http://egov.ore-gon.gov/ENERGY>).

Energy Star® dishwashers: [www.energytrust.org/residential](http://www.energytrust.org/residential).

### 3.9 APPLIANCES

#### 3.9.3 Install horizontal-axis (“front loading”) washing machine

##### DESCRIPTION

Horizontal-axis machines load from the front, spinning clothes in and out of the water to tumble them clean.

##### APPLICATION

Install Energy Star® horizontal-axis washing machines when replacing older models.

##### BENEFIT

Horizontal-axis machines save resources by using less water and energy. They use up to 40% less water and 50% less energy than conventional top-loading washers, translating into lower energy and water bills for the resident. Manufacturers claim that there is less wear and tear on clothes compared to the traditional agitator (top-loading) machines.

Oregon Department of Energy offers a \$115-180 tax credit on qualifying models (see <http://egov.oregon.gov/ENERGY>).

### 3.9 APPLIANCES

#### 3.9.4 Install an energy-efficient water heater

##### DESCRIPTION

Energy-efficient tank-type water heaters are readily available in Marion County. Interest in tankless water heaters is growing.

##### APPLICATION

When purchasing a gas water heater: specify an Energy Factor of 0.60 or higher.

For an electric water heater look for an Energy Factor of 0.93 or higher.

Set the thermostat on the water heater at 120° F, hot enough for bathing and clothes washing.

Today’s dishwashers usually have a built-in water heater to boost temperature.

##### BENEFIT

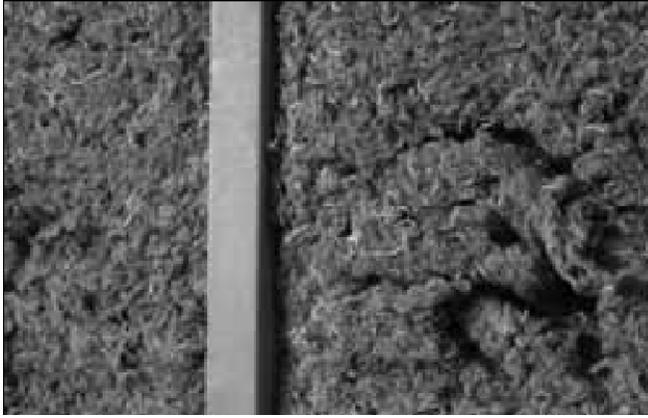
Water heating is usually the second biggest energy user after space heating, so a new water heater can save money.

### 3.10 INSULATION

#### 3.10.1 Upgrade wall and ceiling insulation

##### DESCRIPTION

Insulation in exterior walls and ceilings can reduce the demand for heating and make homes more comfortable.



*Recycled cotton insulation batts are non-toxic, pleasant to handle*

#### **APPLICATION**

##### **A. Wall insulation**

Insulate walls of existing wood-frame houses to the capacity of the wall cavity, R-11 to R-21. Wall cavities can be blown full of cellulose or fiberglass insulation, or filled with expanding foam insulation. Exterior walls can be clad with 1" (R-5) rigid foam to increase R-value, if the exterior refinish is being renovated.

##### **B. Ceiling insulation**

Increase attic ceiling insulation in an existing structure to R-38, and in vaulted or cathedral ceilings to R-30. Blown-in cellulose or fiberglass insulation is usually less costly to install than batts, but batts may make future access easier because they can be temporarily moved and replaced.

#### **BENEFIT**

Increased wall and ceiling insulation improves comfort, decreases heating and cooling requirements, saves money and makes the home quieter.

The Energy Trust of Oregon offers cash incentives for insulation and window upgrades. See [www.energytrust.org/hes](http://www.energytrust.org/hes).

### **3.10 INSULATION**

#### **3.10.2 Install recycled-content, formaldehyde-free fiberglass insulation**

#### **DESCRIPTION**

Many fiberglass insulation products include recycled glass and formaldehyde-free binders and have no asphalt adhesives or colored dyes.

When insulating ceilings, it makes sense to add structural ventilation in the form of ridge vents and eave or soffit vents. Power vents are also an option. Extra venting protects the attic from moisture accumulation and may reduce summer overheating of rooms below the attic ceiling.

#### **APPLICATION**

When using fiberglass insulation, specify recycled content and no formaldehyde. Fiberglass insulation can be used for any typical insulation installation.

#### **BENEFIT**

Formaldehyde-free binders reduce indoor air quality problems, and insulation contains up to 30% recycled glass.

### **3.10 INSULATION**

#### **3.10.3 Use cellulose insulation**

##### **A. Walls: spray-in cellulose**

#### **DESCRIPTION**

Cellulose is a highly effective insulation made out of recycled newspaper. Cellulose wall insulation is mixed with water or low-toxic binders to adhere to stud and joist cavity surfaces.

#### **APPLICATION**

This installation is intended for new construction or total "gut" renovation, where existing wall surfaces have been removed to the studs. It is not cost effective in other applications.

#### **BENEFIT**

Spray insulation completely fills cavities and penetrations, thus reducing air infiltration. Using cellulose insulation makes the home quieter, more comfortable and energy-efficient.



*Spray-in Icynene provides complete cavity fill and is non-toxic*

**Cellulose vs. fiberglass...**

Each of these insulations has advantages and disadvantages, and each one has its advocates. Bottom line: both work. Choose the insulation that fits your preferences and budget.

**... Or recycled cotton insulation?**

“UltraTouch” insulation is made from recycled cotton denim fabric scraps. It is available in standard-size batts from local building materials suppliers. Cotton insulation is pleasant to handle and install.

**B. Ceilings: blown-in cellulose****DESCRIPTION**

Dry-blown or loose-fill cellulose is treated with borates for fire and insect resistance. Cellulose does not contain formaldehyde, which is common in many fiberglass insulations.

**APPLICATION**

Spread cellulose over ceiling joists or blow into tight cavities to increase ceiling R-value. It is important to maintain attic or ceiling ventilation pathways, especially in cathedral ceilings.

**BENEFIT**

Cellulose insulation is formaldehyde-free, fire-resistant, manufactured with recycled materials, reduces air leakage and contributes to a more comfortable and energy-efficient home.

**3.10 INSULATION****3.10.4 Reduce air infiltration****DESCRIPTION**

Expandable foam and caulk may be used to stop air infiltration at openings or penetrations, such as where pipes and wires pass through framing. Replace worn weatherstripping on entry doors.

Sealing air leaks is especially important on the ceiling to stop warm room air from leaking out and cold attic air from falling into interior walls. It’s also a good idea to seal air leaks along the top of basement walls (where the floor framing sits on the concrete walls).

**APPLICATION**

Seal before insulation is installed. Seal wires, pipes, plumbing vents, ducts, and around exhaust fans and ceiling light fixtures. Where a masonry chimney enters the attic, install 26 gauge sheet metal between framing and chimney to stop air flow. Gasket edges

of an attic hatch with foam tape. If interior walls are accessible from the attic, seal along the top of framing between wood and drywall.

When framing new walls, run a bead of caulk under the bottom plate before tipping up the wall, or seal along joint where the bottom plate meets the sub-floor.

**BENEFIT**

Reducing unintended air infiltration increases comfort and reduces energy bills.

**3.11 WINDOWS****3.11.1 Install energy-efficient windows**

Windows play a big role in the energy efficiency and comfort of homes. In the summer they can allow unwanted heat into the house, and in the winter windows can account for as much as 25% of the heat loss. When replacing windows, look for models with the following energy-saving features:

**A. Double-paned windows****DESCRIPTION**

Double glazing insulates almost twice as well as single glazing.

**APPLICATION**

Replace older single-paned windows with double-paned windows whenever possible.

**BENEFIT**

High-quality double-paned windows make the whole house quieter and more comfortable during all seasons, while saving energy and money.

**B. Low-emissivity (low-E) windows****DESCRIPTION**

A low-E coating, virtually unnoticeable to the eye, is installed inside the air space of a double-paned window. The low-E coating helps prevent heat from escaping through the glass in winter and blocks heat from entering the home during summer.

**APPLICATION**

Select low-E, double-paned windows whenever windows are replaced.

**BENEFIT**

Low-E windows reflect heat, making the home more comfortable in cold weather and on hot summer days. The cost premium of 10-15% for low-E glass typi-



Energy label reports tested values for heat loss (U value), blocking solar heat gain (SHGC) and transmitting visible light (VT)

### Reading labels on new windows

Look for this label as your assurance that this window has been independently rated using a procedure established by the NFRC (national Fenestration Rating Council). Use the following three values to find the best window for your home:

1. "U-factor" is a measure of heat transferred by the entire window (frame, sash and glass) either into or out of the building. A smaller U-factor will provide a window which is more comfortable on cold days. Oregon energy code requires a U-factor of 0.40 or lower. Most window companies offer models that are 0.35 or lower.
2. "Solar Heat Gain Coefficient" (SHGC) is a measure of the solar heat energy entering the building through the entire window. A lower SHGC will reduce air conditioning costs and provide more comfort on hot days. Look for a value of 0.50 or lower.
3. "Visible Transmittance" (VT) is a measure of the amount of visible light entering the window. Try to select a window with a high VT. It will bring more natural daylight into your home. Look for value of 0.55 or higher.

cally pays for itself in a few years. Low-E, double-paned glass coating increases glass R-value to 3 compared to R-1 for single-glazed windows.

Check with the Energy Trust of Oregon for financial incentives, 1-866-ENTRUST (for homes served by PGE, Pacific Power or NW Natural).

### Design windows for comfort

- ◆ When planning the size and location of new windows, keep these questions in minds:
- ◆ Will west-facing windows be difficult to shade in the summer and cause overheating?
- ◆ Can south-facing windows have overhangs or shading to reduce summer heat gain?
- ◆ Can windows be placed on two sides of a room to balance light and cut glare?
- ◆ Will large window areas cause glare and excess brightness?
- ◆ Are the windows available with glass that keeps out excess solar heat?

### C. Low-conductivity frames

#### DESCRIPTION

Most window frames and sashes are made of wood, vinyl, fiberglass or a combination. Wood, vinyl and fiberglass insulate better than aluminum frames found in older homes.

#### APPLICATION

Consider fiberglass or wood windows for any window that is being replaced.

#### BENEFIT

Fiberglass- and wood-frame windows create greater comfort and better energy efficiency and are environmentally preferable materials.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Heating Systems

#### 3.12.1 Use duct mastic on all duct joints

#### DESCRIPTION

Heated air often leaks out through joints in ductwork. When ducts are in a crawl space or attic, the heated air is lost. It is not unusual for 20 to 30% of heated air to escape from ducts. Duct tape loses its effectiveness in 3 to 5 years. Mastic maintains its seal for decades.

#### APPLICATION

Install mastic at every metal duct joint, around the bends in elbows and where ducts meet plenums. It is important for all ducts to be sealed.

#### BENEFIT

Well-sealed ductwork saves energy, keeps the house more comfortable and can stop pollutants from garages and attics from entering the house. Oregon Department of Energy offers tax credits of \$150-250 for duct sealing done by a qualified contractor (See <http://egov.oregon.gov/ENERGY>).

## Do your upstairs rooms overheat in the summer?

Many homes have upstairs rooms that are uncomfortably warm in summer. Even after sunset when the outdoors has cooled down, these rooms remain too warm. That's because the ceiling radiates heat from hot air trapped in the attic (or inside cavities in vaulted ceilings). The radiant heat from the ceiling feels uncomfortable, even if the room air temperature is normal. Venting out hot attic air will help cool upstairs rooms.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Heating Systems

#### 3.12.2 Install new ductwork within conditioned space

##### DESCRIPTION

Ducts in exterior walls, attics and in crawl spaces lose a significant amount of heat.

##### APPLICATION

All ductwork for heating (or cooling) should be run through conditioned space inside the insulated envelope. Interior duct runs require chases to be designed into the project from the beginning.

##### BENEFIT

Locating ducts in the conditioned space significantly reduces energy loss and improves occupant comfort.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Heating Systems

#### 3.12.3 If forced-air furnace replaced, install 90% or greater efficiency model

##### DESCRIPTION

High-efficiency furnaces convert natural gas to heat with greater efficiency. Some have variable speed blowers that use much less electricity to move air.

##### APPLICATION

Replace conventional furnaces with high efficiency models. Installing the proper size of furnace for the home is just as important as its efficiency.

##### BENEFIT

A properly sized, high-efficiency furnace costs less to operate. It saves natural resources, reduces air

emissions and helps create a cleaner environment. Oregon Department of Energy has tax credits of \$225-350 for qualifying models (see [egov.oregon.gov/ENERGY](http://egov.oregon.gov/ENERGY)).

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Heating Systems

#### 3.12.4 Zone a forced-air system

##### DESCRIPTION

Forced air systems are set up with a single thermostat that is intended to control temperature throughout the dwelling. Most homeowners would prefer to be able to zone the house, or set a different temperature in each room. Zoning would improve comfort and save on heating and cooling costs. Unfortunately, opening and closing the grilles in a forced air system isn't effective. Today, a forced air system can be retrofitted to allow zoning.

##### APPLICATION

Ask your heating contractor for information on zoning your system. One locally available product for retrofitting a forced air heating system is from Home Comfort Zones, [www.homecomfortzones.com](http://www.homecomfortzones.com).

##### BENEFIT

Set comfortable temperature in individual rooms and shut off heat in unused rooms. Save heating and cooling energy and costs.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Heating Systems

#### 3.12.5 Install hydronic radiant heating

##### DESCRIPTION

Hydronic heating circulates hot water through radiators, wall-mounted fan-coil units or under floors. This heating system can be zoned to allow different tem-

### Room air conditioning

Before installing a room air conditioner, consider using shading devices or plants to block hot sun. Often a room overheats because it gets late-afternoon summer sun or is on the west side of the house. Shading will improve comfort, without using energy. For allergy sufferers, a room air conditioner can dry and filter air and may reduce symptoms.

If you do install a room air conditioner, select one with an Energy Star-efficiency rating (EER) or 9.4 or higher.

**The house as a system:****Integrating heating, cooling, ventilation, insulation and air sealing**

To get the best year-round comfort with low heating and cooling bills and have fresh healthy air without mold or other pollutants, a house must be designed and built as a system. The building envelope, heating system, and fresh-air ventilation should be designed to work together. A change in one part of the system will affect the other parts, so the goal is to keep everything in balance.

However, since different specialists install insulation, heating systems and ventilation equipment, they may not work together or may actually create conflicts.

For example, a new high-efficiency furnace alone can't keep a house comfortable if the walls and ceilings lack insulation and single-pane windows have not been replaced. Even if the heating contractor oversizes the furnace, it may not provide acceptable comfort.

When a house is insulated, new windows installed, and air leaks sealed, more moisture is kept inside and indoor humidity goes up. If ventilation fans are installed, even new windows may "sweat" because of this increased humidity.

The designer or remodeling contractor should make sure that the thermal envelope, heating system and ventilation are designed to work together. For example, a new furnace must be properly sized in relation to the heating needs of the house after insulation and windows are installed.

See [www.buildingscience.com/resources/mold/Design\\_Build.pdf](http://www.buildingscience.com/resources/mold/Design_Build.pdf).

peratures in different rooms throughout the house. A hydronic system can be retrofitted by using flexible plastic tubing (cross-linked polyethylene).

In a well-insulated house, hydronic heating can be run under wood flooring without damaging it.

**APPLICATION**

Use hydronic radiant heating instead of forced air heating. The system must be designed before construction starts.

**BENEFIT**

Hydronic heating is more comfortable and saves energy by heating only the zone that requires heat.

Hot water heat can be more efficient than forced air, because there are no ducts to leak and water can hold more heat than air.

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**3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Fireplaces and Wood Stoves**


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**3.12.6 Retrofit older wood-burning fireplaces and stoves**


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**DESCRIPTION**

The burning of wood in older wood stoves and fireplaces is a major source of air pollution during the winter months, generating significant airborne particulate matter on cold evenings.

**APPLICATION**

One option is to replace a wood burning fireplace with an EPA-certified wood stove, fireplace insert or a pellet stove. These units should have direct outside combustion air vented into the insert.

A second option is replace a wood-burning unit with one that uses natural gas. Natural gas burns more cleanly and is convenient. Note: a natural gas fireplace or insert should vent its combustion byproducts to the outdoors, not inside the house.

**BENEFIT**

The amount of pollutant particulate matter will be reduced by 75 to 90% compared to a standard fireplace.

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**3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Fireplaces and Wood Stoves**


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**3.12.7 Install/replace dampers on fireplaces**


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**DESCRIPTION**

A damper in the fireplace flue reduces air infiltration and heat loss during cold weather.

**APPLICATION**

Replace an old damper if it no longer seals the flue due to mechanical failure, rust or soot build up in the chimney.

**BENEFIT**

A properly operating damper reduces cold drafts when the fireplace is not in use.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Fireplaces and Wood Stoves

#### 3.12.8 Install airtight doors on fireplaces

##### DESCRIPTION

Open fireplaces suck air out of the house and extract more heat than they provide. Airtight doors reduce the amount of air drawn from the house for combustion purposes.

##### APPLICATION

Retrofit doors on fireplaces. Outside air, needed for combustion, should be brought in behind the doors. Some fireplaces provide for controlled air intake from inside the house that can be shut down when not in use.

##### BENEFIT

When shut, airtight doors can reduce heat loss from the house. They also reduce drafts when the fireplace is not in use.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Fireplaces and Wood Stoves

#### 3.12.9 Install a carbon monoxide alarm

##### DESCRIPTION

In a house with gas-burning appliances, a carbon monoxide alarm can be installed to warn you in the unlikely event of a malfunction and build-up of this hazardous gas.

##### APPLICATION

Carbon monoxide monitors are available at all hardware and home goods stores.

##### BENEFIT

Carbon monoxide can build up in the bloodstream, causing on-going fatigue and malaise. An alarm is cheap insurance against injury or illness.

#### Keeping the air clean in your neighborhood

Another way to reduce smoke and pollution is to burn short, hot fires using dry wood. Conversely, a dampered fire burning green wood produces the most smoke and pollution.



*Shading west-facing windows prevents overheated rooms*

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Cooling Systems

#### 3.12.10 Incorporate natural cooling

##### DESCRIPTION

Natural cooling systems incorporate passive features that do not use energy to cool, such as shading from deciduous trees, shrubs and vines; roof overhangs, trellises, window shades and screens; and operable windows and skylights.

##### APPLICATION

Any combination of natural cooling techniques can be used to reduce overheating on homes.

- Blocking direct summer sun is an effective way to keep a house cool. Shade is especially helpful on west-facing windows and walls and on rooftops.
- Plants, especially trees and large shrubs, provide evaporative cooling. As they draw water up from the soil and it evaporates through the leaves, the air around the tree is cooled.
- In the Marion County climate, night air is usually cool so drawing it through the house can provide night cooling.
- Houses with clean dry basements can take advantage of earth-coupling to draw air from the cooler basement up into the house. Sometimes this can be done just by opening upstairs windows and the

door to the basement; in other cases a fan may be required to move the air.

**BENEFIT**

Natural cooling reduces the need for air conditioning, saves money on energy bills, and can make homes more comfortable without using air conditioning.

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**3.12 HEATING, VENTILATION AND AIR  
CONDITIONING (HVAC): Cooling  
Systems**


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**3.12.11 Install whole-house cooling**


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**DESCRIPTION**

A whole-house fan works by continuously replacing warm indoor air with cooler outdoor air. “Night flushing” is a way to cool the house off using cooler night air so it doesn’t get as warm during the day.

**APPLICATION**

The fan must be mounted in a hallway ceiling on the top floor of a house. An insulated, airtight seal is required to prevent air infiltration in winter. Fans should be sized to produce between 4-5 air changes per hour within the home and should have two speeds: low speed for continuous ventilation and high speed.

**BENEFIT**

An average whole-house fan uses one-tenth the electricity of an air conditioning unit. In the Portland climate, moving large volumes of air can achieve indoor comfort at higher temperatures without air conditioning.

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**3.12 HEATING, VENTILATION AND AIR  
CONDITIONING (HVAC): Cooling  
Systems**


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**3.12.12 Install solar-powered attic  
fan**


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**DESCRIPTION**

Solar attic fans exhaust heat from attic spaces in summer and clear condensation in the winter.

**APPLICATION**

Solar attic fans are powered by the sun and are most effective when placed on the southern side of the roof and centered between roof rafters. Avoid installing under overhanging trees or other structures creating shade.

**BENEFIT**

In the summer, attic air temperatures can reach 150° F. That heat radiates into the home through the ceiling and causes discomfort. A solar attic fan removes this hot air and helps cool the house. An attic fan may also increase the life of composition roofing.

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**3.12 HEATING, VENTILATION AND AIR  
CONDITIONING (HVAC): Cleaning The  
Air**


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**3.12.13 Install a whole-house air  
filter**


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**DESCRIPTION**

Either a forced-air furnace or a heat pump provides an opportunity to add effective air filtration. Standard air filters costing about \$1 only protect the furnace blower, not human occupants. A good quality filter that can capture small particulates costs \$10-12 at hardware and building supply stores.

**APPLICATION**

Look for a filter with MERV test rating of 8 or higher (MERV = Minimum Efficiency Reporting Value). A MERV rating tells you the filter manufacturer is using up-to-date testing to accurately measure performance.

Another option is the electronic filter that is mounted next to the furnace or heat pump. These filters are efficient if they are washed regularly according to the manufacturer’s recommendations.

An activated carbon filter can capture gases. Carbon filters are more expensive than particulate filters but may be helpful to people with chemical sensitivities.

Washable filters can be cleaned and reused. Non-washable filters must be replaced periodically. Wash/change filters at least twice a year (preferably more often) to ensure particulates are removed.

**BENEFIT**

Better-quality furnace filters capture dust, pollen and other indoor pollutants. They also capture microscopic or “respirable” particulates under 0.3 microns in size (a human hair is about 100 microns thick). These particulates are suspected of causing respiratory injury and illness.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Cleaning The Air

#### 3.12.14 Install effective bathroom fans

##### DESCRIPTION

An effective exhaust fan helps eliminate excess moisture and mold in a bathroom. Many older fans are not effective. To test a fan, hold a square of bath tissue up to it. If the tissue snaps tight to the grill, the fan is moving air.

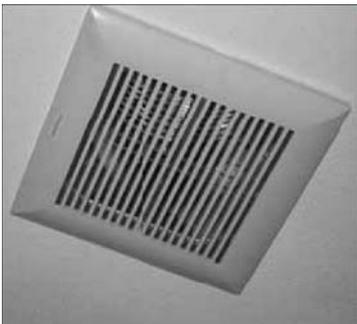
##### APPLICATION

Select a good quality bath fan, rated at 80-100 cfm air flow with a noise rating of 1 sone or less. Install a timer switch to ensure that the fan runs long enough to remove excess moisture from bathing and showering.

Vent moisture-laden air out of the house (not into the attic).

##### BENEFIT

An effective bath fan can eliminate or reduce excess moisture and mold.



*Good bathroom fans help prevent mold*

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Cleaning The Air

#### 3.12.15 Install a kitchen range hood

##### DESCRIPTION

A kitchen range hood picks up combustion byproducts, odors and excess moisture from the cooktop and oven and exhausts them out of the house.

##### APPLICATION

Select a quiet model, preferably 2.5 sones or lower.

Note that some range hoods do not actually vent to the outdoors and will not remove combustion byproducts.

##### BENEFIT

Children living in houses with combustion appliances have more respiratory illness. A range hood captures and removes combustion byproducts, especially nitrogen oxides, that may affect children's respiratory systems.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Cleaning The Air

#### 3.12.16 Install heat recovery ventilation unit (HRV)

##### DESCRIPTION

An HRV is a mechanical ventilation system that removes stale air, provides tempered fresh air and distributes air throughout the house. An HRV saves energy by recovering heat using an air-to-air exchanger in which outgoing exhaust air preheats or precools the incoming fresh air. Some HRVs can be fitted with high-efficiency air filters that may benefit allergy and asthma sufferers.

##### APPLICATION

An HRV is particularly appropriate in a house with hydronic radiant heat, or where the house is exceptionally tightly sealed. One consideration is whether small-diameter ducts can be run from the HRV unit to individual rooms; this may be a challenge in an existing house.

##### BENEFIT

Air-to-air heat exchangers provide for comfortable fresh air all year round while saving energy. The main reason for installing one is to ensure fresh air distribution.

### 3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Cleaning The Air

#### 3.12.17 Install exhaust fan in attached garage

##### DESCRIPTION

According to the EPA, an attached garage is the single most significant contributor to poor indoor air quality. Car exhaust contains many known carcino-

gens. It can migrate into living spaces through doors and cracks in walls adjacent to the garage or be picked up by a furnace located in the garage.

#### **APPLICATION**

Install an exhaust fan on the opposite wall from the door to the house. It can be wired to an electric garage door or put on a timer to run for 15 minutes after door has been opened or closed.

#### **BENEFIT**

An exhaust fan creates a healthier indoor environment by preventing car exhaust from entering the house.

### **3.12 HEATING, VENTILATION AND AIR CONDITIONING (HVAC): Cleaning The Air**

#### **3.12.18 Clean forced-air ducts before occupancy**

##### **DESCRIPTION**

Debris and dust from construction may get into ducts and cause allergic reactions.

##### **APPLICATION**

Clean or vacuum all ductwork before occupancy to eliminate dust. Clean ducts before carpet is laid and finishes are applied.

##### **BENEFIT**

Children are especially sensitive to micro-sized particulates.

### **3.13 RENEWABLE AND SOLAR ENERGY**

#### **3.13.1 Incorporate passive solar heating**

##### **DESCRIPTION**

Passive solar systems provide heat to the structure through south-facing windows in conjunction with thermal mass.

##### **APPLICATION**

A passive solar house incorporates windows that face within 30 degrees of due south and has the ability to store solar heat in massive elements such as a slab floor or stone fireplace. Passive solar can be built directly into a house or into an attached sunspace.

Passive solar design should be done by an experi-



*Passive solar glazing and thermal storage can reduce energy use and improve comfort*

enced designer or builder who can integrate the windows and mass with the house.

##### **BENEFIT**

Passive solar design can reduce heating requirements by 15 to 20%, saving energy and money.

### **3.13 RENEWABLE AND SOLAR ENERGY**

#### **3.13.2 Install solar water-heating system**

##### **DESCRIPTION**

Solar water-heating systems use solar panels to collect heat from the sun. The hot water is stored for use at a later time. Water pre-heated by a solar system can also supplement a standard water heater.

##### **APPLICATION**

Provide sufficient south-facing roof area for collector panel(s) and space in a utility room or closet for an additional hot water storage tank.

##### **BENEFIT**

In Marion County, a solar hot water system can provide about half of the water heating for a family of

#### **Solar works in Oregon**

In recent years hundreds of Oregonian homeowners and businesses have turned to a higher power: the sun. They are using a combination of Energy Trust cash incentives and Oregon energy tax credits to cut the costs of new solar systems, and trim 15% or more off their power bills.

Find out how well solar works everywhere in Oregon Call 1-866-ENTRUST (368-8686) or log onto [www.energytrust.org](http://www.energytrust.org).

four. The Energy Trust of Oregon offers a solar water heating incentive of up to \$1,500 (see [www.energytrust.org](http://www.energytrust.org)) and the Oregon Department of Energy offers a tax credit of up to \$1,500 (see [egov.oregon.gov/ENERGY](http://egov.oregon.gov/ENERGY)). Solar systems are also exempt from property taxes.

### 3.13 RENEWABLE AND SOLAR ENERGY

#### 3.13.3 Pre-plumb for solar water heating

##### DESCRIPTION

Insulated water pipes are installed from the attic to a hot water closet or mechanical room for future solar installation. This option allows the homeowner to install an active solar system at a later date if they desire.

##### APPLICATION

Provide south-facing roof area for collectors and access for piping to a mechanical room. This is primarily applicable to homes that are being extensively rehabilitated on the interior. The most cost-effective time to install this pre-plumbing is during construction.

##### BENEFIT

Solar hot water pre-plumbing during the remodeling process can save money for the homeowners if, at some point in the future, they want to install a solar system.

### 3.13 RENEWABLE AND SOLAR ENERGY

#### 3.13.4 Install solar photovoltaic (PV) panels

##### DESCRIPTION

PV panels collect the sun's energy and convert it into electricity. Excess electricity can be sent back into the utility grid for a credit on electric bills.

##### APPLICATION

A household PV system includes photovoltaic panels on the roof or on the ground at an appropriate angle (usually 40-60°), a power relay center and an inverter. The house can use electricity from the panels as well as from the utility grid.

##### BENEFIT

PVs are a clean, renewable resource that do not contribute to global warming. If the price of electricity



*Photovoltaic panels on this Alameda home are barely visible from the street*

rises significantly PVs will buffer the added cost. The Energy Trust of Oregon offers an incentive of up to \$10,000 for a PV system (see [www.energytrust.org](http://www.energytrust.org)) while the state offers a tax credit of up to \$1,500 (see <http://egov.oregon.gov/ENERGY>).

### 3.13 RENEWABLE AND SOLAR ENERGY

#### 3.13.5 Buy renewable power

##### DESCRIPTION

Both PGE and Pacific Power offer electricity from renewable sources for a small additional cost over electricity from conventional generation like coal- and gas-fired plants.

##### APPLICATION

Sign up for one of PGE's renewable options, Green Source or Clean Wind, at [www.portlandgeneral.com](http://www.portlandgeneral.com).

Sign up for Pacific Power's Blue Sky program at [www.pacificpower.net](http://www.pacificpower.net).

##### BENEFIT

These programs offer safe, clean renewable power at a modest cost.

**3.14 INDOOR AIR QUALITY AND FINISHES****3.14.1 Use low/no-VOC and formaldehyde-free paint****DESCRIPTION**

Many interior paints release volatile organic compounds (VOCs), a major indoor air pollutant, into the home. Often low/no-VOC products are manufactured without mercury or mercury compounds, or pigments of lead, cadmium, chromium or their oxides.

**APPLICATION**

Paint with low/no-VOCs is available from most major manufacturers and is applied like conventional paint products. Locally, both Miller Paint and Rodda Paint manufacture paints that have been certified to meet national standards for low VOCs and other components.

**BENEFIT**

Low/No-VOC paint reduces the emissions of VOCs into the home, improving indoor air quality.

**3.14 INDOOR AIR QUALITY AND FINISHES****3.14.2 Use safer adhesives and caulks****DESCRIPTION**

Solvent-based adhesives and caulks may offgas toxic compounds. Low-VOC or solvent-free adhesives and caulks reduce toxic gases and solvents that contribute to air pollution.

**APPLICATION**

Use low-VOC solvent-free products in place of standard adhesives and caulks for all interior applications such as installation of flooring, countertops, cove base, paneling and tub/shower enclosures and sealing around windows and trim.

For a list of safer paints, adhesives and sealants, see the Resource Center at [green-rated.org](http://green-rated.org).

**What are “VOCs”?**

Volatile Organic Compounds evaporate quickly and are carbon-based. That means they pass through skin and cell walls readily. Many of the VOCs in building products are suspected of causing injury or illness. Where possible, select no- or low-VOC products.

**BENEFIT**

Solvent-free adhesives and caulks are often stronger, emit fewer pollutants and reduce the potential harmful impacts on the health of the occupants and installers.

**3.14 INDOOR AIR QUALITY AND FINISHES****3.14.3 Use low-VOC, water-based wood finishes****DESCRIPTION**

Conventional solvent-based wood finishes can offgas toxic chemicals and can be harmful to children. Low-VOC finishes, such as water-borne urethane and acrylic, are lower in toxic compounds compared to conventional solvent-based finishes while providing similar performance and durability.

**APPLICATION**

Low-VOC wood finishes can be used in most applications where solvent-based finishes are typically used. If solvent-based wood finishes must be used, they should be allowed to offgas for three to four weeks prior to occupancy.

**BENEFIT**

Using low-VOC wood finishes reduces offgassing into the home, improving indoor air quality and reducing the formation of urban smog.

**3.14 INDOOR AIR QUALITY AND FINISHES****3.14.4 Replace particleboard with formaldehyde-free materials****DESCRIPTION**

Particleboard is made from wood fibers and adhesive containing urea formaldehyde, a suspected human carcinogen. The formaldehyde is continuously released, or “offgassed,” for years after installation. Formaldehyde offgassing contributes to poor indoor air quality. Particleboard is typically used for cabinets, counter tops, underlayment, stair treads and shelving.

**APPLICATION**

Whenever possible, eliminate new particleboard inside houses by using solid wood, exterior-grade plywood, strawboard or formaldehyde-free medium density fiberboard (MDF) for shelving, cabinets and substrate for countertops. Fiber-cement and plywood sheets are options for underlayment.



*Safe, non-toxic interior paint*

#### **BENEFIT**

Elimination of particleboard reduces formaldehyde exposure to residents, particularly children, who are most susceptible.

### **3.13 INDOOR AIR QUALITY AND FINISHES**

#### **3.13.5 Use exterior-grade plywood for interior uses**

##### **DESCRIPTION**

Exterior plywood uses phenolic resins that offgas much less formaldehyde than interior plywood. Interior plywood typically uses urea-formaldehyde glue which offgasses formaldehyde into the house.

##### **APPLICATION**

Substitute interior plywood with exterior plywood for custom cabinets and shelving.

##### **BENEFIT**

Formaldehyde is a suspected human carcinogen and should be avoided whenever possible.

### **3.14 INDOOR AIR QUALITY AND FINISHES**

#### **3.14.6 Select formaldehyde-free medium density fiberboard (MDF)**

##### **DESCRIPTION**

Most MDF is made from wood fiber and urea formaldehyde adhesive. MDF without formaldehyde binders

is now available. Other alternatives include certified plywood and boards made from agricultural waste, such as wheatboard, a straw-based particleboard manufactured with non-formaldehyde and emission-free binder.

##### **APPLICATION**

Whenever possible, eliminate formaldehyde-based MDF inside the home. MDF is typically used for cabinets, trim and shelving. Use alternatives such as certified plywood, formaldehyde-free MDF, wheatboard, tile and stone for shelving, cabinets and countertops. Made in Oregon, Medite II and Medex are examples of formaldehyde-free MDF.

##### **BENEFIT**

Reduces formaldehyde exposure to residents, particularly children, who are more susceptible. Some boards made from agricultural waste are superior to wood-based particleboard in moisture resistance and structural properties, and they provide for the reuse of a former waste product.

### **3.15 FLOORING**

#### **3.15.1 Select Forest Stewardship Council (FSC) certified wood flooring**

##### **DESCRIPTION**

Certified wood flooring comes from forests that are managed so that harvesting trees for wood products does not damage long-term forest health. Certified wood flooring products are available in a wide variety of domestic and exotic species.

##### **APPLICATION**

Use FSC-certified wood in place of conventional hardwood flooring.

##### **BENEFIT**

Sustainable forest certification assures that the forest from which the flooring is produced is managed in a way that will assure the long-term availability of these precious woods while protecting ancient, old-growth forests.

#### **Read the MSDS**

Material Safety Data Sheets are available from manufacturers of building products. They list the chemicals in the formulation and whether they may be hazardous.

### 3.15 FLOORING

#### 3.15.2 Use rapidly renewable flooring materials

##### DESCRIPTION

Bamboo and cork flooring are alternatives to hardwood flooring. Bamboo is a fast growing grass that can be harvested in three to five years. Cork is a natural flooring material that is obtained from the outer bark of the cork oak without harming the tree.

##### APPLICATION

Use these alternative flooring materials in place of conventional hardwood.

##### BENEFIT

Fast growing, rapidly renewable floor substitutes are attractive, perform well and reduce pressure on hardwood forests. Bamboo is as durable as wood; cork resists fire and moisture as well as absorbing sound.

### 3.15 FLOORING

#### 3.15.3 Use recycled-content ceramic tile

##### DESCRIPTION

Recycled-content ceramic tile can contain up to 70% recycled glass. Originally developed for high-traffic commercial conditions, recycled-content tiles are very durable and wear well in residential applications.

##### APPLICATION

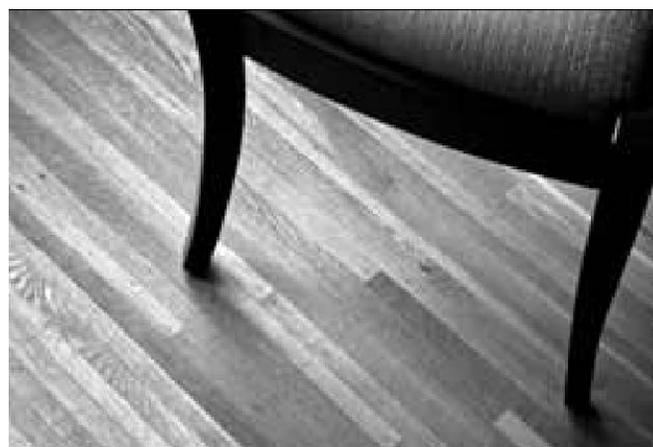
Install recycled-content tiles wherever conventional tiles are specified.

##### BENEFIT

Some recycled-content ceramic tile is very dense, which significantly reduces the amount of moisture

#### Use low-toxic or citrus-based cleaning supplies

High-quality, non-toxic and environmentally responsible cleaning products are readily available. Choose products that are non-toxic, ammonia and chlorine-free, as well as biodegradable. These cleaning products are as effective as conventional cleaners, without harsh chemicals that can lead to health problems and atmospheric ozone loss. Download recipes and tips on how to make and use your own toxic-free household cleaners, at [www.metro-region.org](http://www.metro-region.org) (search for "green cleaners").



*Low-VOC wood finish on oak flooring at 1909 House*

and stains that are absorbed into the tile, making it more durable and easier to maintain.

### 3.15 FLOORING

#### 3.15.4 Use exposed concrete as finish floor

##### DESCRIPTION

For slab-on-grade additions, the concrete can be polished, finished with expansion joints in various patterns or stained with pigments to make an attractive finish floor. This approach is especially appropriate for radiant, in-floor heating systems.

##### APPLICATION

Use this approach for finished basements or additions on slab construction. The finish must be designed and constructed when the slab is poured.

##### BENEFIT

Using the slab as a floor finish eliminates the need to use other flooring materials. Additionally, it is durable and easy to clean.

### 3.15 FLOORING

#### 3.15.5 Replace vinyl flooring with natural linoleum

##### DESCRIPTION

Linoleum is manufactured from natural materials such as cork and linseed oil. Unlike sheet vinyl, linoleum does not contain petroleum-based products nor does it offgas chemical compounds which may cause injury or illness. Using linoleum eliminates concern about byproducts, such as cancer-causing dioxins,



*Recycled Douglas fir flooring. Reusing vintage wood flooring can save money while reducing pressure on forests. Salvage wood flooring is available through local companies like Environmental Building Supplies, Craftmark, Endura Wood Products, and Aurora Mills. Vintage wood may be very high quality as it was usually cut from old-growth trees.*

which may be produced during the manufacturing of vinyl.

#### APPLICATION

Use natural linoleum in place of vinyl flooring.

#### BENEFIT

Linoleum is low-toxic, durable and stain resistant. Linoleum can last up to 40 years.

### 3.15 FLOORING

#### 3.15.6 Install recycled-content carpet and cushion

##### DESCRIPTION

Recycled-content carpet is made from recycled plastic bottles, recycled wool or recycled cotton. Recycled-content carpet does not differ in appearance or performance and the price is comparable to conventional carpet. Recycled-content carpet cushion is also available.

##### APPLICATION

Use recycled-content carpet and cushion in all applications where conventional carpet is installed.

##### BENEFIT

Recycled-content carpet saves resources and diverts waste from landfills. Approximately 40 two-liter soda bottles are recycled per square yard of carpeting. Recycled carpet is often more resilient and colorfast than carpet made from virgin fibers.



*Local stores offer recycled carpet, natural fiber carpet and carpet remnants.*

#### Kitchen and bathroom cabinets

Green options for cabinets include:

- ◆ Casings: Replace particleboard and eliminate formaldehyde emissions with:
  - ◆ Wheatboard, made from recycled straw
  - ◆ Formaldehyde-free medium density fiberboard (MDF) such as Medite II or water-resistant Medex
  - ◆ Plywood made with phenolic resin
- ◆ Adhesives: Specify safer, low-VOC adhesives
- ◆ Finishes: Specify low-VOC or water-based wood stains and finishes
- ◆ Wood doors and veneers: Specify FSC-certified hardwoods from sustainably harvested forests
- ◆ Countertops: Choose recycled-content ceramic tile, solid composites made with recycled-content inclusions, natural stone, paperstone composite, or butcher block made from certified wood
- ◆ Pulls and handles: Choose recycled materials, such as Aurora Glass
- ◆ Custom cabinets that combine the above features are available from Neil Kelly Co. in there Naturals collection
- ◆ Salvage cabinets from Habitat for Humanity Re-Store or The ReBuilding Center

## CHAPTER 4:

# *Green building checklist*

This checklist is intended to serve as a tool for project planning and design, materials selection and construction. When building or remodeling, it is important to look carefully at the type of project and incorporate as many green features as possible.

The items listed on the checklist represent a variety of green building opportunities; however, not all of them may apply to your project. There is no standard definition for what constitutes a “green building,” but in general a green project will incorporate as many items on this checklist as are practical and applicable to you project.

The items are listed in the order they would normally come up during design and construction.

### **4.1 Comprehensive remodel**

#### **Design and construction planning**

- Salvage Reusable Building Materials
- Recycle Job Site Construction and Demolition Waste
- Use Salvage Materials
- Use Recycled-Content Materials

#### **Site work**

- Control Erosion
- Protect Existing Trees
- Install Permeable Paving
- Install Drip Irrigation
- Design Native and Hardy Plant Landscapes and Gardens
- Install Rainwater Harvesting

#### **Foundations**

- Incorporate Recycled Fly Ash in Concrete
- Reuse Form Boards
- Use Recycled-content Rubble for Backfill Drainage
- Use Aluminum Forms
- Install Rigid Foam Insulated Concrete Forms (ICFs)

#### **Structure**

- Substitute Engineered Lumber for Solid Sawn Lumber
- Use FSC-Certified Wood for Framing
- Use Wood I-Joists for Floors and Ceilings
- Use Structural Insulated Panels (SIPs) for Walls / Roof
- Use Salvage Lumber

#### **Exterior finish**

- Use Sustainable Decking Materials
- Use Treated Wood that Does Not Contain Chromium or Arsenic for Decking and Sill Plates
- Use Fiber-Cement Exterior Siding

**Plumbing**

- Install Water-Heater Jacket Insulation
- Install a Tankless Water Heater
- Insulate Hot and Cold Water Pipes
- Retrofit all Faucets and Showers
- Replace Toilets with Low Flow Models
- Install Chlorine Filter on Showerhead
- Install Water Filtration Unit at Faucet

**Electrical**

- Install Compact Fluorescent Light Bulbs
- Install Lighting Controls

**Roofing**

- Select Light-Colored Roofing
- Select Safe and Durable Roofing Materials

**Appliances**

- Install Energy-Efficient Refrigerator
- Install Water- and Energy-Efficient Dishwasher
- Install Horizontal Axis Washing Machine

**Insulation**

- Upgrade Wall and Ceiling Insulation
- Install Recycled-Content, Formaldehyde-Free Fiberglass Insulation
- Use Cellulose Insulation
- Reduce Air Infiltration

**Windows**

- Install Energy-Efficient Windows
- Heating, ventilation and air conditioning (HVAC)
- Use Duct Mastic on All Duct Joints
- Install New Ductwork within Conditioned Space
- Install 90% or Greater Efficiency Gas Forced Air Furnace
- Install Zoned, Hydronic, Radiant Heating
- Vent Range Hood to the Outside
- Install Solar Attic Fan
- Clean All Ducts Before Occupancy
- Install Whole-House Cooling Fan
- Retrofit Wood-Burning Fireplaces
- Install/Replace Dampers on Fireplaces
- Install Airtight Doors on Fireplaces
- Install Heat Recovery Ventilation Unit (HRV)
- Install Separate Garage Exhaust Fan
- Install Effective Bathroom Fans

**Renewable and solar energy**

- Incorporate Natural Cooling
- Incorporate Passive Solar Heating
- Install Solar Water System
- Pre-Plumb for Solar Water Heating
- Install Photovoltaic (PV) Panels

**Indoor air quality/finishes**

- Use Low/No-VOC and Formaldehyde-Free Paint
- Use Solvent-Free Adhesives
- Use Low-VOC, Water-Based Wood Finishes
- Substitute Particleboard with Formaldehyde-Free Materials
- Use Exterior-Grade Plywood for Interior Uses
- Select Formaldehyde-Free Medium Density Fiberboard (MDF)

**Flooring**

- Select FSC-Certified Wood Flooring
- Use Rapidly Renewable Flooring Materials
- Use Recycled-Content Ceramic Tile
- Use Exposed Concrete as Finish Floor
- Replace Vinyl Flooring with Natural Linoleum
- Install Recycled-Content Carpet and Cushion

**4.2 New addition**

Consider the following green remodeling options in a new addition.

**Design and construction planning**

- Salvage Reusable Materials
- Recycle Job-Site Construction and Demolition Waste

**Site**

- Install Drip Irrigation
- Incorporate Permeable Paving
- Design Native and Hardy Plant Landscapes and Gardens
- Provide for Rainwater Harvesting

**Foundation**

- Incorporate Recycled Fly Ash in Concrete
- Use Aluminum Forms
- Reuse Form Boards
- Use Recycled-Content Rubble for Backfill Drainage
- Insulate Foundation before Backfill
- Use Rigid Foam Insulated Concrete Forms (ICFs)
- Structure
- Substitute Engineered Lumber for Solid Sawn Lumber
- Use FSC-Certified Wood for Framing
- Use Wood I-Joists for Floors and Ceilings
- Use Finger-Jointed Studs
- Use Structural Insulated Panels (SIPs) for Walls/Roof
- Use Salvage Lumber

**Exterior finish**

- Use Sustainable Decking Materials
- Use Treated Wood that Does Not Contain Chromium or Arsenic for Decking and Sill Plates
- Use Fiber-Cement Siding Materials

**Plumbing**

- Install Water-Heater Jacket Insulation
- Install a Tankless Water Heater
- Insulate Hot and Cold Water Pipes
- Retrofit all Faucets and Showers
- Replace Toilets with Low-Flow Models
- Install Chlorine Filter on Showerhead
- Install Water-Filtration Units at Faucets

**Electrical**

- Install Compact Fluorescent Light Bulbs
- Install Lighting Controls
- Install Whole-House Cooling Fan

**Roofing**

- Select Light-Colored Roofing
- Install Minimum 40-Year Composition Roofing

**Insulation**

- Upgrade Wall and Ceiling Insulation
- Install Recycled Content, Formaldehyde-Free Fiberglass Insulation
- Use Advanced Infiltration Reduction Practices
- Use Cellulose Insulation

**Windows**

- Install Energy-Efficient Windows
- Heating, ventilation and air conditioning (HVAC)
- Use Duct Mastic on All Duct Joints
- Install New Ductwork within Conditioned Space
- Install 90% or Greater Efficiency Gas Forced Air Furnace
- Install Zoned, Hydronic, Radiant Heating
- Vent Range Hood to the Outside
- Install Solar Attic Fan
- Clean All Ducts before Occupancy
- Install Whole-House Cooling Fan
- Retrofit Wood-Burning Fireplaces
- Install/Replace Dampers on Fireplaces
- Install Airtight Doors on Fireplaces
- Install Heat Recovery Ventilation Unit (HRV)

**Renewable and solar energy**

- Incorporate Natural Cooling
- Incorporate Passive Solar Heating
- Install Solar Water System
- Pre-Plumb for Solar Water Heating
- Install Photovoltaic (PV) Panels

**Indoor air quality/finishes**

- Use Low/No-VOC and Formaldehyde-Free Paint
- Use Low-VOC, Water-Based Wood Finishes
- Use Solvent-Free Adhesives and Caulks
- Substitute Particleboard with Formaldehyde-Free Materials
- Use Exterior-Grade Plywood for Interior Uses
- Select Formaldehyde-Free Medium Density Fiberboard (MDF)

**Flooring**

- Select FSC-Certified Wood Flooring
- Use Rapidly Renewable Flooring
- Use Recycled-Content Ceramic Tile
- Replace Vinyl Flooring with Natural Linoleum
- Use Exposed Concrete as Finish Floor
- Install Recycled-Content Carpet and Cushion

**4.3 Second floor**

Consider the following green remodeling options in a second floor.

**Design and construction planning**

- Salvage Reusable Materials
- Recycle Job-Site Construction and Demolition Waste

**Site**

- Salvage Reusable Materials
- Recycle Job-Site Construction and Demolition Waste

**Structural frame**

- Substitute Engineered Lumber for Solid Sawn Lumber
- Use FSC-Certified Wood for Framing
- Use Wood I-Joists for Floors and Ceilings
- Use Structural Insulated Panels (SIPs) for Walls/Roof
- Use Salvage Lumber

**Exterior finish**

- Use Treated Wood that Does Not Contain Chromium
- or Arsenic for Decking and Sill Plates
- Use Fiber-Cement Siding Materials

**Plumbing**

- Insulate Hot and Cold Water Pipes
- Install Chlorine Filter on Showerhead
- Install Water-Filtration Unit at Faucet

**Electrical**

- Install Compact Fluorescent Light Bulbs
- Install Lighting Controls
- Install Whole-House Cooling Fan

**Roofing**

- Select Light-Colored Roofing
- Install Minimum 40-Year Composition Roofing

**Insulation**

- Upgrade Wall and Ceiling Insulation
- Install Recycled-Content, Formaldehyde-Free Fiberglass Insulation
- Reduce Air Infiltration
- Use Cellulose Insulation

**Windows**

- Install Energy-Efficient Windows
- Heating, ventilation and air conditioning (HVAC)
- Use Duct Mastic on All Duct Joints
- Install New Ductwork within Conditioned Space
- Install Solar Attic Fan
- Clean All Ducts before Occupancy
- Install Whole-House Cooling Fan
- Install 90% or Greater Efficiency Gas Forced Air Furnace
- Install Heat Recovery Ventilation Unit (HRV)

**Renewable and solar energy**

- Incorporate Natural Cooling
- Incorporate Passive Solar Heating
- Install Photovoltaic (PV) Panels

**Indoor air quality/finishes**

- Use Low/No-VOC and Formaldehyde-Free Paint
- Use Low-VOC, Water-Based Wood Finishes
- Use Solvent-Free Adhesives and Caulks
- Substitute Particleboard with Formaldehyde-Free Materials
- Use Exterior-Grade Plywood for Interior Uses
- Select Formaldehyde-Free Medium Density Fiberboard (MDF)

**Flooring**

- Select FSC-Certified Wood Flooring
- Use Rapidly Renewable Flooring Materials
- Use Recycled-Content Ceramic Tile
- Replace Vinyl Flooring with Natural Linoleum
- Install Recycled-Content Carpet and Underlayment

**4.4 Bathroom**

Consider the following green remodeling options in a bathroom.

**Design and construction planning**

- Salvage Reusable Materials
- Recycle Job-Site Construction and Demolition Waste

**Site**

- Salvage Reusable Materials
- Recycle Job-Site Construction and Demolition Waste

**Structure**

- Substitute Engineered Lumber for Solid Sawn Lumber
- Use FSC-Certified Wood for Framing
- Use Wood I-Joists for Floors and Ceilings
- Use Salvage Lumber

**Plumbing**

- Install Water-Heater Jacket Insulation
- Install a Tankless Hot Water Heater
- Insulate Hot and Cold Water Pipes
- Retrofit all Faucets and Showers
- Replace Toilets with Low-Flow Models
- Install Chlorine Filter on Showerhead
- Install Water-Filtration Unit at Faucet

**Electrical**

- Install Compact Fluorescent Light Bulbs
- Install Lighting Controls
- Install Ceiling Fans

**Insulation**

- Upgrade Wall and Ceiling Insulation
- Install Recycled-Content, Formaldehyde-Free Fiberglass Insulation
- Reduce Air Infiltration
- Use Cellulose Insulation

**Windows**

- Install Energy-Efficient Windows
- Heating, ventilation and air conditioning (HVAC)
- Use Duct Mastic on All Duct Joints
- Install New Ductwork within Conditioned Space
- Clean All Ducts before Occupancy

**Indoor air quality/finishes**

- Use Low/ No-VOC and Formaldehyde-Free Paint
- Use Low-VOC, Water-Based Wood Finishes
- Use Solvent-Free Adhesives
- Substitute Particleboard with Formaldehyde-Free Materials
- Use Exterior-Grade Plywood for Interior Uses
- Select Formaldehyde-Free Medium Density Fiberboard (MDF)

**Flooring**

- Select FSC-Certified Wood Flooring
- Use Rapidly Renewable Flooring Materials
- Use Recycled-Content Ceramic Tile
- Replace Vinyl Flooring with Natural Linoleum
- Use Exposed Concrete as Finish Floor
- Install Recycled-Content Carpet and Cushion

**4.5 Kitchen**

Consider the following green remodeling options in a kitchen.

**Design and construction planning**

- Salvage Reusable Materials
- Recycle Job-Site Construction and Demolition Waste

**Site**

- Salvage Reusable Materials
- Recycle Job-Site Construction and Demolition Waste

**Plumbing**

- Insulate Hot and Cold Water Pipes
- Retrofit All Faucets with Flow Reducers
- Install Water-Filtration Unit at Faucet

**Electrical**

- Install Compact Fluorescent Light Bulbs
- Install Lighting Controls
- Install Ceiling Fans

**Appliances**

- Install Water- and Energy-Efficient Dishwasher
- Install Energy-Efficient Refrigerator

**Insulation**

- Upgrade Wall and Ceiling Insulation
- Install Recycled-Content, Formaldehyde-Free Fiberglass
- Reduce Air Infiltration
- Use Cellulose Insulation

**Windows**

- Install Energy-Efficient Windows
- Heating, ventilation and air conditioning (HVAC)
- Use Duct Mastic on All Duct Joints
- Vent Range Hood to the Outside

**Flooring**

- Select FSC-Certified Wood Flooring
- Use Rapidly Renewable Flooring Materials
- Use Recycled-Content Ceramic Tile
- Replace Vinyl Flooring with Natural Linoleum
- Use Exposed Concrete as Finish Floor
- Install Recycled-Content Carpet and Cushion

**Indoor air quality/finishes**

- Use Low/No-VOC and Formaldehyde-Free Paint
- Use Low-VOC, Water-Based Wood Finishes
- Use Solvent-Free Adhesives
- Replace Particleboard with Formaldehyde-Free Materials
- Use Exterior-Grade Plywood for Interior Uses
- Select Formaldehyde-Free Medium Density Fiberboard (MDF)

## CHAPTER 5:

# *Construction site recycling and disposal*



*The Rebuilding Center offers a wide variety of salvaged materials*

Because the recycling industry changes, information relating to businesses in this guide may change rapidly. So, please use this guide as a resource to assist in locating services to accept your unwanted waste materials.

Locate the waste material you want to recycle or dispose of then choose a business located near the job site. Fees charged are competitive for most materials, but use this guide to shop around for the exact services you require.

In addition to the options listed below, check the Northwest Materials Exchange. The Northwest Materials Exchange website provides links to regional as well as specialty materials exchange sites. In most cases, material exchanges are free services designed to match businesses that produce wastes, industrial by-products, or surplus materials with businesses or individuals that need them. For more information visit the Northwest Materials Exchange website at <http://www.nwmaterialsmart.org>.

### **Can't find it on this list...**

To find out how to properly dispose of specific materials check out Marion County's recycling/disposal database at: <http://apps.co.marion.or.us/Recycle/> or call 503-588-5169.



## Aerosol Cans

### Household Garbage Salem, OR

- Wrap with newspaper, double bag, and place in household garbage.

## Appliances (Large)

### Cherry City Metals

3155 Kanz Ct NE  
Salem, OR  
503-588-0721

- Compressors must be removed, drained of all fluids, and have holes drilled in them or be cut in half.
- Drop off at site.
- Pays a variety of prices--by the ton for ferrous items (tin, appliances, iron, cars, etc.), and by the pound for non-ferrous metal (aluminum, brass, copper, etc.).

### Habitat for Humanity - Albany

Albany, OR  
541-924-1450

- Accepts almost all large appliances.
- Call for specifics, including any preparation requirements.

### Habitat for Humanity - ReStore

Salem, OR  
503-364-6642

- Appliances must be in good condition and not more than three years old.
- Call for specifics, including any preparation requirements.
- Will also take: Kitchen & bathroom sinks, tub/shower combo or shower, toilets that meet code, & bathroom mirrors.

### Haulers

Salem, OR

- Contact your hauler. They will pick up at curbside for a fee.

### Hillsboro Landfill

3205 SE Minter Bridge Rd  
Hillsboro, OR 97123  
503-640-9427

- Call for more information, including hours, material preparation, and fees.
- Will accept CFC (\$27) and non-CFC (\$11) containing appliances.

### JACO Environmental Inc.

P.O. Box 1478  
Snohomish, WA  
800-414-5072

- Call for more information, including hours, material preparation, and fees.
- Call to schedule pick-up.
- Will pick up household appliances.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Complete appliances accepted.
- Fee: \$5.50 each
- Furnaces and oil heaters recycled free.
- No microwaves or televisions. These need to be disposed of as garbage.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Complete appliances accepted.
- Fee: \$5.50 each
- Furnaces and oil heaters recycled free.
- No microwaves or televisions. These need to be disposed of as garbage.

### St. Vincent de Paul trailer

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Will take some appliances ( washers, dryers, gas stoves) that are in good working order.

### Western Recycling

1600 Salem Industrial Dr.  
Salem, OR  
503-378-7300

- Appliances must be prepared for recycling. Call for specific preparation requirements.
- May pay for a larger load.
- Motors must be removed or a fee will be charged.

**Appliances (Small, Metal)**

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Place in metal recycling at drop-off site.

**Salem-Keizer Recycling & Transfer Station**  
3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Place in metal recycling at drop-off site.

**St. Vincent De Paul Store**  
3745 Portland Road NE  
Salem, OR  
503-364-3210

- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.
- Will not accept televisions, stereos or computers.
- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.
- Will not accept televisions, stereos or computers.

**St. Vincent De Paul Store - Keizer**  
5303 River Road N  
Keizer, OR 503-364-3210

- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.
- Will not accept televisions, stereos or computers.

**Appliances (Small, Plastic)**

**Household Garbage Salem, OR**

- Dispose of in household trash. No preparation required.

**St. Vincent De Paul Store**  
3745 Portland Road NE  
Salem, OR 503-364-3210

- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.
- Will not accept televisions, stereos or computers.

**St. Vincent De Paul Store - Keizer**  
5303 River Road N  
Keizer, OR  
503-364-3210

- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.
- Will not accept televisions, stereos or computers.

**Asbestos**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR  
503-588-5169

- All generators must obtain an Asbestos Disposal Permit from Marion County Public Works - Environmental Services. Contact Don Alexander at 503-588-5169 ext 5919 or Scot Tenza at 503-588-5169 ext 5990.
- For removal questions contact Dottie Boyd with DEQ at 503-378-8240 ext 272 or check the website at [www.deq.state.or/aqasbestos/index.htm](http://www.deq.state.or/aqasbestos/index.htm).
- Friable Asbestos (crumbly, can "poof out"): \$75.00 per cubic yard, with a \$75.00 minimum. Disposal shall be by special appointment only.
- Non-Friable Asbestos: \$30 per cubic yard (new price as of 1/1/04). May be disposed of between 8:30am-3:30pm Monday through Friday, no appointment necessary.

**Asbestos (continued)****Coffin-Butte Landfill**

28972 Coffin-Butte Rd  
Corvallis, OR  
503-720-8008  
541-745-2018

- Fee: \$75/ton plus \$5.00 environmental handling fee per load.
- Set up an appointment with the Operations Office: 541-745-2018.

**Hillsboro Landfill**

3205 SE Minter Bridge Rd  
Hillsboro, OR 97123  
503-640-9427

- Call for more information, including hours, material preparation, and fees.

**Asphalt****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

**Farmington Landfill LLC**

21630 SW Farmington Rd  
Aloha, OR  
503-591-1444

- Accepts asphalt.
- Does not accept composition roofing.
- Fee: \$2.00 per yard. \$20 minimum.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**River Bend Sand & Gravel**

4105 Lancaster Dr.  
Salem, OR  
503-363-9281

- Must be only asphalt, no contaminants.
- No fee.

**Asphalt Roofing****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Accepts if less than 15% of load contains Build-up roofing.
- Fee: \$10.15 per cubic yard
- May contain felt paper and fiberglass insulation.
- Only 15% of the load may contain paper and wood.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Accepts if less than 15% of the load contains asphalt roofing.
- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

**Pacific Land-Clearing Recycling Center**

6400 SE 101st Ave.  
Portland, OR  
503-774-6939

- Call for more information, including hours, material preparation, and fees.

**Wood Waste LLC (Compost Oregon)**

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Asphalt/composition roofing must be separated from lumber.
- Cedar shingles. May contain tar paper. Can not contain three-tab asphalt roofing.
- Fee: \$55 per ton.
- Manufactured wood is accepted, but can not be mixed in. \$40 per ton.
- Three-tab asphalt roofing. May contain tar paper. Can not contain cedar shingles. No dimensional or manufactured wood (such as 2 X 4's, plywood, and strand board).

## Ballasts

### Earth Protection Services, Inc.

6024 SW Jean Road Bld E Suite 100  
Lake Oswego, OR  
503-620-2466

- Ballasts that do not contain PCB's - \$.40 per pound; Ballasts that do contain PCB's - \$.55 per pound.
- Call for more information, including hours, material preparation, and fees.

### Eco Lights NW

4400 4th AVE S  
Seattle, WA  
206-343-1247

- Call for more information, including hours, material preparation, and fees.

### Marion County Household Hazardous Waste Collection Facility

@ Salem Keizer Recycling and Transfer Station  
Salem, OR

- If the ballast contains PCB's, take it to the Household Hazardous Waste Collection Facility for safe disposal. Call for an appointment 800-444-4244.

### Metro Central Hazardous Waste Facility

6161 NW 61st Ave.  
Portland, OR  
503-234-3000

- Accepts PCB-containing ballasts
- Accepts residential hazardous waste and hazardous waste from conditionally exempt generators only.
- Call for more information, including hours, material preparation, and fees.
- Cannot accept leaking ballasts
- Must register and set an appointment before dropping off ballasts

### Metro South Hazardous Waste Facility

2001 Washington Street  
Oregon City, OR 5  
503-234-3000

- Accepts PCB-containing ballasts
- Accepts residential hazardous waste and hazardous waste from conditionally exempt generators only.
- Cannot accept leaking ballasts
- Fee: \$1/ballast; call for more information
- Located in Oregon City. Take exit 10 off I-205. Follow exit to first light, turn right onto Washington Street, and it's the first building on the right.
- Must register and set an appointment before dropping off ballasts

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- If the ballast contains PCB's, take it to the Household Hazardous Waste Collection Facility for safe disposal. Call for an appointment 800-444-4244.



**Bricks****Aurora Mills Architectural Salvage**

14971 1st St.  
Aurora, OR  
503-678-6083

- Call for specific instructions, prices and hours.
- May pay for pre-1950's items, large timbers, brick, and stone.
- Pick-up and drop-off services available free of charge.
- Salvaging demolition contractors.

**Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Drop off at site.
- Fee: \$10.15 per cubic yard

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box. Prepare following Brown's Island Demolition Site requirements.

**Other**

- Check IGA shoppers and other advertising publications. They will often have people looking for used bricks.

**Wholesale Products Unlimited**

4952 Portland Rd. NE  
Salem, OR  
503-304-3913

- Prefer that mortar is removed and that the bricks are not broken.
- Will accept used brick in good condition.

**Buckets (Metal)****Cherry City Metals**

3155 Kanz Ct NE  
Salem, OR  
503-588-0721

- Metal pails may be recycled with metal recyclables.
- Plastic pails may not be recycled.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- If metal, drop off in metal recycling container at recycling site.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- If metal, drop off in metal recycling container at recycling site.

**Western Recycling**

1600 Salem Industrial Dr.  
Salem, OR  
503-378-7300

- Special rules for appliances. Call for requirements.
- Takes all types of metals (please clean off oil).

**Buckets (Plastic)****Agri-Plas, Inc.**

5016 Waconda Rd  
Brooks, OR 97305  
503-390-2381

- Call for more information, including hours, material preparation, and fees.
- Does not accept buckets that contained paint or oil.
- Various plastics.

**Household Garbage**

Salem, OR

- If plastic, dispose of in household trash.

**Buckets (Plastic) (continued)**

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Salem-Keizer Recycling & Transfer Station**  
3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Building Relocation**

**Emmert International**  
11811 SE Highway 212  
Clackamas, OR  
503-655-7191

- Fee: Depends on distance moved, size, height, and length of building. Call for specifics.
- Relocates buildings ranging from small residential homes to large company buildings.

**Rainbow Construction**  
3311 Marietta St SE  
Salem, OR 5  
03-371-9633

- Prices depend on many variables. Call for estimates.
- Relocates houses, commercial buildings, or other structures.

**Cable**

**Cherry City Metals**  
3155 Kanz Ct NE  
Salem, OR  
503-588-0721

- Does not accept telephone cable (Gie wire).
- Will buy aluminum and copper cables.

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Recycle with scrap metal.

**Salem-Keizer Recycling & Transfer Station**  
3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Recycle with scrap metal.

**Western Recycling**  
1600 Salem Industrial Dr.  
Salem, OR  
503-378-7300

- Does not accept telephone cable (Gie wire).
- Must roll cable.
- Will buy aluminum and copper cables.

**Cardboard**

**Allied Waste of Marion County**  
2215 N. Front  
Woodburn, OR  
503-981-1278

- Flatten and drop off at site.
- No wax coated cardboard (put wax coated with garbage).

**Clayton-Ward Recycling Center**  
3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Call for specific instructions, prices and hours.
- No wax coated cardboard (put wax coated with garbage).
- Will buy cardboard boxes, brown paper bags, and cereal and cracker boxes with paper lining removed.

**Curbside Recycling**

- Flatten corrugated cardboard, bundle with wire or string, and leave on curbside for pickup.
- No wax coated cardboard (put wax coated with garbage).

**Cardboard (continued)****D & O Garbage Service, Inc**

1140 Boone Rd. SE  
Salem, OR  
503-363-7923

- Flatten and drop off at site.
- No wax coated cardboard (put wax coated with garbage).

**Garten Services Recycling Center**

3334 Industrial Way NE  
Salem, OR  
503-581-4473

- Flatten and drop off at site.
- Grayboard (such as cereal and cracker boxes) go into the mixed paper container.
- No wax coated cardboard (put wax coated with garbage).

**Loren's Sanitation Service, Inc**

1141 Chemewa Rd. N  
Salem, OR  
503-393-2262

- Flatten and drop off at site.
- No wax coated cardboard (put wax coated with garbage).

**Marion Recycling Center Inc.**

3680 Brooklake Rd. NE  
Brooks, OR  
503-390-4000

- Flatten and drop off at site.
- No wax coated cardboard (put wax coated with garbage).

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Flatten and drop off at site.
- Grayboard (such as cereal and cracker boxes), magazines, junk mail, newspaper, and cardboard can be recycled together in the mixed paper container.
- No wax coated cardboard (put wax coated with garbage).

**Pacific Sanitation Service, Inc.**

3475 Blossom Dr. NE  
Salem, OR  
503-393-1031

- Flatten and drop off at site.
- No wax coated cardboard (put wax coated with garbage).

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Flatten and drop off at site.
- Grayboard (such as cereal and cracker boxes), magazines, junk mail, newspaper, and cardboard can be recycled together in the mixed paper container.
- Milk and drink cartons go into the drink carton container.
- No wax coated cardboard (put wax coated with garbage).

**Suburban Garbage Service**

6075 State St.  
Salem, OR  
503-362-4949

- Flatten and drop off at site.
- No wax coated cardboard (put wax coated with garbage).

**Valley Recycling & Disposal Service, Inc.**

2515 Salem-Dalles Hwy  
Salem, OR  
503-585-4300

- Flatten and drop off at site.
- No wax coated cardboard (put wax coated with garbage).

**Carpet****East County Recycling**

12409 NE San Rafael  
Portland, OR  
503-253-0867

- Call for specifics, including any preparation requirements.
- Fee: \$17.50 minimum for first 260 lbs., \$0.035 for each additional pound.

**Habitat for Humanity - ReStore**

Salem, OR  
503-364-6642

- Call for specifics, including any preparation requirements.
- New carpets for entire house (approximately 1000 sq. ft.).

**Carpet (continued)**

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: Dispose of as garbage - \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Rug Rats** 3800 River Rd N  
Keizer, OR 97303  
503-588-5006

- Must be at least 10' by 12'.
- Must call to arrange a meeting with the manager before bringing in the carpet.
- No fee.
- No mold, no animals, no bleach spots, no sun fading, no carpet from high traffic areas such as hallways.
- Only clean carpet.

**Salem-Keizer Recycling & Transfer Station**  
3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: Dispose of as garbage - \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Carpet Pad**

**Check with your installer.**

- Many installers will take old carpet pad back to their stores where it is collected for recycling. (Only dry foam pads, no rubber.)

**Decrepad** 2335 N. Clark Ave.  
Portland, OR  
503-237-1782

- Free dropoff
- Free pickup for large quantities
- Loads must be free of any tack strip, carpet or other garbage
- Page first for time and dropoff directions
- Source-separated carpet pad and polyurethane foam
- Tear-out services available

**Good News Recycling**  
Salem, OR  
503-824-4452

- Call to schedule pick-up.
- No rubber waffle pads.
- Will take polyurethane foam products including foam mattresses (no springs) and upholstered cushions.

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: Dispose of as garbage - \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Salem-Keizer Recycling & Transfer Station**  
3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: Dispose of as garbage - \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**St. Vincent de Paul trailer**  
3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Check with attendant.
- Only dry foam pads, no rubber.

**Ceiling Tiles (see Tiles - Acoustical)****Cement (Bag)**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR  
503-588-5169

- Bags of cement, mortar, and lime should be disposed of at Brown's Island Demolition Site.
- Fee: \$10.15 per cubic yard

**Concrete**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

**Farmington Landfill LLC**  
21630 SW Farmington Rd  
Aloha, OR  
503-591-1444

- Fee: Clean concrete (without rebar) - \$2.00 per yard; year-round; Mixed concrete (with rebar) - \$4.75 per yard during the summer, \$5.75 per yard during the winter. \$20.00 minimum.

**Grimms Fuel Co.**  
1631 Southshore Blvd  
Lake Oswego, OR  
503-636-3623

- Fee: \$10.50 per yard.

**Lakeside Reclamation**  
14930 SW Vandermost Rd  
Beaverton, OR  
503-628-1866

- Fee: \$13.75 per ton. There is no fee if concrete does not contain rebar and is not longer than 4 inches.

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

**Portland Road & Driveway**  
10500 SE Jennifer St  
Clackamas, OR  
503-650-5006

- Commercial businesses only.
- Fee: \$3.00 per yard. \$20.00 minimum.

**Walling Sand & Gravel**  
1518 McGilchrist SE  
Salem, OR  
503-585-5911

- Fee: \$10.00 per load.
- Must be clean.

**Construction / Demolition Debris**

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- For material not accepted at Brown's Island Demolition Site

**Construction / Demolition Debris (continued)****NW Materialsmart**

www.nwmaterialsmart.org

- This is a material exchange site (a service that facilitates the use of one company's unwanted material as another's raw material). It is an information clearing-house for available surplus, by-products, and used or other forms of unwanted industrial materials. A material exchange identifies both producers (sources) and markets (end-users) for a variety of materials. It operates on the principle that one company's "waste" may be another's feedstock. There is no cost for using the exchange, and it is up to the exchanging parties to negotiate materials costs and shipping among themselves. Virtually anything non-hazardous may be listed on most materials exchanges. Any person or business who has surplus materials to list on an exchange or is trying to find materials on an exchange can use this site. This material exchange service is not for listing personal household items.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive

Salem, OR

503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- For material not accepted at Brown's Island Demolition Site

**Construction / Demolition Debris (Inert)****Brown's Island Demolition Site**

2895 Faragate S

Salem, OR

503-588-5169

- Accepts: Ashes, Asphalt Shingles, Brick, Ceiling Tile, Concrete, Dirt, Fiberglass, Formica, Foundry Sand, Hardi-Plank, Plaster, Plastic Pipe, Rock, Sand, Sheet-rock, Tile, Visqueen, Vinyl Flooring, Window Glass, Styrofoam Insulation, Siding, Frames, Sod (less than 15% grass), Large stumps (over 6" in diameter at 24" above the soil line), Large timbers (larger than 6"x6"x4') excluding creosote treated timbers, and Asbestos (contact Marion County Public Works-Environmental Services for permit prior to disposal)
- Fee: \$10.15 per cubic yard
- No charge for clean fill dirt with prior approval from Marion County Public Works - Environmental Services. Call 503-588-5169 for more information.
- No scrap wood or dimensional lumber.

**Contaminated Soil****Coffin-Butte Landfill**

28972 Coffin-Butte Rd

Corvallis, OR

503-720-8008

541-745-2018

- Call for more information, including hours, material preparation, and fees.

**Hillsboro Landfill**

3205 SE Minter Bridge Rd

Hillsboro, OR 97123

503-640-9427

- Call for more information, including hours, material preparation, and fees.
- Licensed disposal facility for petroleum-contaminated soil.
- Special waste permit is required.

**Creosote Lumber****Coffin-Butte Landfill**

28972 Coffin-Butte Rd  
Corvallis, OR  
503-720-8008  
541-745-2018

- Make an appointment prior to disposal.
- Must make special arrangements for large loads.

**Pacific Land-Clearing Recycling Center**

6400 SE 101st Ave.  
Portland, OR  
503-774-6939

- Call for more information, including hours, material preparation, and fees.

**Wood Waste LLC (Compost Oregon)**

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Fee: \$55/ton or \$65/ton if steel spikes are included in the wood.

**Diesel Fuel****Evren Northwest**

Portland, OR  
503-452-5561

- Call for specifics, including any preparation requirements.
- Customers with large amounts may get price break.
- Generally \$65 minimum charge for pick up, plus the cost of disposal.
- Pump and pick up used motor oil, heating oil, diesel, and gasoline.

**Other**

- For small quantities, contact Jeff Bickford at 503-588-5169 ext. 5992

**Dirt****Brown's Island Demolition Site**

2895 Faragate S Salem, OR 503-588-5169

- No charge for clean fill dirt with prior approval from Marion County Public Works - Environmental Services. Call 503-588-5169 for more information.

**Coffin-Butte Landfill**

28972 Coffin-Butte Rd Corvallis, OR 503-720-8008 541-745-2018

- Call for more information, including hours, material preparation, and fees.

**Farmington Landfill LLC**

21630 SW Farmington Rd Aloha, OR 503-591-1444

- Fee: \$20.00 minimum.
- Soil must be clean.

**Grimms Fuel Co.**

1631 Southshore Blvd Lake Oswego, OR  
503-636-3623

- Fee: \$10.50 per yard.
- Soil must be clean.

**Hillsboro Landfill**

3205 SE Minter Bridge Rd Hillsboro, OR  
97123 503-640-9427

- Call for more information, including hours, material preparation, and fees.
- Licensed disposal facility for petroleum-contaminated soil.
- Special waste permit is required.

**Soil Trader**

A service provided by the City of Portland Bureau of Environmental Services  
Portland, OR  
503-823-7623

- 200-cubic-yard minimum.
- An online inter-project trading network for excavated, non-hazardous soil and gravel.
- Can list soil and gravel you wish to get rid of or receive.
- No fee for listing and web site searches.

**Dry Wall (see Sheetrock)****Fiberglass****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Prefer that fiberglass is taken to Brown's Island or to the demolition by-pass box at North Marion.

**Fluorescent Light Fixtures****Earth Protection Services, Inc.**

6024 SW Jean Road Bld E Suite 100  
Lake Oswego, OR  
503-620-2466

- Accepts straight fluorescent lights.
- Call for information about recycling other types of lamps, batteries, thermostats, and electronic equipment.
- Call for more information, including hours, material preparation, and fees.

**Eco Lights NW**

4400 4th AVE S  
Seattle, WA  
206-343-1247

- Call for fees for all other bulbs or large quantities.
- Fee: Fluorescent tubes (\$0.10 per foot).

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Accepts: U -tubes and circular, high intensity discharge (Super HID), UVA bulbs, incandescent bulbs, plastic coated lamps, and compact fluorescents. Also accepts thermostat bulbs, manometers, thermometers, and thermostats. Outdoor patio lights are ok too.
- Drop off Friday - Sunday 10:00am-4:00pm only. Check in at scalehouse.
- Limit 10.
- Recycle metal parts with scrap metal.
- Remove ballasts and dispose of them in a garbage can or at the transfer station as waste.
- Residential drop off only.

**Formica****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Only off wood. If mixed with wood, take to Salem-Keizer or North Marion Transfer Stations.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box. Prepare following Brown's Island Demolition Site requirements.

## Furnaces and Oil Heaters

### Cherry City Metals

3155 Kanz Ct NE  
Salem, OR  
503-588-0721

- All electric motors must be removed.
- Compressors must be removed, drained of all fluids, and have holes drilled in them or be cut in half.
- Drop off at site.
- Pays a variety of prices--by the ton for ferrous items (tin, appliances, iron, cars, etc.), and by the pound for non-ferrous metal (aluminum, brass, copper, etc.).

### Habitat for Humanity - ReStore

Salem, OR  
503-364-6642

- Appliances must be in good condition and not more than three years old.
- Call for specifics, including any preparation requirements.
- Will also take: Kitchen & bathroom sinks, tub/shower combo or shower, toilets that meet code, & bathroom mirrors.

### Haulers

- Contact your hauler. They will pick up at curbside for a fee.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Complete appliances accepted.
- Fee: \$5.50 each
- Furnaces and oil heaters recycled free.
- No microwaves or televisions. These need to be disposed of as garbage.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Complete appliances accepted.
- Fee: \$5.50 each
- Furnaces and oil heaters recycled free.
- No microwaves or televisions. These need to be disposed of as garbage.

### St. Vincent de Paul trailer

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Will take some appliances ( washers, dryers, gas stoves) that are in good working order.

### Western Recycling

1600 Salem Industrial Dr.  
Salem, OR  
503-378-7300

- Appliances must be prepared for recycling. Call for specific preparation requirements.
- No fee.

## Furniture

### Haulers

- Contact your hauler. They will pick up at curbside for a fee.

### Household Garbage

- Dispose of small items in household trash.
- Notify garbage company of disposal of larger items left out for garbage pick-up.

### Salvation Army

1887 Front Street NE  
Salem, OR  
503-399-0206

- The Salvation Army will take beds (no mattresses), sofas, as well as other furniture only if they are in good condition. They will take appliances (any color) only if they work.

## Furniture (continued)

### St. Vincent De Paul Store

3745 Portland Road NE  
Salem, OR  
503-364-3210

- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.

### St. Vincent De Paul Store - Keizer

5303 River Road N  
Keizer, OR  
503-364-3210

- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.

## Glass (Window)

### Aurora Glass

Eugene, OR  
541-681-3260

- Acceptance will depend upon availability of storage. Call Chris Jenkins for confirmation.
- Aurora Glass has a foundry. Glass is used to make decorative tile, drawer pulls, suncatchers, bowls, vases, etc.
- Frames must be removed. Aluminum frames can be recycled.
- No tinted or double pane glass.

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- No metal or wood frames.

### Household Garbage

- Dispose of as waste.

### KB Recycling

1600 SE 4th Ave.  
Canby, OR  
503-266-7903

- Call for specifics, including any preparation requirements.
- Fee: \$0.01 per pound.
- Glass must be clean (cannot contain paint or putty).
- Vinyl and wood frames must be removed before drop-off.
- Windows in aluminum frames are accepted.

### Other

- If the window has metal frames, the metal can be recycled. The glass needs to be taken out of the frame (using a blanket or tarp) and disposed of through one of the other options. The metal can then be recycled at one of our Recycling and Transfer Stations (just put it in the metal recycling bin) or sold to a metal recycler (see Metal on this list).

## Gravel

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Grade type 1/2 minus or 3/4 minus may be accepted for free.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$87.45 per ton
- Grade type 1/2 minus or 3/4 minus may be accepted for free.

**Hardi-Plank/ Hardi-Board****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Loads can contain no more than 15% paper and wood.

**Habitat for Humanity - ReStore**

Salem, OR  
503-364-6642

- Call for specifics, including any preparation requirements.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Hazardous Waste (oil-based paint, solvents, cleaners, pesticides, gasoline, etc)****Clean Harbors Environmental Services, Inc.**

19093 Sourth Beaver Creek Rd  
Oregon City, OR 97045  
503-650-6098

- Accepts hazardous waste generated by businesses.
- Call for specifics, including any preparation requirements.

**Department of Environmental Quality**

Salem, OR  
503-378-8240

- For information on how to properly handle hazardous material or to find the nearest disposal location, please contact the Oregon Department of Environmental Quality in Salem at 503-378-8240.

**Glenwood Hazardous Household Waste Collection Center**

Eugene, OR  
541-682-4120

- Accepts acids, bases, caustic cleaners, fuels, herbicides, paint, pesticides, poisons, stains, strippers, thinners, and containers. (maximum 35 gallons total)
- Call to make arrangements or an appointment.
- Keep wastes in their original labeled containers if possible. Secure those containers in a box to keep them from tipping over in transit.
- No fee.

**Household Garbage**

- Individuals are encouraged to dispose of any amount of household hazardous waste at the Department of Public Works - Environmental Services Household Hazardous Waste Collection Facility located at the Salem-Keizer Recycling and Transfer Station. However, for small quantities (less than 220 pounds) of household waste only, wrap the container in an absorbent material, double bag, and dispose of in household trash.

**Philip Services Corporation**

625 S. 32nd St.  
Washougal, WA 98671  
800-547-2436

- Accepts hazardous waste generated by businesses.
- Call for more information, including hours, material preparation, and fees.

**Spencer Environmental**

6400 SE 101st Ave.  
Portland, OR  
503-788-4612

- Accepts hazardous waste generated by businesses.
- Call for more information, including hours, material preparation, and fees.

## Hazardous Waste (oil-based paint, solvents, cleaners, pesticides, gasoline, etc) (continued)

### Marion County Household Hazardous Waste Collection Facility

@ Salem Keizer Recycling and Transfer Station  
Salem, OR

- Businesses that generate less than 220 pounds of hazardous materials per month can bring material to the facility by appointment only. They will be charged \$2.50/lb. They will also be able to bring in fluorescent lights (no limits).

Businesses that generate more than 220 pounds of hazardous materials per month need to deal directly with a hazardous waste handler (by law).

- Disposal is free for residents of Marion and Polk Counties, but appointments are required. To make an appointment call 800-444-4244.
- Hazardous materials includes products labeled with the words "poison", "danger", "warning", or "caution". However, the following materials are not accepted at this facility:
  - Explosives (including ammunition) - People should make arrangements with law enforcement. If someone does show up with them, local law enforcement or the state police bomb squad likely will be called out.
  - Radioactive materials Infectious wastes (such as syringes) - There is a program through the haulers (503-390-4000) to handle medical sharps.
  - Asbestos - People should contact our office, website, or the DEQ for information on how to handle this.
- Marion County's Household Hazardous Waste Collection Facility is now open. The facility will be open from 8:00am to 3:30pm every Thursday and the first Saturday of each month.

### Metro Central Hazardous Waste Facility

6161 NW 61st Ave.

Portland, OR

503-234-3000

- Accepts residential hazardous waste and hazardous waste from conditionally exempt generators only.
- Call for specifics, including any preparation requirements.

### Metro South Hazardous Waste Facility

2001 Washington Street

Oregon City, OR

503-234-3000

- Accepts residential hazardous waste and hazardous waste from conditionally exempt generators only.
- Call for specifics, including any preparation requirements.
- Located in Oregon City. Take exit 10 off I-205. Follow exit to first light, turn right onto Washington Street, and it's the first building on the right.

### Other

- For commercial users only (agricultural related users of pesticides), call Oregon Ag Chemical Association 503-370-7024 about sponsored collection events in the Marion County.
- For Pesticides, call the National Pesticide Telecommunications Network (NPTN) at 1-800-858-7378 for general information on toxicity and safe disposal.
- MSDS info: The Household Products Database of the National Library of Medicine links over 4,000 consumer brands to health effects from Material Safety Data Sheets. Consumers can search the database by brand name, type of product, or manufacturer. To find out what's in these products and what are the potential health effects, and other safety and handling information check out the following website: <http://householdproducts.nlm.nih.gov/products.htm>

## Industrial Plastic

### Agri-Plas, Inc.

5016 Waconda Rd  
Brooks, OR 97305  
503-390-2381

- Call for specifics, including any preparation requirements.
- Various plastics.

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Must not contain household garbage.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

### Quantum Resource Recovery

10750 SW Denney Road  
Beaverton, OR 97008  
503-646-2427

- Call for more information, including hours, material preparation, and fees.

## Insulated Electrical Wiring

### Cherry City Metals

3155 Kanz Ct NE  
Salem, OR  
503-588-0721

- Call for specifics, including any preparation requirements.

### Metro Metals Northwest

5611 NE Columbia Blvd.  
Portland, OR  
503-287-8861

- Call for specifics, including any preparation requirements.
- Open Monday - Friday 7:30am - 4:30pm, Saturday 8:00am - noon.
- Pick up is for commercial accounts only.

### Western Recycling

1600 Salem Industrial Dr.  
Salem, OR  
503-378-7300

- Call for specifics, including any preparation requirements.

## Insulation (Fiberglass)

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- 10% of entire load may contain wood studs.
- Fee: \$10.15 per cubic yard (Large quantities usually cheaper at transfer stations.)
- May be mixed with sheetrock.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Insulation (Styrofoam)****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- 10% of entire load may contain wood studs.
- Fee: \$10.15 per cubic yard (Large quantities usually cheaper at transfer stations.)
- May be mixed with sheetrock.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- May be dumped at transfer station depending on the quantity of the material.
- Small pieces will blow over landfill if dumped without heavy material to weight them down.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Land-Clearing Debris (includes: grass, leaves, sod, stumps, limbs, and brush. No concrete, rock, or treated timbers.)****Big Trees Today**

4820 SW Hillsboro Highway  
Hillsboro, OR 97123  
503-640-3011

- Call for specifics, including any preparation requirements.
- Will remove living trees, possibly at no cost.

**Clayton-Ward Recycling Center**

3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Accepts brush and stumps. Call for specifics.

**Compost**

- Compost small quantities of grass or leave the grass on the lawn after mowing.
- Use as mulch around trees, shrubs, annual beds, and vegetable gardens.

**Curbside Recycling**

- For small quantities, residential, put in yard debris container

**Grimms Fuel Co.**

1631 Southshore Blvd  
Lake Oswego, OR  
503-636-3623

- Fee: Yard debris (\$6.50 per yard); Sod (\$10.50 per yard).

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Drop off at site.
- Fee: Dispose of with "compostables" - \$9.00 minimum for up to 400lbs, \$0.0235 for each additional pound
- Take large timbers (6"x6"x4' or larger), stumps (larger than 6" in diameter at 24" above the soil line) and dirt to Brown's Island Demolition Site. Fee: \$10.15 per cubic yard.

**Pacific Land-Clearing Recycling Center**

6400 SE 101st Ave.  
Portland, OR 5  
03-774-6939

- Accepts yard debris including limbs and grass.
- Call for specific instructions, prices and hours.

**Land-Clearing Debris (includes: grass, leaves, sod, stumps, limbs, and brush. No concrete, rock, or treated timbers.) (continued)****Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Drop off at site.
- Fee: Dispose of with "compostables" - \$9.00 minimum for up to 400lbs, \$0.0235 for each additional pound
- Take large timbers (6"x6"x4' or larger), stumps (larger than 6" in diameter at 24" above the soil line) and dirt to Brown's Island Demolition Site. Fee: \$10.15 per cubic yard.

**Wood Waste LLC (Compost Oregon)**

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Fee: Yard debris (\$30.00 per ton); Sod (\$20.00 per ton); Stumps: (\$30.00 per ton).

**Lathe & Plaster****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Plaster off the lathe may be taken to Brown's Island Demolition Site. If mixed with wood, take to the Salem-Keizer Transfer Station.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box. Prepare following Brown's Island Demolition Site requirements.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Light Fixtures****Aurora Mills Architectural Salvage**

14971 1st St.  
Aurora, OR  
503-678-6083

- Call for specifics, including any preparation requirements.
- May pay for pre-1950's items, large timbers, brick, and stone.

**Bargain Building Supply**

34177 Hwy 99 East  
Tangent, OR  
541-924-1450

- Accepts windows, cabinets, carpet, bathroom fixtures, roofing, doors, lumber, drywall, plumbing, electrical, lighting, tools, paint, and tile.
- Call for specifics, including any preparation requirements.

**Habitat for Humanity - ReStore**

**Salem, OR**  
503-364-6642

- Call for specifics, including any preparation requirements.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- All other light fixtures may be recycled with metals once the light bulbs and globes are removed.
- If light is fluorescent, refer to "Fluorescent Light Fixtures".

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- All other light fixtures may be recycled with metals once the light bulbs and globes are removed.
- If light is fluorescent, refer to "Fluorescent Light Fixtures".

**Mattresses****North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Mattresses (continued)****Other**

- Call Thrift Stores and charities to see if they're in need of mattresses.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**St. Vincent De Paul Store**

3745 Portland Road NE  
Salem, OR  
503-364-3210

- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.

**St. Vincent De Paul Store - Keizer**

5303 River Road N  
Keizer, OR  
503-364-3210

- For large quantities, pick-up is available in the Salem-Keizer area free of charge.
- For smaller quantities, it is preferred that you drop off the items.
- Must be in good, usable condition.

**Metal (including Metal Buckets, Cable, Tanks, etc)****Burcham's Metals**

3407 Pacific Blvd.  
Albany, OR  
541-926-4616

- Call for all other prices.
- No tin or car parts.
- Open 8-4 Monday-Friday, 8:00am - 11:30am on Saturday. Call before coming on a Saturday.
- Will pay 1/2 cent per pound for steel if unloaded by customer.
- Will purchase copper, aluminum, brass, car radiators, stainless steel, motor blocks without the oil pans, electric motors, insulated and stripped wire.

**Cherry City Metals**

3155 Kanz Ct NE  
Salem, OR  
503-588-0721

- Aerosol cans must be empty, plastic caps removed, and punctured or crushed.
- Does not accept paint cans.
- Pays a variety of prices--by the ton for ferrous items (tin, appliances, iron, cars, etc.), and by the pound for non-ferrous metal (aluminum, brass, copper, etc.).
- Scrap iron, metals, steel pipe, tin, brass, copper, aluminum, and cars.

**Clayton-Ward Recycling Center**

3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Call for more information, including hours, material preparation, and fees.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee for appliances.
- No fee for most metals.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee for appliances.
- No fee for most metals.

**Western Recycling**

1600 Salem Industrial Dr.  
Salem, OR  
503-378-7300

- Special rules for appliances. Call for requirements.
- Takes all types of metals (please clean off oil).

**Microwave Ovens****Cascade Microwave**

541-686-2482

- Accepts microwaves for recycling and reuse.
- Call for specifics, including any preparation requirements.
- Case must be removed, glass taken out, and all hazardous waste removed.
- No fee.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE

Woodburn, OR

503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive

Salem, OR

503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Mobile Homes****Coffin-Butte Landfill**

28972 Coffin-Butte Rd

Corvallis, OR

503-720-8008

541-745-2018

- Accepts campers and mobile homes.
- Call for specifics, including any preparation requirements.
- Drop off Tuesdays and Thursdays after 4:00 with an appointment.
- Fee: \$36 per ton. For trailers over 30 ft. additional fee of \$250 per side.
- Must have a certificate proving that it contains no asbestos.
- Tires have to be taken off and all metal must be stripped.

**Mortar****Brown's Island Demolition Site**

2895 Faragate S

Salem, OR

503-588-5169

- Bags of cement, mortar, and lime should be disposed of at Brown's Island Demolition Site.
- Fee: \$10.15 per cubic yard

**Nursery Plant Pots and Trays (Plastic)****Agri-Plas, Inc.**

5016 Waconda Rd

Brooks, OR 97305

503-390-2381

- Call for specifics, including any preparation requirements.
- Various plastics.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive

Salem, OR

503-588-5169

- Plastic nursery containers can be recycled at the recycling center.

**Oil (Heating)****Oregon Heat**

P.O. Box 127

Tualatin, OR

503-612-3790

- Accepts home heating oil, minimum of 100 gallons required for pick up.
- Does not accept deliveries. Arranges for pick up of oil and then finds a family in need of the oil.
- May not accept heating oil over 5 years old, depends on condition of oil.
- Picks up heating oil for free if it's 200 gallons or more. Will pick up less than 200 gallons but does not offer a tax deduction and charges a fee.

**Oil (Lamp)****Household Garbage**

- Wrap in absorbent material, place in heavy-duty plastic bag, and dispose of with the household garbage.

**Paint (Latex)****Allied Waste of Marion County**

2215 N. Front  
Woodburn, OR  
503-981-1278

- Drop off at recycling station.
- Latex paint in good condition can be used in the Paint Back Program.
- Paint can must say latex, must have a tight lid, must be at least 1/4 full, and cannot be rusted.
- Water-based, latex paints may be recycled free of charge.

**Curbside Recycling**

- 2 cans weekly pick-up limit.
- Latex paint in good condition can be used in the Paint Back Program.
- Leave at curbside in or next to red recycling bin. Do not put with mixed recycling.
- Paint can must say latex, must have a tight lid, must be at least 1/4 full, and cannot be rusted.

**Household Garbage**

- Bulk until not liquid using absorbent material. Double bag and dispose of with household trash. Or, harden in can and dispose of in garbage.

**Loren's Sanitation Service, Inc**

1141 Chemewa Rd. N  
Salem, OR  
503-393-2262

- Drop off at recycling station.
- Latex paint in good condition can be used in the Paint Back Program.
- Paint can must say latex, must have a tight lid, must be at least 1/4 full, and cannot be rusted.
- Water-based, latex paints may be recycled free of charge.

**Pacific Sanitation Service, Inc.**

3475 Blossom Dr. NE  
Salem, OR  
503-393-1031

- Drop off at recycling station.
- Latex paint in good condition can be used in the Paint Back Program.
- Paint can must say latex, must have a tight lid, must be at least 1/4 full, and cannot be rusted.
- Water-based, latex paints may be recycled free of charge.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Drop off at recycling station.
- Latex paint in good condition can be used in the Paint Back Program.
- Paint can must say latex, must have a tight lid, must be at least 1/4 full, and cannot be rusted.
- Water-based, latex paints may be recycled free of charge.

**Paint (Oil) - see Hazardous Waste****Pesticide Containers****Agri-Plas, Inc.**

5016 Waconda Rd  
Brooks, OR 97305  
503-390-2381

- Open Monday-Friday, 8- 4:30, or by appointment.

**Household Garbage**

- For household quantities with liquid, solidify liquid with absorbent material, place in a heavy duty plastic bag, and dispose of with garbage.
- If empty, triple rinse, crush, double wrap, and put in garbage.

**Pipe (Plastic)****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Vehicle and load may not exceed 40 feet (state law). Must be flagged with orange or red flag if material extends over cab.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Vehicle and load may not exceed 40 feet (state law). Must be flagged with orange or red flag if material extends over cab.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Vehicle and load may not exceed 40 feet (state law). Must be flagged with orange or red flag if material extends over cab.

**Plaster/Stucco****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Clean plaster and stucco only.
- Fee: \$10.15 per cubic yard

**Plastic (Sheet or Film)****Agri-Plas, Inc.**

5016 Waconda Rd  
Brooks, OR 97305  
503-390-2381

- Call for specifics, including any preparation requirements.
- Various plastics.

**American Plastics Council**

1-800-2-help-90

- This service provides generators of recycled plastic access to markets and material handling advice, it links buyers and sellers. There is no charge for this service.

**Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Must not contain household garbage.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Quantum Resource Recovery**

10750 SW Denney Road  
Beaverton, OR 97008  
503-646-2427

- Call for more information, including hours, material preparation, and fees.

**Plexiglass****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

**Household Garbage**

- For household quantities.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

**PVC (Polyvinyl Chloride)**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

**Habitat for Humanity - ReStore**  
Salem, OR  
503-364-6642

- 1 inch and 3 inch PVC schedule 40 pipe.
- Call for specifics, including any preparation requirements.

**Northwest Polymers**  
Molalla, OR  
503-829-3550

- Accept PVC pipe, vinyl window frames, and vinyl siding only.
- Call for specifics, including any preparation requirements.
- Large quantities only.
- Offers drop boxes, possibly at no cost.

**Quantum Resource Recovery**  
10750 SW Denney Road  
Beaverton, OR 97008  
503-646-2427

- Call for specifics, including any preparation requirements.
- Must be clean and free of glass, metal and plastics.
- Other industrial plastics accepted.
- Source separated new or used vinyl siding
- Source separated vinyl window extrusions.

**Railroad Ties**

**Coffin-Butte Landfill**  
28972 Coffin-Butte Rd  
Corvallis, OR  
503-720-8008  
541-745-2018

- Fee: \$30.00 per ton
- Make an appointment prior to disposal.
- Must make special arrangements for large loads.

**Pacific Land-Clearing Recycling Center**  
6400 SE 101st Ave.  
Portland, OR  
503-774-6939

- Call for more information, including hours, material preparation, and fees.

**Wood Waste LLC (Compost Oregon)**  
8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Fee: \$55/ton or \$65/ton if steel spikes are included in the wood.

**Rock (6" +)**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

**Roofing (Asbestos)**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR  
503-588-5169

- All generators must obtain an Asbestos Disposal Permit from Marion County Public Works - Environmental Services. Contact Don Alexander at 503-588-5169 ext 5919 or Scot Tenza at 503-588-5169 ext 5990.
- For removal questions contact Dottie Boyd with DEQ at 503-378-8240 ext 272 or check the website at [www.deq.state.or/aqasbestos/index.htm](http://www.deq.state.or/aqasbestos/index.htm).
- Friable Asbestos (crumbly, can "poof out"): \$75.00 per cubic yard, with a \$75.00 minimum. Disposal shall be by special appointment only.
- Non-Friable Asbestos: \$30 per cubic yard (new price as of 1/1/04). May be disposed of between 8:30am-3:30pm Monday through Friday, no appointment necessary.

**Roofing (Asbestos) (continued)**

**Coffin-Butte Landfill**  
28972 Coffin-Butte Rd  
Corvallis, OR  
503-720-8008  
541-745-2018

- Fee: \$75/ton plus \$5.00 environmental handling fee per load.
- Set up an appointment with the Operations Office: 541-745-2018.

**Roofing (Asphalt)**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR 503-588-5169

- Accepts if less than 15% of load contains Build-up roofing.
- Fee: \$10.15 per cubic yard
- May contain felt paper and fiberglass insulation.
- Only 15% of the load may contain paper and wood.

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Accepts if less than 15% of the load contains asphalt roofing.
- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

**Wood Waste LLC (Compost Oregon)**  
8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Asphalt/composition roofing must be separated from lumber.
- Cedar shingles. May contain tar paper. Can not contain three-tab asphalt roofing.
- Fee: \$32.00 per ton.
- Three-tab asphalt roofing. May contain tar paper. Can not contain cedar shingles. No dimensional or manufactured wood (such as 2 X 4's, plywood, and strand board).

**Roofing (Build-up)**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Accepts if less than 15% of load contains Build-up roofing.
- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Roofing (Fiber Insulation)**

**Brown's Island Demolition Site**  
2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Insulation and tar is accepted.
- Only 15% of the load may contain paper and wood.

**Roofing (Wood)**

**Clayton-Ward Recycling Center**  
3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Accepts wood shake, lumber, and brush (no asphalt or tar paper allowed).
- Call for specifics, including any preparation requirements.

**North Marion Recycling & Transfer Station**  
17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Loads must 85% to 90% burnable to be accepted at the transfer station. Otherwise, dispose of at Brown's Island Demolition Landfill.
- Mixed loads of asphalt, paper, tar paper, and cedar shake must disposed of as garbage.

**Roofing (Wood) (continued)****Other**

- Clean Cedar Shake Roofing can be disposed of as wood waste (see "Wood").
- Must not contain asphalt shingles, tar paper, or insulation.
- Nails and staples are okay.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Loads must 85% to 90% burnable to be accepted at the transfer station. Otherwise, dispose of at Brown's Island Demolition Landfill.
- Mixed loads of asphalt, paper, tar paper, and cedar shake must disposed of as garbage.

**Wood Waste LLC (Compost Oregon)**

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Accepts clean loads of cedar shake and dimensional lumber. Accepts asphalt shingles.

**Rugs**

**East County Recycling** 12409 NE San Rafael  
Portland, OR 503-253-0867

- Call for specifics, including any preparation requirements.
- Fee: \$17.50 minimum for first 260 lbs., \$0.035 for each additional pound.

**Habitat for Humanity - Salem**

680 State Street #110  
Salem, OR  
503-364-6642

- Call for specifics, including any preparation requirements.
- New carpets for entire house (approximately 1000 sq. ft.).

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: Dispose of as garbage - \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**Rug Rats**

3800 River Rd N  
Keizer, OR 97303  
503-588-5006

- Must be at least 10' by 12'.
- Must call to arrange a meeting with the manager before bringing in the carpet.
- No fee.
- No mold, no animals, no bleach spots, no sun fading, no carpet from high traffic areas such as hallways.
- Only clean carpet.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: Dispose of as garbage - \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

## Salvage and Used Building Materials

**1874 House**  
8070 SE 13th  
Portland, OR  
503-233-1874

- Accepts 1920's, 1930's, and Victorian lights and lamp shades.
- Accepts items as donations.
- Call for specifics, including any preparation requirements.
- May purchase items if in good condition.

**Aurora Mills Architectural Salvage**  
14971 1st St.  
Aurora, OR  
503-678-6083

- Call for specifics, including any preparation requirements.
- May pay for pre-1950's items, large timbers, brick, and stone.
- Pick-up and drop-off services available free of charge.
- Salvaging demolition contractors.

**Bargain Building Supply**  
34177 Hwy 99 East  
Tangent, OR  
541-924-1450

- Accepts windows, cabinets, carpet, bathroom fixtures, roofing, doors, lumber, drywall, plumbing, electrical, lighting, tools, paint, and tile.
- Call for specifics, including any preparation requirements.

**BRING Recycling Warehouse**  
86641 Franklin Blvd  
Eugene, OR  
541-746-3023

- Call for specifics, including any preparation requirements.
- Does not accept upholstered furniture, broken porcelain, glass, or fluorescent lighting.
- No fee.
- Non-profit organization (tax-deductible receipt available).
- Takes toilets, doors, used lighting fixtures, sinks, bath tubs, showers, windows, tiles, hardware, and lumber.

**Dickinson's Electric**  
8449 SW Barbur Blvd  
Portland, OR  
503-246-3550

- Accepts electrical equipment: circuit breakers, disconnects panel boards, transformers, etc.
- Call for specifics, including any preparation requirements.
- No fee.

**Endura Wood Products**  
1303 SE 6th AVE  
Portland, OR  
503-233-7090

- May accept beams for recycling.

**Habitat for Humanity - ReStore**  
Salem, OR  
503-364-6642

- Call for specifics, including any preparation requirements.
- Habitat for Humanity's new ReStore accepts a variety of new and used building materials. Call for details.
- Interior and exterior lighting that are in good condition. Vinyl or wood double insulated windows; kitchen and bathroom sinks in good condition; tub shower combo or shower; toilets that meet current code; bathroom mirrors; closet bi-fold doors with all the hardware; interior and exterior pre-hung doors; closet shelving or rod hardware; cabinets enough for entire house; wood trims (base moulding) for entire house; new carpets for entire house (approximately 1000 sq. ft.); plants, planting materials, barkdust, topsoil, sod; all hand tools; and, all power tools.

## Salvage and Used Building Materials (continued)

### Hippo Hardware & Trading Co.

1040 East Burnside  
Portland, OR  
503-231-1444

- Accepts antiques made between 1855 and 1940.
- Antique lighting, hardware, plumbing, and house parts.
- Call for specifics, including any preparation requirements.
- No charge; may purchase.

### NW Materialsmart

www.nwmaterialsmart.org

- This is a material exchange site (a service that facilitates the use of one company's unwanted material as another's raw material). It is an information clearinghouse for available surplus, by-products, and used or other forms of unwanted industrial materials. A material exchange identifies both producers (sources) and markets (end-users) for a variety of materials. It operates on the principle that one company's "waste" may be another's feedstock. There is no cost for using the exchange, and it is up to the exchanging parties to negotiate materials costs and shipping among themselves. Virtually anything non-hazardous may be listed on most materials exchanges. Any person or business who has surplus materials to list on an exchange or is trying to find materials on an exchange can use this site. This material exchange service is not for listing personal household items.

### Rejuvenation Inc.

1100 SE Grand  
Portland, OR 503-238-1900

- Buy pre-1940's house parts.
- Call for specifics, including any preparation requirements.
- Items must be evaluated by company buyer before they are accepted.

### Storie Steel Products

Wilsonville, OR  
503-287-1775

- Accepts lumber and steel; only in amounts of 20 tons or greater.
- Call for specifics, including any preparation requirements.
- Will pay you - price depends on type and quality of the material.

### The Rebuilding Center

3625 North Mississippi  
Portland, OR  
503-331-1877

- A nonprofit outlet for reusable building and remodeling materials.
- Call for specifics, including any preparation requirements.
- Doors, windows, cabinets, lumber, flooring, molding, lighting and much more.
- Items must be intact and in good condition. Generally, if an item seems like it could be easily touched up and reused, it will be accepted.
- Limited pickup service for larger, pre-approved loads. Call and ask for Tom regarding pickups.
- No fee.
- Non-profit organization (tax-deductible receipt available).
- Open to the public.

### Wholesale Products Unlimited

4952 Portland Rd. NE  
Salem, OR  
503-304-3913

- Accepts doors, cabinets, windows, bathtubs, refrigerators, etc.
- Call for specifics, including any preparation requirements.

## Sheetrock

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Accepts clean loads of sheetrock.
- Fee: \$10.15 per cubic yard
- May be mixed with insulation and plastic.
- Paper and wood waste is limited to 15% of the load.

### Habitat for Humanity - Salem

Salem, OR  
503-364-6642

- 4' x 8' sheets of 1/2" and 5/8" sheetrock.
- Call for specifics, including any preparation requirements.

### Knez Building Materials

12301 Highway 212 SW  
Clackamas, OR  
503-655-1991

- Accepts source-separated new construction wallboard scrap and source-separated used installed after 1977.
- Call for specifics, including any preparation requirements.
- Fee: \$27.00 per cubic yard

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Loads with 15% or more sheetrock must be taken to Brown's Island Demolition Site.
- Take to demolition by-pass box.

## Shrink Wrap / Industrial Plastic

### Agri-Plas, Inc.

5016 Waconda Rd  
Brooks, OR 97305  
503-390-2381

- Call for specifics, including any preparation requirements.
- Various plastics.

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Must not contain household garbage.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

### Quantum Resource Recovery

10750 SW Denney Road  
Beaverton, OR 97008  
503-646-2427

- Call for more information, including hours, material preparation, and fees.

## Siding- Louisiana Pacific Siding (L/P Siding), T1-11 Siding

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: If clean, can be put with wood: \$9.00 minimum for first 400 lbs, \$0.0235 for each additional pound.

### SP Newsprint

1301 Wyooski  
Newburg, OR  
503-538-2151

- Nails may be left in.
- No fee.
- Source separated.

### Wood Waste LLC (Compost Oregon)

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Fee: \$30.00 per ton
- Nails may be left in.

**Smoke Detectors****Household Garbage**

- Dispose of with other household waste, if you cannot return them to the manufacturer or the retailer. When purchasing a new one, try to choose a nonionizing, photoelectric-type detector. Take out batteries prior to disposal, these batteries can be recycled.

**Sod****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Also accepts sod containing less than 15% grass.
- Fee: \$10.15 per cubic yard
- Large timbers (6"x6"x4' or larger), stumps and dirt only.

**Clayton-Ward Recycling Center**

3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Accepts brush and stumps. Call for specifics.

**Compost**

- Compost small quantities of grass or leave the grass on the lawn after mowing.
- Use as mulch around trees, shrubs, annual beds, and vegetable gardens.

**Curbside Recycling**

- For small quantities, residential, put in yard debris container

**Grimms Fuel Co.**

1631 Southshore Blvd  
Lake Oswego, OR  
503-636-3623

- Fee: Yard debris (\$6.50 per yard); Sod (\$10.50 per yard).

**Marion County Juvenile Dept**

3030 Center St NE  
Salem, OR  
503-588-5324

- All types of trees and branches accepted.
- Must be bigger than 3 inches and smaller than 24 inches.
- No painted, stained, or treated lumber.

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Drop off at site.
- Fee: Dispose of with "compostables" - \$9.00 minimum for up to 400lbs, \$0.0235 for each additional pound
- Take large timbers (6"x6"x4' or larger), stumps (larger than 6" in diameter at 24" above the soil line) and dirt to Brown's Island Demolition Site. Fee: \$10.15 per cubic yard.

**Pacific Land-Clearing Recycling Center**

6400 SE 101st Ave.  
Portland, OR  
503-774-6939

- Accepts yard debris including limbs and grass.
- Fee: \$25 per ton.

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Drop off at site.
- Fee: Dispose of with "compostables" - \$9.00 minimum for up to 400lbs, \$0.0235 for each additional pound
- Take large timbers (6"x6"x4' or larger), stumps (larger than 6" in diameter at 24" above the soil line) and dirt to Brown's Island Demolition Site. Fee: \$10.15 per cubic yard.

**Wood Waste LLC (Compost Oregon)**

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Fee: Yard debris (\$30.00 per ton); Sod (\$20.00 per ton); Stumps: (\$30.00 per ton).

**Soil (Contaminated)****Coffin-Butte Landfill**

28972 Coffin-Butte Rd  
Corvallis, OR  
503-720-8008  
541-745-2018

- Call for more information, including hours, material preparation, and fees.

**Hillsboro Landfill**

3205 SE Minter Bridge Rd  
Hillsboro, OR 97123  
503-640-9427

- Call for more information, including hours, material preparation, and fees.
- Licensed disposal facility for petroleum-contaminated soil.
- Special waste permit is required.

**Soil (Uncontaminated)****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- No charge for clean fill dirt with prior approval from Marion County Public Works - Environmental Services. Call 503-588-5169 for more information.

**Farmington Landfill LLC**

21630 SW Farmington Rd  
Aloha, OR  
503-591-1444

- Fee: \$20.00 minimum.
- Soil must be clean.

**Grimms Fuel Co.**

1631 Southshore Blvd  
Lake Oswego, OR  
503-636-3623

- Fee: \$10.50 per yard.

**Soil Trader**

A service provided by the City of Portland Bureau of Environmental Services  
Portland, OR  
503-823-7623

- 200-cubic-yard minimum.
- An online inter-project trading network for excavated, non-hazardous soil and gravel.
- Can list soil and gravel you wish to get rid of or receive.
- No fee for listing and web site searches.

**Stumps****Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Also accepts sod containing less than 15% grass.
- Fee: \$10.15 per cubic yard
- Large timbers (6"x6"x4' or larger), stumps and dirt only.

**Clayton-Ward Recycling Center**

3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Accepts brush and stumps. Call for specifics.

**Compost**

- Compost small quantities of grass or leave the grass on the lawn after mowing.
- Use as mulch around trees, shrubs, annual beds, and vegetable gardens.

**Curbside Recycling**

- For small quantities, residential, put in yard debris container

**Grimms Fuel Co.**

1631 Southshore Blvd  
Lake Oswego, OR  
503-636-3623

- Fee: Yard debris (\$6.50 per yard); Sod (\$10.50 per yard).

## Stumps (continued)

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Drop off at site.
- Fee: Dispose of with "compostables" - \$9.00 minimum for up to 400lbs, \$0.0235 for each additional pound
- Small stumps only (smaller than 6" in diameter at 24" above the soil line)
- Take large timbers (6"x6"x4' or larger), stumps (larger than 6" in diameter at 24" above the soil line) and dirt to Brown's Island Demolition Site. Fee: \$10.15 per cubic yard.

### Pacific Land-Clearing Recycling Center

6400 SE 101st Ave.  
Portland, OR  
503-774-6939

- Accepts yard debris including limbs and grass.
- Fee: \$25 per ton.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Drop off at site.
- Fee: Dispose of with "compostables" - \$9.00 minimum for up to 400lbs, \$0.0235 for each additional pound
- Small stumps only (smaller than 6" in diameter at 24" above the soil line)
- Take large timbers (6"x6"x4' or larger), stumps (larger than 6" in diameter at 24" above the soil line) and dirt to Brown's Island Demolition Site. Fee: \$10.15 per cubic yard.

### Wood Waste LLC (Compost Oregon)

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Fee: Yard debris (\$30.00 per ton); Sod (\$20.00 per ton); Stumps: (\$30.00 per ton).

## Styrofoam Forms

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- This is very light, so it is cheaper to take to Salem-Keizer Recycling & Transfer Station.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

## Tar Paper

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- Loads can contain no more than 15% paper and wood.

### Habitat for Humanity - Salem

680 State Street #110  
Salem, OR  
503-364-6642

- Call for specifics, including any preparation requirements.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

## Telephone Poles

**Coffin-Butte Landfill** 28972 Coffin-Butte Rd Corvallis, OR 503-720-8008 541-745-2018

- Call for more information, including hours, material preparation, and fees.
- Cut into 10' sections.
- Make an appointment prior to disposal.
- Must make special arrangements for large loads.

**Wood Waste LLC (Compost Oregon)** 8715 Aumsville Hwy Aumsville, OR 503-749-3117

- Fee: \$55/ton or \$65/ton if steel spikes are included in the wood.

## Thermostats (Mercury)

### Coffin-Butte Landfill

28972 Coffin-Butte Rd  
Corvallis, OR  
503-720-8008  
541-745-2018

- Call for more information, including hours, material preparation, and fees.

### Earth Protection Services, Inc.

6024 SW Jean Road Bld E Suite 100  
Lake Oswego, OR  
503-620-2466

- Accepts straight fluorescent lights.
- Call for information about recycling other types of lamps, batteries, thermostats, and electronic equipment.
- Fee: \$25.00 per thermostat

### Marion County HHW Facility - Household Hazardous Waste

Salem, OR 1-800-444-4244

- By appointment only.
- Can accept whole thermostats or just the mercury containing bulb(s)
- Free for residents of Marion and Polk Counties.
- Individuals, or businesses that generate less than 220 pounds per month of hazardous waste, may dispose of this material by taking it to the household hazardous waste collection facility.

### Metro Central Hazardous Waste Facility

6161 NW 61st Ave.  
Portland, OR  
503-234-3000

- Accepts mercury-containing thermostats from businesses that produce less than 220 pounds of hazardous waste each month
- Can accept whole thermostats or just the mercury containing bulb(s)
- Fee: approximate \$18/pound; call for information
- Must register and set an appointment before dropping off thermostats

**Thermostats (Mercury) (continued)****Metro South Hazardous Waste Facility**

2001 Washington Street  
Oregon City, OR  
503-234-3000

- Accepts mercury-containing thermostats from businesses that produce less than 220 pounds of hazardous waste each month
- Can accept whole thermostats or just the mercury containing bulb(s)
- Fee: approximate \$18/pound; call for information
- Must register and set an appointment before dropping off thermostats

**Philip Services Corporation**

625 S. 32nd St.  
Washougal, WA 98671  
800-547-2436

- Accepts hazardous waste generated by businesses.
- Call for more information, including hours, material preparation, and fees.

**RSD/Total Control**

1980 Front Street NE  
Salem, OR 97303  
503-399-0919

- Does not accept: loose mercury switches (bulbs); leaking mercury-switch thermostats; electronic thermostats and other thermostats without mercury switches; or batteries, fluorescent light bulbs and other devices containing mercury.
- Due to shipping limitations, bring in 5-10 (or less) mercury-switches per visit.
- Heating, ventilation and air-conditioning (HVAC) contractors can recycle mercury-switch thermostats at no charge.
- Return the entire thermostat, do not take out the mercury switch.

**Spencer Environmental**

6400 SE 101st Ave.  
Portland, OR  
503-788-4612

- Accepts hazardous waste generated by businesses.
- Call for more information, including hours, material preparation, and fees.

**Tile (Acoustical)****Armstrong World Industries**

Portland, OR  
877-276-7876

- 30,000 square feet minimum.
- All tiles must be approved by Armstrong.
- Call for more information, including hours, material preparation, and fees.
- Fiberglass tiles are acceptable if they have a paper or fiberglass laminate.
- Must be clean and dry.
- No glued-on tiles or Travertone accepted.
- No tiles with a foil or vinyl laminate.
- No wood, metal, or construction debris.

**Brown's Island Demolition Site**

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

**North Marion Recycling & Transfer Station**

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- Take to demolition by-pass box.

## Timbers (Large)

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- BI is permitted to accept untreated timbers. Timbers must be larger than 6"X6"X4'.
- Fee: \$10.15 per cubic yard
- Vehicle and load may not exceed 40 feet (state law). Must be flagged with orange or red flag if material extends over cab.

### Clayton-Ward Recycling Center

3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Call for more information, including hours, material preparation, and fees.
- Can mix with brush.
- Does not accept creosote lumber.
- Vehicle and load may not exceed 40 feet (state law). Must be flagged with orange or red flag if material extends over cab.

### Wood Waste LLC (Compost Oregon)

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Accepts creosote lumber (such as railroad ties or telephone poles) for an additional charge: \$55/ton or \$65/ton if steel spikes are included in the wood.
- Fee: \$30.00 per ton
- Notify operator if timbers contain metal.
- Vehicle and load may not exceed 40 feet (state law). Must be flagged with orange or red flag if material extends over cab.

## Toilets

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

### Curbside pick up

- Extra charge required.
- May be left for pick-up as long as the garbage collector is notified.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

### Wholesale Products Unlimited

4952 Portland Rd. NE  
Salem, OR 503-304-3913

- Call for specifics, including any preparation requirements.
- Must be clean and empty. Prefer white.
- Toilets in good working condition can be sold.

## Transite Pipe

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- It is treated as non-friable asbestos. See: Asbestos.

## Trees (Live)

### Big Trees Today

4820 SW Hillsboro Highway  
Hillsboro, OR  
97123 503-640-3011

- Call for specifics, including any preparation requirements.
- Will remove living trees, possibly at no cost.

## Vinyl (Siding, Window Frames, Flooring, Other PVC)

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard

### Habitat for Humanity - Salem

680 State Street #110  
Salem, OR  
503-364-6642

- 1 inch and 3 inch PVC schedule 40 pipe.
- Call for specifics, including any preparation requirements.

### Northwest Polymers

Molalla, OR  
503-829-3550

- Accept PVC pipe, vinyl window frames, and vinyl siding only.
- Call for specifics, including any preparation requirements.
- Large quantities only.
- Offers drop boxes, possibly at no cost.

### Quantum Resource Recovery

10750 SW Denney Road  
Beaverton, OR 97008  
503-646-2427

- Call for specifics, including any preparation requirements.
- Must be clean and free of glass, metal and plastics.
- Other industrial plastics accepted.
- Source separated new or used vinyl siding
- Source separated vinyl window extrusions.

## Visqueen

### Brown's Island Demolition Site

2895 Faragate S  
Salem, OR  
503-588-5169

- Fee: \$10.15 per cubic yard
- For large and commercial quantities.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.
- For household quantities.

## Wood (Pressure Treated)

### Clayton-Ward Recycling Center

3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Accepts pressure treated wood for \$.03/lb. \$10.00 minimum charge.
- Call for specifics, including any preparation requirements.
- No railroad ties or creosote.

### Habitat for Humanity - Salem

680 State Street #110  
Salem, OR  
503-364-6642

- Call for specifics, including any preparation requirements.
- Will accept: Wood trims (base moulding) for entire house; 2x2's longer than 4 feet deck wood; 2x4's longer than 8 feet standard & better, PT, and deck wood; 2x10's longer than 13 feet; 4'x8' sheets of 1/2" plywood or 7/16" OSB, 4'x8' sheets 3/4" TNG; pressure treated 4x4's longer than 8 feet.

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Fee: Dispose of as garbage - \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: Dispose of as garbage - \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

### Willamette Resources

10295 SW Ridder Rd.  
Wilsonville, OR  
503-570-0626

- Accepts treated and untreated wood.
- Call for more information, including hours, material preparation, and fees.
- Can be source separated or mixed with other construction debris.
- Paint and nails OK.

### Wood Waste LLC (Compost Oregon)

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Accepts treated and untreated wood.
- Fee: \$30.00 per ton

## Wood (Untreated)

### Clayton-Ward Recycling Center

3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Also accepts pressure treated wood for \$.02/lb. \$5.00 minimum charge.
- No railroad ties or creosote.

### Grimms Fuel Co.

1631 Southshore Blvd  
Lake Oswego, OR  
503-636-3623

- Fee: \$6.50 per cubic yard
- Nails may be left in.

### Habitat for Humanity - ReStore Salem, OR

503-364-6642

- Call for specifics, including any preparation requirements.
- Will accept: Wood trims (base moulding) for entire house; 2x2's longer than 4 feet deck wood; 2x4's longer than 8 feet standard & better, PT, and deck wood; 2x10's longer than 13 feet; 4'x8' sheets of 1/2" plywood or 7/16" OSB, 4'x8' sheets 3/4" TNG; pressure treated 4x4's longer than 8 feet.

**Wood (Untreated) (continued)****Pacific Land-Clearing Recycling Center**

6400 SE 101st Ave.  
Portland, OR  
503-774-6939

- Accepts clean and mixed loads.
- Fee: Clean Loads - \$40.00 per ton; Mixed Loads (including wood shake and tar paper) - \$60.00 per ton

**Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Fee: Clean wood (separated from garbage, tires, and appliances) \$9.00 minimum for first 400 lbs, \$0.0235 for each additional pound; Mixed wood (containing garbage, tires, or appliances) \$9.00 minimum for first 200 lbs, \$0.0437 for each additional pound.

**SP Newsprint**

1301 Wynooski  
Newburg, OR  
503-538-2151

- Nails may be left in.
- No fee.
- Source separated untreated wood.

**Willamette Resources**

10295 SW Ridder Rd.  
Wilsonville, OR  
503-570-0626

- Accept treated and untreated wood from commercial only, not public.
- Call for more information, including hours, material preparation, and fees.
- Can be source separated or mixed with other construction debris.
- Paint and nails OK.

**Wood Waste LLC (Compost Oregon)**

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Accepts treated and untreated wood.
- Fee: \$30.00 per ton

**Yard Debris****Clayton-Ward Recycling Center**

3500 Mainline Drive NE  
Salem, OR  
503-393-8700

- Accepts brush and stumps. Call for specifics.

**Compost**

- Compost small quantities of grass or leave the grass on the lawn after mowing.
- Use as mulch around trees, shrubs, annual beds, and vegetable gardens.

**Curbside Recycling**

- For small quantities, residential, put in yard debris container

**Grimms Fuel Co.**

1631 Southshore Blvd  
Lake Oswego, OR  
503-636-3623

- Fee: Yard debris (\$6.50 per yard); Sod (\$10.50 per yard).

## Yard Debris

### North Marion Recycling & Transfer Station

17827 Whitney Ln NE  
Woodburn, OR  
503-981-4117

- Drop off at site.
- Fee: Dispose of with "compostables" - \$9.00 minimum for up to 400lbs, \$0.0235 for each additional pound
- Take large timbers (6"x6"x4' or larger), stumps (larger than 6" in diameter at 24" above the soil line) and dirt to Brown's Island Demolition Site. Fee: \$10.15 per cubic yard.

### Pacific Land-Clearing Recycling Center

6400 SE 101st Ave.  
Portland, OR  
503-774-6939

- Accepts yard debris including limbs and grass.
- Fee: \$38.00 per ton.

### Salem-Keizer Recycling & Transfer Station

3250 Deer Park Drive  
Salem, OR  
503-588-5169

- Drop off at site.
- Fee: Dispose of with "compostables" - \$9.00 minimum for up to 400lbs, \$0.0235 for each additional pound
- Take large timbers (6"x6"x4' or larger), stumps (larger than 6" in diameter at 24" above the soil line) and dirt to Brown's Island Demolition Site. Fee: \$10.15 per cubic yard.

### Wood Waste LLC (Compost Oregon)

8715 Aumsville Hwy  
Aumsville, OR  
503-749-3117

- Fee: Yard debris (\$30.00 per ton); Sod (\$20.00 per ton); Stumps: (\$30.00 per ton).



## CHAPTER 6:

# *Marion County Facilities & Hauler Information*

### Marion County facilities:

#### **Brown's Island Demolition Site**

2895 Faragate St. S - Salem

Open 8:00 am - 5:00 pm, Monday-Friday\*

*Open Saturdays from the 1st weekend in May through the 2nd weekend in October.*

Phone: 503-588-5169

The Brown's Island Demolition Landfill is permitted by the Department of Environmental Quality as a demolition landfill. Brown's Island Demolition Site accepts certain types of building and demolition material ONLY. The charge is \$10.15 per cubic yard. The following materials are accepted:

- |                             |                             |   |
|-----------------------------|-----------------------------|---|
| ◆ ashes                     | ◆ formica                   | ◆ styrofoam insulation  |
| ◆ asbestos (by permit only) | ◆ foundry sand              | ◆ tile  |
| ◆ asphalt                   | ◆ hardi plank               | ◆ visqueen  |
| ◆ asphalt shingles          | ◆ plaster                   | ◆ vinyl flooring  |
| ◆ brick                     | ◆ plastic pipe              | ◆ window glass  |
| ◆ ceiling tile              | ◆ rock                      | ◆ large stumps (over 6" in diameter at 24" above the soil line)                 |
| ◆ concrete                  | ◆ sand                      | ◆ large timbers (larger than 6" x 6" x 4', excluding creosote treated timbers). |
| ◆ dirt                      | ◆ Sheetrock                 |   |
| ◆ fiberglass                | ◆ sod (less than 15% grass) |   |

#### **Salem-Keizer Recycling & Transfer Station**

3250 Deer Park Dr. SE - Salem

Open 8:00 am - 5:00 pm, 7 days/week\*

Phone: 503-588-5169

#### **North Marion Recycling and Transfer Station**

17827 Whitney Ln. NE - Woodburn

Open 8:00 am - 5:00 pm, Monday - Saturday\*

Phone: 503-981-4117

Salem-Keizer and North Marion Recycling and Transfer Stations accept a wider range of materials: garbage, compostables, and recyclables. Charges are by weight at .0437 dollars per pound rounded to the nearest dollar, with a \$9.00 minimum for garbage. Reduced rates are given for sorted clean compostable materials or lumber waste. Recyclable materials (such as cardboard, mixed paper, metal, appliances, wood, yard waste, latex paint, tires, and household batteries) are free or at a reduced rate. These materials must be placed in special areas. Ask attendant about proper disposal and rates. Materials accepted at these sites include: residential and commercial garbage, compostable yard waste, lumber, recyclable materials, tires, and appliances.

North Marion Recycling and Transfer Station also has a demolition by-pass box where you can dispose of demolition debris, similar to the material accepted at Brown's Island Demolition Site. Asbestos is not accepted.

#### **Household Hazardous Waste Collection Facility**

At the Salem-Keizer Recycling & Transfer Station

3250 Deer Park Dr. SE - Salem

By appointment only. Open 8:00 am - 3:30 pm every Thursday and the first Saturday of each month. \*

Phone: 800-444-4244

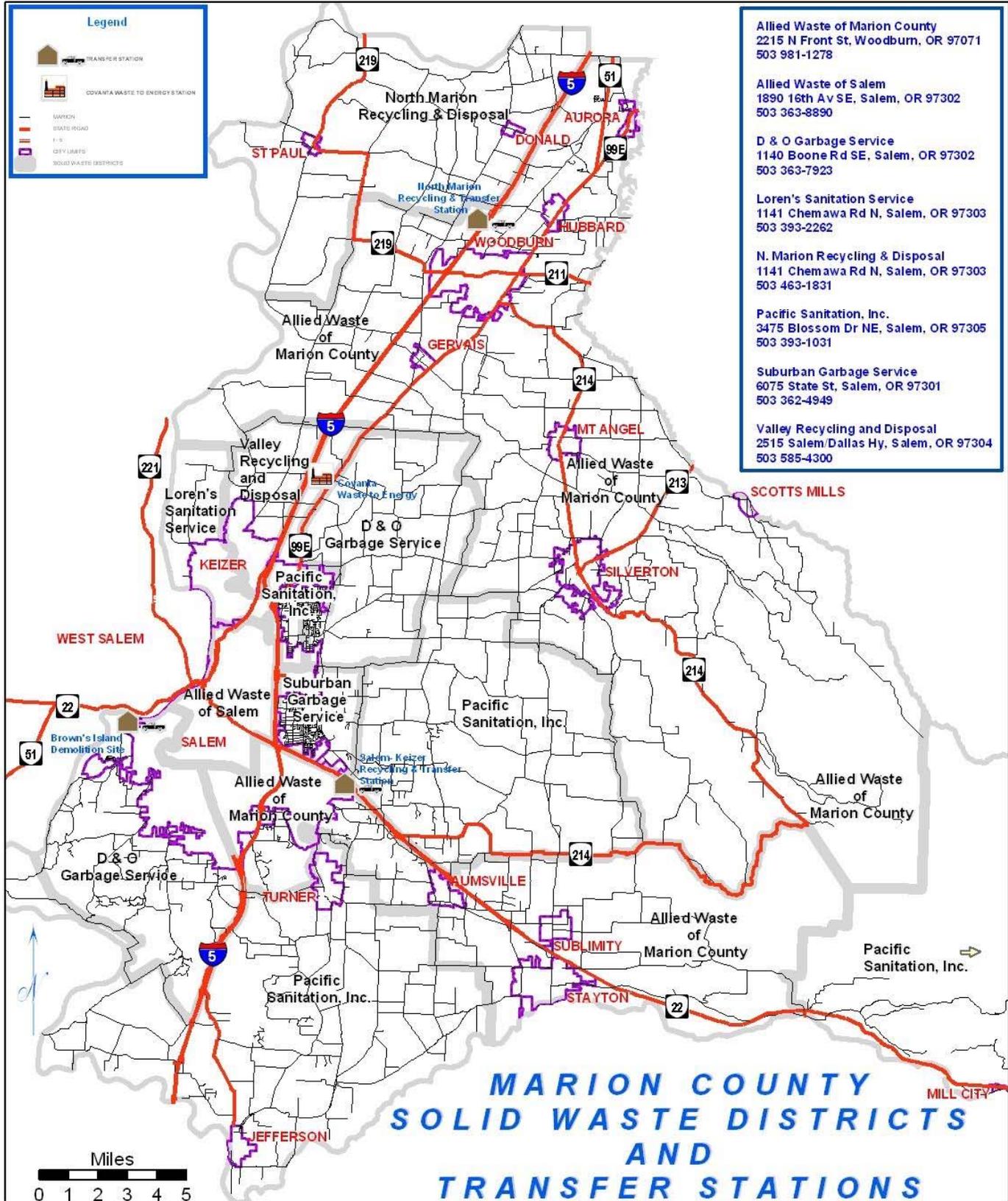
Marion County Public Works - Environmental Services offers regularly scheduled opportunities to properly and safely dispose of hazardous waste from households (free) and businesses (fee). Acceptable Materials include:

- |               |                    |                      |                  |
|---------------|--------------------|----------------------|------------------|
| ◆ Pesticides  | ◆ Solvents         | ◆ Oil-based paint    | ◆ Fuels          |
| ◆ Herbicides  | ◆ Spot remover     | ◆ Wood preservatives | ◆ Pool chemicals |
| ◆ Antifreeze  | ◆ Caustic cleaners | ◆ Rust remover       | ◆ Turpentine     |
| ◆ Weed killer | ◆ Paint thinner    | ◆ Poison             | ◆ Mercury        |

\* except some holidays

Listed below are the recycling/garbage companies in Marion County. Please contact the RECYCLE HOTLINE at 503-390-4000 to find out which hauler services your area and for general recycling questions, or contact your hauler directly (see the phone numbers below) for: billing, route information, or questions regarding scheduling for your next garbage/recycling day collection.

Not sure who your garbage/recycling hauler is? Check out the map below or go to <http://apps.co.marion.or.us/haulers/haulers.aspx> and type in a specific address.



## CHAPTER 7:

# *Green Building Resources*

For information on material disposal or alternative construction options contact:

### **Questions about this guide, garbage haulers, recycling, disposal or reuse of construction and demolition debris**

- ◆ Marion County Public Works - Environmental Services, (503) 588-5169

### **Garbage and recycling collection and processing**

- ◆ Mid-Valley Garbage & Recycling Association, (503) 390-4000

### **Hazardous waste and paint disposal information**

- ◆ Marion County Public Works - Environmental Services, ((800) 444-4244

### **Illegal dumping hotline**

- ◆ Marion County Public Works - Environmental Services, (503) 473-4333

### **Oregon Department of Environmental Quality (DEQ)**

- ◆ Asbestos abatement information, (503) 378-8240 ext. 272 (Salem)
- ◆ Lead abatement information, (503) 229-5263
- ◆ Petroleum contaminated soils, (503) 229-5263
- ◆ Underground storage tanks, (503) 229-5263
- ◆ website: [www.deq.state.or.us/programs.htm](http://www.deq.state.or.us/programs.htm)

### **Oregon Health Division**

- ◆ Oregon Lead-based Paint Information, (503) 731-4500

### **U.S. Environmental Protection Agency - Region X, Seattle**

- ◆ Toxic Substances Information Hotline, 202-554-1404
- ◆ Chlorofluorocarbons information, 206-553-1270 or call the EPA Stratospheric Ozone Information Hotline at 800-296-1996

### **Sustainable building organizations**

- ◆ US Green Building Council, (202) 828-7422, [www.usgbc.org](http://www.usgbc.org)
- ◆ NW Eco-Building Guild, (503) 222-3881, [www.ecobuilding.org](http://www.ecobuilding.org)
- ◆ Sustainable Communities Northwest, (503) 417-7999

### **Other recommended websites**

- ◆ BetterBricks: [www.betterbricks.com](http://www.betterbricks.com)
- ◆ Earth Advantage: [www.earthadvantage.com/](http://www.earthadvantage.com/)
- ◆ Environmental Building News: [www.buildinggreen.com](http://www.buildinggreen.com)
- ◆ The U.S. Green Building Council: [www.usgbc.org](http://www.usgbc.org)
- ◆ City of Portland, G-rated Program: [www.green-rated.org](http://www.green-rated.org)
- ◆ U.S. Department of Energy: [www.sustainable.doe.gov/buildings/gbintro.html](http://www.sustainable.doe.gov/buildings/gbintro.html)
- ◆ U.S. Dept. of Energy, Office of Energy Efficiency & Renewable Energy: [www.eere.energy.gov](http://www.eere.energy.gov)
- ◆ Oregon Solutions: [www.oregonsolutions.net](http://www.oregonsolutions.net)
- ◆ The Natural Step: [www.naturalstep.org](http://www.naturalstep.org)
- ◆ MW Material Smart: [www.nwmaterialsmart.org](http://www.nwmaterialsmart.org)

### **Energy Trust of Oregon incentives**

Energy Trust of Oregon offers financial incentives for energy efficient lighting, appliances, heating & cooling, solar and weatherization to residents of Portland metro area at [www.energytrust.org](http://www.energytrust.org).

Look in 'For Homes' at 'Home Energy Savings', 'Efficient Home Products', 'Solar Electric' and 'Solar Water Heating'.

### **Oregon income tax credits**

Oregon Department of Energy offers tax credits for high-efficiency appliances, water heaters, heating and cooling equipment and solar electric and hot water systems at <http://egov.oregon.gov/ENERGY>.

Look in 'Residential Energy Tax Credits'.

### **Salvage materials**

Several Salem/Portland area suppliers carry salvage materials such as flooring and fixtures, including:

- ◆ Habitat for Humanity ReStore - Salem, 503-364-6642
- ◆ Habitat for Humanity ReStore - McMinnville, 503-434-6810
- ◆ Habitat for Humanity ReStore - Corvallis, 541-752-6637
- ◆ Aurora Mills Architectural Salvage, 503-678-6083
- ◆ Environmental Building Supplies, 503-222-3881
- ◆ Endura Wood Products, 503-233-7090
- ◆ The ReBuilding Center, 503-331-1877
- ◆ Rejuvenation Inc., 503-238-1900
- ◆ Hippo Hardware, 503-231-1444
- ◆ CraftMark, 503-472-6929

### **Find contractors and vendors**

- ◆ Oregon Remodeling Association web site allows searching for members: [www.oregonremodelers.com/FindAPro.aspx](http://www.oregonremodelers.com/FindAPro.aspx)
- ◆ National Association of Home Builders: [www.nahb.org/](http://www.nahb.org/)

### **Portland's annual green home tour**

Portland Office of Sustainable Development sponsors the annual Build It Green Tour of Homes and Information Fair in September. The tour offers an opportunity to visit remodels and talk to the owner and contractor about green features. The fair brings together local businesses and organizations involved in green building.

### **Ecologically sustainable professional services**

- ◆ Northwest Ecobuilding Guild 'Green Pages', [www.ecobuilding.org](http://www.ecobuilding.org) (OR, WA)
- ◆ ReDirect Guide, [www.redirectguide.com](http://www.redirectguide.com) (Portland-Vancouver)

## CHAPTER 8: *Top Green Building Products of 2006*

### *Top Green Building Products of 2006 selected by editors of Sustainable Industries Journal*

The top ten green building products of 2006 have been selected and profiled in a new print and online supplement produced by the editors of *Sustainable Industries Journal*. The top ten products were judged by a panel of green building experts and include innovative advances in lighting, coatings, plywood, paint, concrete and alternative energy. The *2006 Top Green Building Products* supplement is available for free online at [www.sijournal.com/resources](http://www.sijournal.com/resources).

"Thanks to the wildly successful growth of green building certification over the past decade, we've entered an era where new, innovative building materials are increasingly crucial to design practice. Developers everywhere are realizing the economic advantages of green building in a market where mindless energy consumption and excessive waste are major liabilities," wrote Brian Back, Founding Editor of *Sustainable Industries Journal* in the *Top Green Building Products 2006* supplement.

**The top ten winners profiled in *Top Green Building Products 2006* are:**

- ◆ **Nanogel**, an innovative insulation product produced by **Cabot Corp.**
- ◆ **PureBond Plywood**, a formaldehyde-free plywood product from **Columbia Forest Products**
- ◆ **Recycled Metal Lighting** from lighting designer and manufacturer **Eleek**
- ◆ **Sphelar**, a spherical microsolar cell from **Kyosemi Corp.**
- ◆ **Ductal**, a high-performance concrete from **LaFarge**
- ◆ **Zero-VOC Paint** from **Miller Paint** and **Rodda Paint**
- ◆ **Polyx-Oil**, a plant-based wood finish from **OSMO**
- ◆ **Uppercut Dual-Flush Flushometer**, a dual-flush toilet from **Sloan Valve Co.**
- ◆ **Furniture from Salvaged Wood** manufactured by **Tropical Salvage**
- ◆ **Geothermal Heating System** from **WaterFurnace**

*Sustainable Industries Journal* is the leading source of sustainable business news on the West Coast and beyond and is published by Portland, Ore.-based Celilo Group Media.

#### About Celilo Group Media

Celilo Group Media, Inc. is a media company with offices in Portland, Seattle and St. Paul, Minn. With a mission of expanding markets for sustainable products, the company publishes the business magazine *Sustainable Industries Journal*, the healthy lifestyle coupon books *Chinook Book* and *Blue Sky Guide* and the clean energy news service [nwcurent.com](http://nwcurent.com). For more information visit [www.sijournal.com](http://www.sijournal.com) and [www.celilo.net](http://www.celilo.net).

For more information on  
waste reduction and recycling contact:

RECYCLING HOTLINE

503-390-4000

(TOLL FREE outside the Salem calling area)

1-877-390-4001

[www.mrtrashrecycles.com](http://www.mrtrashrecycles.com)

Or contact:

Marion County Department of Public Works

Environmental Services

5155 Silverton Rd. NE

Salem, OR 97305

503-588-5169

<http://publicworks.co.marion.or.us/es/>



O R E G O N



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