



DECONSTRUCTION AND MATERIALS REUSE FREQUENTLY ASKED QUESTIONS (FAQ's)

DECONSTRUCTION

1 What is deconstruction?

Deconstruction is the process of taking a building apart one piece at a time with the goal of reusing as much salvaged material as possible. It is a manual process, as opposed to demolition, which is done with a wrecking ball and bulldozer.

2 Why deconstruct instead of demolish?

- You will save the building materials from a landfill. Building demolitions account for 48% of the nation's waste stream. Deconstructing a building and salvaging the materials diverts them from this tremendous waste stream.
- You will save energy and greenhouse gases. It takes a lot of energy to make a building from raw materials. Bricks are baked. Lumber is felled and milled. Copper is mined, processed, and manufactured into wire, pipes, and gutters. PVC, or vinyl, is made through energy-intensive (and highly polluting) processes into flooring, siding, and plumbing. Finally, all of these things are transported hundreds if not thousands of miles.
- All of the energy that went into these materials is referred to as "embodied energy." By sending these materials to be reused, you are saving much of the embodied energy of those materials and preventing the expense of that much more energy in mining, harvesting, extracting, manufacturing, and transporting new materials.
- You will contribute to the green economy.
- In hiring a deconstruction crew, you're providing local jobs in the emerging green-collar job sector. Case in point: Rebuilding Exchange has a program teaching deconstruction



skills to people with barriers to workforce entry.

- You may incur a tax benefit or earn some cold cash. If you donate the materials to an organization like Rebuilding Exchange, you can write off the appraised value of your donated materials on your tax return. A certified appraiser can help you determine just how much your materials are worth.

Also, you can always sell them for cash. There is a growing market not only for architectural artifacts (i.e., fireplace mantels) but also for used building materials (i.e., lumber and bricks). See the “materials” section of your local Craigslist site for ideas.

3 Do I need a permit to do deconstruction?

Yes. In the city of Chicago and surrounding suburbs, you need a standard demolition permit to deconstruct a building. Your deconstruction contractor will work together with a licensed demolition contractor. A demolition permit is generally easier to get than a building permit, although in some suburbs you must get the building permit first.

Chicago does not yet recognize deconstruction with a separate permit; only a few communities around the country do. If you live in a Cook County suburb, you must get a county permit in addition to your village permit.

4 Does deconstruction take longer than demolition?

Usually, yes. However, the time it takes to deconstruct a house varies widely, depending on the methods used, the size and type of construction and the site conditions. A city house on a dense block with little room for a staging area will doubtless require more care and thus more time than a rural house with plenty of elbow room.

In fact, the deconstruction of a 2000 square-foot frame house could take anywhere from one day to 9 weeks. While 9 weeks may sound like a long time, keep in mind that this work can be done while you wait on building permits or other administrative processes.



5 All that manual labor sounds expensive. Does deconstruction cost more than demolition?

Yes and no. The initial cost of the work itself is most often higher. However, in donating the salvaged material, you can write off the appraised value of those materials. This can amount to a substantial tax deduction, which can offset or even exceed the cost of the deconstruction. If you sell your materials directly, you can offset your costs even sooner.

6 How do I know what the materials in my home are worth?

Generally speaking, the deconstruction contractor will connect you with a certified materials appraiser, who will come in and give you a complimentary appraisal of the salvage value of your home.

Once you have decided to go ahead with the job, the contractor will do an inventory of all salvageable materials—from the built-in cabinets to the chandeliers to the lumber and copper pipes. After the deconstruction is done, he or she will turn the inventory over to the appraiser, who will assess the total value of the listed materials according to industry standards. This is the figure you will record as a donation on your tax return.

7 What happens to the materials after deconstruction?

Your contractor will deliver them to a nonprofit, such as Rebuilding Exchange, which will then take on the job of putting them back into circulation, thus completing the reuse cycle.

8 As a homeowner, can I do the deconstruction myself?

Small deconstruction projects that don't involve any structural dismantling can certainly be done by savvy do-it-yourselfers observing regular safety precautions. Ripping out kitchen cabinets, doors, and windows is a reasonable thing to take on yourself, and Rebuilding Exchange gladly welcomes the donations of these materials.

If you are tearing down an entire building, or even any load-bearing walls, you should hire a licensed deconstruction contractor, who has the expertise to do it safely. If the structure is



particularly complicated, it's best to involve an architect or engineer.

9 Should I be worried about unearthing toxic materials in my home?

By law, the remediation of toxic materials such as lead paint, mold, or asbestos must always be handled by a licensed remediation contractor. The evaluation of these risks is a normal part of any deconstruction plan; your deconstruction contractor might subcontract out the remediation or you might hire someone directly to do the remediation.

10 Can I donate stuff even if I am not deconstructing my entire house?

Yes! Rebuilding Exchange encourages and welcomes the donations of single items (e.g., sinks, doors, light fixtures) or small loads (e.g., everything salvaged from a kitchen remodel).

11 What kinds of materials will the RX accept?

Most donations fall into these categories:

- appliances
- architectural elements (such as fireplaces, columns, cornices, gargoyles)
- plumbing fixtures (bathtubs, sinks, toilets)
- cabinets (built-in or freestanding)
- doors (interior and exterior)
- hardware (doorknobs, hinges, cabinet pulls)
- lighting (chandeliers, sconces, ceiling fans)
- lumber (two-by-fours, flooring, beams)
- specialty (e.g., odd and overstock lots of adhesive, tile, wood stoves)
- windows (sash, casement, old, newer)

12 What will the RX NOT accept?

Rebuilding Exchange cannot accept items with water damage or peeling paint. All items must be in safe usable condition.

Also, RX cannot accept

- materials containing asbestos; other toxic or flammable products; batteries; paint;



chemicals of any kind; or containers that once held chemicals

- fluorescent light bulbs & fixtures (unless the ballast is marked “No PCB’s”)
- smoke detectors
- baseboard heaters
- vinyl floor tiles or siding
- carpeting

Due to the overwhelming supply and limited warehouse space, the RX may also limit its acceptance of old sash windows to maintain room for newer, more usable windows.

See a complete list of materials RX does and does not accept on Rebuilding Exchange’s website.

13 Why use salvaged materials? There are many compelling reasons to reuse building materials. To name a few:

- Salvaged materials typically less expensive than new. The majority of Rebuilding Exchange’s customers are on a budget.
- They are beautiful and well-made. When most of Chicago’s superior housing stock was built, materials and labor were a lot cheaper than they are now, and craftsmanship more highly valued. To make such high-quality items today is frequently cost prohibitive, yet we have a wealth of them right under our noses.
- You will save them from a landfill. As mentioned above, building demolitions account for 48% of the U.S. waste stream. By reusing materials you divert them from a landfill and lengthen their useful lives.
- You will save the energy, materials, and pollution involved in manufacturing new materials. According to the U.S. Geological Survey, new construction consumes 60% of all materials used in this economy every year, excluding food and fuel. The manufacture of these materials consumes vast amounts of energy and natural resources. These industrial processes generate their own waste, much of it unsavory.
- It’s fun. Material reuse involves problem-solving. The imagination required can lead you down creative paths you would never have followed if you didn’t have to.



14 Can I use old materials in absolutely any building project?

There are a variety of factors to consider when deciding whether to use salvaged materials:

- **Cost** -- The materials themselves will generally cost less than buying the same materials new. For example, salvaged lumber at Rebuilding Exchange goes for $\frac{3}{4}$ of what it sells for at Menard's. You can get a salvaged 24"x36" vinyl window for \$10, easily a tenth of what it would cost you new. It's also true that some salvaged materials will cost more than new ones, especially unusual vintage or antique items.
- **Uniqueness** -- You will find things at a salvage shop that you would never find at a big box store, such as old-growth lumber, vintage fixtures, and elegant custom-built cabinetry. This uniqueness presents both the greatest advantage and the greatest challenge to working with salvaged materials. These things are often beautiful, well-built, and stylish, but they may not come in standard measurements and might require repairs, refinishing, or special fitting.
- **Labor** -- To the last point, you and/or your contractor might spend some extra time getting these materials to fit or work the way you want them to. And, by the way, no project is too small! Do not be scared off by all this talk of contractors and budgets. You can use salvaged materials to build furniture, light fixtures, or even picture frames. Creative reuse knows no bounds.

15 Can I mix old materials with new?

You sure can. With a little spit and polish, some materials will blend in perfectly with your contemporary kitchen or bathroom. Others, especially vintage fixtures or architectural elements, will stand out; in these cases, consider highlighting the contrast. Make a virtue out of necessity! No feet for your clawfoot tub? Set it on cedar blocks. Not enough metal cabinets to fill your kitchen wall? Hang some wire shelving in between. They call it creative reuse for a reason. You will need to pay special attention to measurements. When shopping for salvaged materials, always BRING A TAPE MEASURE. Also keep in mind that many standard measurements have changed over the last hundred years. See the note on lumber below.



16 When will it NOT work to reuse materials?

Sometimes you simply won't be able to find salvaged materials that fit your project, or you won't have the time to make the necessary adjustments. Some used materials are just plain unsafe or unsanitary: beware of peeling lead paint, frayed wiring, and broken plumbing fittings, especially on gas appliances.

17 Will my contractor be willing to work with old materials? How do I get him (her) to buy into the project?

If you are planning to reuse materials, discuss it with any contractor you consider hiring; make sure he or she writes it into the bid. It always helps to work with a contractor who has experience with materials reuse. Perhaps even more importantly, you will want to hire someone who is creative and generally enthusiastic about tackling special projects. Reusing materials takes patience, skill, and problem-solving ability. Consider asking questions like these:

- Have you worked with salvaged materials before? Tell me about those projects.
- If I'm planning to work with salvaged (floorboards, plumbing fixtures, cabinetry, etc.), how will that affect the scope of the job?
- How will this affect my budget?

18 Are there contractors who specialize in working with salvaged materials?

Sure. Any contractor who's done a lot of work on older homes will have a leg up on those who have worked exclusively in new construction. A good place to start looking for these contractors is by asking for referrals from other people who have done creative reuse projects.

19 Will I incur extra labor costs that will overwhelm the savings in material costs?

Maybe; it depends on the job. As with any building project, advance research and planning will go a long way toward eliminating surprise costs, such as a wasted trip for an ill-fitting toilet, or the time it takes to rip out mismatched two-by-fours.



20 What do I need to know about working with old lumber?

Several things:

- Sizing -- Where a two-by-four used to really measure 2 inches by four inches, today's dimensional lumber is smaller. So be careful: if you are framing a wall with a mix of old and new two-by-fours, your wall will not have a uniform thickness. If you are renovating an old house, however, old lumber can be a boon—people demolishing rooms in old homes often save the original lumber because they know it will be the same size and the lumber in the rest of the house. If you're mixing with newer materials, however, you might have to make some adjustments.
- Hardness and density -- Today's lumber is generally harvested from younger trees; most of the really old trees have been cut down already and what remains is often protected for ecological reasons. Old-growth lumber is quite a bit harder than newer lumber, both because of its denser grain and the fact that it's had so many years to dry out. There are advantages and disadvantages to this:

Pros:

- Old boards might be stronger and straighter than new boards.
- The dense grain of older wood enhances its character. Fine woodworkers drool over this stuff.

Cons:

- It's a lot harder to drive a nail into old-growth wood.
- Old wood will not bend quite as easily and might be prone to splitting.
- Color -- In addition to the difference in grain, old wood is generally darker than new wood. This difference in color may even out with time, especially when new wood is exposed to heavy sunlight, but this process will be somewhat unpredictable. You can always stain new wood to match old, but know that every wood accepts stain differently, so it'll take some trial and error to get the color you want.
- Nails -- Salvaged lumber often comes with salvaged nails, which can be hazardous, not only to your hands and feet, but to your saw blade. Even when you are working with lumber that has been de-nailed, it's a good idea to double-check for stray nails using a metal stud sensor.



21 Is it safe to use old light fixtures?

It is always a good idea to rewire old light fixtures. You should never use a fixture with old cloth-covered wires; the cloth covering is often frayed by now and poses a fire hazard. Even newer fixtures deserve caution—every time they are installed or pulled out, the wire coating is prone to cracking or being otherwise compromised. And while the ends of the wires may look clean, you don't know what may have happened to the wiring in the guts of the fixture. Work with an electrician on the rewiring or installation of salvaged fixtures.

22 Do old plumbing fixtures work just as well as new?

Most plumbing fixtures have very few moving parts, so they're pretty likely to work properly. However, you'll want to make sure that they fit. This is another case where careful early measurement can save you a lot of labor, travel time, and heartache.

Measure your bathroom or kitchen for the existing rough-in (the waste hole for a toilet) and any plumbing holes in the wall and then check the corresponding dimensions of the salvaged fixture.

Replacing a small toilet that's next to a doorway? Measure the arc of the door swing and make sure that the new toilet will still allow you to close the door! Replacing the faucet or other moving parts? Measure the faucet holes and pipes and make sure you will be able to match them with available parts.

Also, examine fixtures for cracks and corrosion, but don't dismiss an old tub or cast-iron sink just because the finish is cracked or discolored; you can have it refinished. Depending on your tastes and your budget, the cost of refinishing may be well worth the rescue of a really special fixture.

Low-flow vs. high-flow toilets

One disadvantage of older toilets is that they use more water than newer models. Toilets made since 1995 cannot use more than 1.6 gallons per flush, while standard models use more than twice that—some vintage beauties might use as much as 5 or 7 gallons per flush.



You can, however, buy a dual-flush retrofit kit for the tank of an old toilet, starting at about \$50 or \$60.

23 Is it sanitary to use an old toilet or bathtub?

The Chicago Plumbing Code stipulates that used fixtures must be “structurally sound and free from cracks or other defects” and must be “thoroughly washed and disinfected in a solution approved by the Board of Health.” They must also conform to the same code specifications as any new sink, toilet, bathtub, etc. and are subject to inspection and approval of the plumbing inspector. It is not permitted to install used pipe or fittings in a potable water system.

Rebuilding Exchange cleans all plumbing fixtures with a hospital-grade sanitizer.

However, it’s a good idea to clean it again yourself before installing it. As a matter of fact, RX recommends cleaning all salvaged materials before bringing them into your home. Even in the best of circumstances, deconstruction zones can be full of toxic materials, from lead paint to mold to asbestos. Dust is an incredibly effective vehicle for carrying all manner of dangerous materials straight to your skin or lungs. Just as you would wash a sweater you bought at a resale shop, you should carefully wash down all salvaged building materials.

24 Is it a good idea to use old appliances?

A used dishwasher, washing machine, or dryer generally costs a fraction of what you would pay for them new, and by using them, you are not only keeping them out of the waste stream but also saving the energy, materials, and pollution that would be involved in manufacturing and transporting a new one.

Of course, you won’t get a warranty for these items, and you do have to assume the risk that it may break down sooner than a new one would. Rebuilding Exchange will accept returns of any non-working appliances within seven days, but it’s safest to have your contractor inspect any appliance before you bring it home. Also, you’ll want to have any used appliance professionally installed. The RX does sell used furnaces, but only to licensed contractors.

**Rebuilding Exchange will not be held liable for any malfunction or injury caused by the gas and



electrical related appliances you have purchased.**

25 How can I pick the best salvaged doors and windows for my project?

Again: measure, measure, measure. If you are building new, you're at an advantage here, since you can frame your doorways or window holes to fit whatever doors or windows you buy. If you are replacing old windows or doors, it is possible to reframe existing window holes or doorways. The extra labor may be offset by the cost savings—new windows and doors can be very expensive—or the beauty of a magnificent old oak door.

In general, it's probably easier to reuse doors than windows, for several reasons:

- Doors come in fewer, more standard sizes.
- Doors have fewer moving parts and are less likely to stop working.
- Older windows are so much draftier than newer ones that it hardly makes sense to install them.

Keep in mind that lock and doorknob styles have changed in the last 100 years, so you may have to retrofit old exterior doors with modern locks. When using salvaged windows and doors, be wary of peeling paint. If the item was painted before 1978, that paint has lead, which can easily become airborne and inhaled and is a serious health risk. It can also be a sign of rotting wood underneath. For these reasons, Rebuilding Exchange does not accept doors or windows with peeling paint.

- Thank you to Rebuilding Exchange customer [Angela Bowman](#) for developing these FAQ's -

