



Reuse Tips for Builders & Remodelers



An Introduction to Deconstruction

Deconstruction is the practice of removing materials, taking down parts of buildings, or an entire structure to recover and reuse the components in new construction. Reclaimed materials can also be sold or donated to a building reuse outlet.

Benefits

- Reuse saves on disposal costs and may provide tax benefits or even revenues through the sale of salvaged items.
- Incorporating salvaging into demolition is relatively easy and often more cost-effective than demolition alone; depending on the building and the salvageable materials.
- Deconstruction is becoming increasingly desired as a factor in obtaining LEED credits.

The Challenges

- Timing deconstruction and salvage removal with demolition and remodeling.
- Tight jobsite footprint for storing salvaged items.



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Getting Started

In deconstruction, items to be reused are carefully removed to preserve them for future use. Soft-stripping of reusable materials focusses on dismantling non-structural building components before demolition or remodeling work. Reusable items include doors, windows, cabinets, finish or trim material, hardwood and possibly tile flooring, hardware, plumbing or electrical fixtures, and/or equipment (such as, appliances and HVAC equipment).

Structural deconstruction involves dismantling the structural components of a building. This can include beams, rafters, floor joists, wall framing members, and individual building assemblies. Complete structural disassembly or deconstruction is most cost effective when the majority of components and materials have potential for reuse or resale. This involves significant pre-planning, including developing a thorough inventory of the entire structure, investigation of reuse (and recycling) outlets for materials, and securing sufficient storage space for the salvaged materials.

Soft stripping and deconstruction, especially whole-building deconstruction, requires an appropriate level of expertise and strict adherence to safety. It is important that a safety plan be in place and that deconstruction experts and resources be consulted as necessary.¹

The Internet has numerous resources available on deconstruction. Reuse nonprofit organizations often have deconstruction crews on staff. Professional deconstruction crews can also be hired. Deconstruction crews can dismantle an entire structure or just one room. To find salvage professionals, see the [BMRA Directory](#)

¹ The Deconstruction Institute's [A Guide to Deconstruction](http://www.deconstructioninstitute.com/files/learn_center/45762865_guidebook.pdf) (http://www.deconstructioninstitute.com/files/learn_center/45762865_guidebook.pdf) provides an excellent overview of safety procedures. There are numerous other resources available on the Internet as well.

(<http://www.bmra.org/>) or conduct an Internet search. An interested contractor will conduct an on-site assessment and submit a bid.

Salvageable Materials List - Start by conducting a walk-through to inventory materials in the building. This can be done with a deconstruction crew if one is brought in. Consider potential onsite uses and resale or donation options when inventorying reusable items. If remodeling is the goal, consider options for repairing or reusing items in place, such as gypsum wallboard. Identify items that can be removed with little damage, such as those attached with mechanical fasteners instead of glue. Items with unique or antique features are desired, as are materials or items that are fairly new and in good condition to be easily reused.

Outlets for Salvaged Items

- Work with the client/property owner to ascertain if they have plans for the items to be salvaged. If they do not want to be involved, seek disposition rights for your company.
- Reuse the items onsite.
- Give away items to family, workers, or neighborhood residents.
- Sell the items. Some questions to first answer are:
 - Who will be responsible for the sales?
 - Who retains the revenue?
 - How will items be sold? (e.g., onsite sales, Craigslist, retail outlets, etc.)
- Donate to a reuse organization or a nonprofit organization. Tax deductions may be available.

Plan Ahead!

- Discuss the reuse plans with crew members.
- Workers will often remove items for their own use typically destined for disposal. To make a comprehensive salvage or deconstruction effort cost effective, it will be important to prohibit—and enforcing—workers from removing items for themselves.
- If this is a first deconstruction effort by your company, start small. Make a plan to deconstruct just a few of the most valuable items or limit the area of the building being affected.
- Get prior approval from clients/building owners on ownership details of all salvaged items.
- Work with the clients to donate unwanted appliances, cabinets, and other furnishings.

Be sure to seek input from project team members. Also consult with contractors (plumbers, floor installers, etc.) to identify cost-effective ways to deconstruct desired materials. They will have insight into the process and may be willing to work with you to salvage items.

The project contract should specify the intended end-use of salvaged building components, as well as ownership of the deconstructed materials and related revenues.

Contact Potential Reuse Outlets - Outlets for reusable materials include:

- Used building materials retailers
- Nonprofit reuse stores, (e.g., Habitat for Humanity Restores)
- Classified ads (e.g., Craigslist, local shopper ads)
- Salvage companies.

Building material retailers and nonprofit reuse stores depend on supplies of construction-related products, fixtures, supplies, and material from contractors. Items may be salvaged or surplus materials leftover from a job. Items to be sold or donated must be reusable and functional without repair. They need to be structurally sound and intact, and should be cosmetically appealing.

Call ahead! Reuse organizations and businesses may be limited in what they accept. If items are to be taken to a reuse store, be prepared to take pictures of the items prior to deconstruction to confirm that the store will accept the items. It may be advisable to ask them for specific removal tips. Careful scheduling and communication with the reuse outlet is required to ensure adequate time for disassembly, whether conducting soft-stripping or whole building deconstruction.

Engineering Survey & Deconstruction Process Plan

Complete a building engineering survey and a deconstruction Process Plan that outlines any hazards determined during the inspection (may be required by OSHA before work begins, depending on the extent of deconstruction).² It is important that the survey identify the building's structural components and how these will be removed to avoid structural collapse. Both the survey and plan may need to be updated during the project.

The Process Plan includes:

- Deconstruction schedule
- Required tasks
- Labor and responsibilities
- Sub-contractors
- Methods for removal
- Tools and equipment to be used
- Training and safety.

Removal of Items

- Careful removal of usable items so that they remain unbroken is necessary for them to retain their value.
- Clearly mark all items to be reused.
- Provide instructions to the salvage crew on how to safely remove items.
- Determine a location to temporarily (and securely) store the salvaged items. Or, if possible, move items directly to a truck/trailer that can be used to take materials to a reuse outlet, if not being used onsite.
- Keep the storage area neat and safe. It must also be dry.
- If items are going to different destinations (e.g., reuse store, Craig's List, etc.) stack them separately.
- Let the deconstruction crew (and the job crew) know where the items are to be stored.
- Cross-check the Salvageable Materials List with all materials removed from the structure.

Make a Removal Plan - If possible, avoid handling items more than necessary: Step 1: Remove items from building; Step 2: Clean, de-nail, and trim items at the same time; Step 3: place items on truck for transport to offsite sales or in secure storage for onsite sale or reuse; Step 4: remove for reuse on site or transport to reuse outlet.

Be sure to have the right tools and equipment for the job—small and large pry bars for removing items such as cabinetry and molding that are nailed down; utility knife to separate materials painted (and stuck) together. If removing flooring, paneling, lumber and similar items, be prepared to bundle these together to make moving and storage easier.

Once a reuse outlet has verified it will accept the items, schedule a pickup date that works within your deconstruction/demolition timeline (when the items will be removed) and works for their schedule. Confirm the date just prior to removing the items and review the process for obtaining monetary compensation for the item or a tax deduction.

Questions for Reuse Outlets

- *What materials will they accept?*
- *Do they offer salvaging services? Is there a fee?*
- *Will they do a site survey?*
- *Do they provide pickup services?*
- *What is the lead time for pickup service?*
- *Will they pay for certain items?*
- *Do they give tax deduction receipts for donated items?*

² Deconstruction is considered demolition. [OSHA \(http://www.osha.gov/\)](http://www.osha.gov/) CFR 29 Part 1926