

# Building Removal Assessment Tool

All residential and commercial structures have potential to divert material through salvage and recycling to varying degrees. This tool allows a Project Manager to conduct a quick initial evaluation of a building slated for removal in order to determine the best course(s) of action to remove the structure while diverting the greatest amount of materials of value from the project. In addition to the environmental benefits from diverting materials from the waste stream, potential project benefits include added tax incentives, reduced disposal costs, and contribution to green building rating system goals.

Different routes of diversion to consider include: Relocation of the Structure, Deconstruction and Salvage. Deconstruction can be broken down further by Hand Deconstruction and Hybrid Deconstruction. Salvage is the process of strategically extracting materials of value. Which diversion route selected is based on the balance of potential material salvage value and cost of extraction.

## **Hazardous Material Survey:**

A required first step for all diversion routes is to complete a Hazardous Material Survey, either independently or combined with a deconstruction and/or salvage assessment by a qualified specialist. Hazardous Material Surveys are required for all diversion routes, and may identify hidden additional costs not included in a general structure relocation, deconstruction, or salvage assessment.

## **Building Relocation:**

If a building is in a condition and location that allows moving the building as a whole system, it may be the most cost effective and sustainable option. The decision to move a building is based on a reason to save it and the cost to do it.

### **Initial Building Relocation Assessment**

Review the following considerations below for an early understanding of considerations that will be evaluated during a professional building relocation assessment. The bottom line is that because every building and scenario is different, the best way to determine feasibility is to call a building moving company. Moving costs are usually paid by the purchaser of the building and a building moving company will be able to inform you of the chances that someone will be interested in purchasing the building for what it would cost to move it off the site.

- Is there a good reason to not keep the building intact? (poor condition, poor quality, etc.)
- Size: This is the biggest factor in the complexity and cost of a move. Considerations:
  - Height determination: fees to utility to raise or drop wires (can be expensive)
  - Standard buildings will be raised four feet and need to have a traveling height of no more than 18 feet to clear wires.
- Construction Type: Consider support issues for stabilizing the structure during the move. For example - houses with slab foundations are very difficult to move.

- The Move:
  - Obstacles: road width, hills, overpasses, bridges to cross
  - Distance: cost and regulations
    - only allowed to travel five miles on WA State highways
    - no travel allowed on any interstate in WA
  - Mode of transportation: water (barge), land
- General Info:
  - Deal breakers: very few deal breakers to execute a move, expenses are generally the most common reason to consider alternatives
  - Other expenses to consider: utility dis/reconnections, new foundation
  - Permits: only construction permits for Owner, moving permits taking care of by Mover

### **Building Relocation Checklist**

The following are the overarching steps Project Managers will take for Building Relocation projects:

- 1<sup>st</sup> step – Determine if there is a basic reason why the building should not be moved (condition, quality).
- 2<sup>nd</sup> step – Collect more detailed information for evaluation of a move (see above).
- 3<sup>rd</sup> step – Contact building relocation company for a professional assessment.

### **Deconstruction:**

Deconstruction is the systematic dismantling of part or all of a building. Taking this approach results in much greater diversion of materials for reuse and recycling. In addition to significantly reducing waste, if you donate the salvaged materials to a non-profit, your tax deduction could potentially offset the cost of removing the building.

#### **Initial Deconstruction Assessment**

This initial assessment can help determine which deconstruction type will be the best fit for your project.

- Hand Deconstruction: Best for projects in good overall condition, with rich material value, and materials that are difficult to access.
- Hybrid Deconstruction: Best for projects and materials in rich to poor condition, where materials have poor to good access. Often used for projects with structural components of value regardless of the value of the surface materials.
- Salvage: Best for projects in poor condition, where non-structural materials have good value with moderate to good access.
- Best Practices:
  - Consult a Deconstruction Professional to determine the best route for recovering the materials of value from the project
  - Understand what materials are sought for reuse and recycling

## Deconstruction Checklist

The following are the overarching steps Project Managers will take for initial evaluation of deconstruction projects:

- 1<sup>st</sup> step – Get asbestos and lead surveys done as part of a Hazardous Materials Assessment.
- 2<sup>nd</sup> step – Evaluate site access: Is it possible to get a tracked machine or roll-off cans close to the structure?
  - If yes, continue with this checklist.
  - If not, then hand deconstruction may be the only option.
- 3<sup>rd</sup> step – Assess building's overall condition:
  - Has the building been vacant over two years? Look for excessive mold, pests, transients, roof damage and water damage – these compromise material value.
  - Was the building recently lived in and or kept in good condition? Look for projects that are rich in material finishes or rich in structural components – both are good.
- 4<sup>th</sup> step – Assess value of potential salvage material – This information will be collected during a professional deconstruction assessment, and can be a simple list with the condition and type of doors, windows, cabinetry, lighting, flooring, siding, fixtures, HVAC, appliances, stone/brick/pavers and hardware.
  - Was the building built prior to the late-70's (asbestos and lead may be a concern)?
  - Is the building full of garbage, rodent infested, or have major mold blooms?
  - Does the building have plaster, drywall, or paneling?
  - Insulation type: batts, rigid, blown-in or sprayed?
  - Does the building have any large dimensional lumber?
  - Look in an unfinished closet or garage, are the walls plywood or pressboard?
  - Is the building in a geologically sensitive area or have limited access by heavy machinery?
  - Are the interior doors hollow or solid?
  - Are there any hardwood floors? What condition? Are the pieces long or short?
  - Are the cabinets solid wood? Do they have backs on them? Are they in good condition?
  - Are there any furnishing, cabinets, shelves, etc. which are in good condition?
  - Are the windows insulated aluminum, wood, vinyl or clad?
  - Are the fixtures and lighting of marketable quality?
  - Is the roof metal, wood or asphalt?
  - Is the siding metal, wood?

## **Salvage (and Recycling):**

Salvage is the process of strategically removing materials of value from a structure. Buildings of poor quality or condition may still contain materials of value which should be salvaged whenever possible. This is best used on jobs where time for removal is limited or the quality of material is so low that deconstruction is not cost effective.

Once the materials of value have been removed, every effort should be made to recycle the remaining materials. A large percentage of non-salvageable building materials can be diverted from a landfill and processed back into raw material streams. Through waste diversion, a project can aid in the continued development of the recycled material industry. For more information and guidance on waste diversion and minimization practices, see King County's C&D Recycling program.

## **Resources:**

### **Building Relocation Companies**

House To Home  
(provides house move consulting services in partnership with Nickel Brothers)  
jeffmccord@housetohome.org

DB Davis  
425-357-9989  
www.dbdavisllc.com  
dbdavishousemoving@comcast.net

Nickel Brothers  
206-347-0570  
Washington@nickelbrosusa.com  
www.nickelbros.com

### **Salvage and Deconstruction Companies**

Dedicated Deconstruction LLC  
(also provides hazardous materials assessments)  
206-853-7451  
www.dedicateddeconstruction.com

Second Use Building Materials  
206-763-6929  
www.seconduse.com

RE-USE Consulting  
360-201-6977  
www.reuseconsulting.com

Ballard Reuse  
206-832-9818  
www.re-store.org

Earthwise, Inc.  
206-624-4510  
www.earthwise-salvage.com

Rhine Demolition  
800-963-8270  
www.rhinedemolition.com

### **King County Contact**

Kinley Deller  
C&D Recycling and Deconstruction Specialist  
King County GreenTools  
206-477-5272  
Kinley.Deller@kingcounty.gov

## Web Resources:

- [www.nbsnonline.org](http://www.nbsnonline.org): Northwest Building Salvage Network
- For information on deconstruction, including county resources on specifications, building material exchange and database, case studies, and contact information for recyclers, salvage, and deconstruction companies: [your.kingcounty.gov/solidwaste/greenbuilding/deconstruction-salvage.asp](http://your.kingcounty.gov/solidwaste/greenbuilding/deconstruction-salvage.asp)
- King County's Construction & Demolition Recycling website – Providing information on waste diversion facilities, waste management planning, waste minimization practices, and salvage and deconstruction: [your.kingcounty.gov/solidwaste/greenbuilding/construction-demolition.asp](http://your.kingcounty.gov/solidwaste/greenbuilding/construction-demolition.asp)
- Industrial Materials Exchange (IMEX) – A paper-electronic exchange for all reusable industrial materials: <http://www.govlink.org/hazwaste/business/imex>
- Building Materials Reuse Association – providing education and member listings:  
[www.bmra.org](http://www.bmra.org)