

Deconstruction Case Study

Dismantling the past for a more valuable future.

South King County Wastewater Treatment Plant Administration Building

This project diverted over one ton of C&D material from a landfill, including over one ton of materials that were salvaged for reuse.



“Overall, I think the salvage was good and something I would like to see happen on all King County projects.”

*Jacquelynn Roswell,
Project Manager,
King County Wastewater
Treatment Division*

About the project

Project Background

- The building which was taken down was a ~9,000 square foot steel framed office building with brick façade that had been constructed in 1967.
- Materials were salvaged from the building prior to demolition.
- The demolition phase lasted about two weeks and proceeded systematically so that materials could be sorted for recycling as they were removed from the building.
- A new 22,000 square foot building is being constructed on the site of old building.

Resources Saved

- Landscaping plants were removed and staged for later reuse on the site.
- A salvage company salvaged over 1200 lbs of materials including skylights, cabinets, counters, a vent hood, metal railing, cabinet doors, and miscellaneous small stuff.
- The King County Wastewater Division (whose office occupied the old building and will occupy the new building) salvaged over two tons of materials for reuse in the new building.
- Cabinet doors were acquired by a local non-profit company who will be utilizing them as room dividers or drop-down ceilings in the new technology/community center they are constructing.
- 1487 tons of concrete, asphalt, and metals were recycled (avoiding \$130,261 in disposal fees—calculated at C&D Facility gate rate of \$87.60/ton).

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Challenges

- Over 110 tons of materials (including roof ballast rock) were originally identified as potentially salvageable but a number of factors prevented the removal of much of this material. The primary reason that more materials were not salvaged boiled down to an issue of the cost to remove the material vs. the value of the material.
- The metal acoustic ceiling panels in the building were slated to be salvaged for a specific project that was going to use them for creating room divider walls. It was found, however, that these walls were required to meet fire rating codes and the ceiling panels could not meet the necessary specs.
- In the lab area, cabinet drawers and cupboards were all marked in permanent marker with an “x” (evidently to keep track of when cabinets were emptied). The cabinet cupboard doors were salvaged for reuse in a number of applications but the labor time required to remove the “x”s made them considerably less desirable as a reused material.
- Some materials originally slated for salvage were found to have asbestos (ex. sinks in the laboratory area) and so were not salvaged.

Pre-Contract Steps Taken

- Bid specifications required diversion through salvage, reuse and/or recycling of at least 75% of all construction and demolition materials generated.
- Salvage and deconstruction assessments were conducted by the county’s deconstruction specialist and the company the county has under contract to provide salvage services.
- Salvage and deconstruction was discussed at both the pre-bid meeting and the pre-construction meeting.
- A list of items slated to be removed for salvage was included in the bid documents provided to contractors.

Lessons Learned & Recommendations

- The cost and logistical hurdles of salvaging some available materials still doesn’t pencil out. More work needs to be done on developing cost effective systems for removing some materials (like roof rock and bricks) and better reuse markets need to be developed (like for office doors).
- It would be nice if there were a broader range of salvage markets or salvage companies that allow for a greater number of materials to be salvaged.
- Coordination could have been improved to make sure demolition contractor was aware of the free assistance available from the King County deconstruction/salvage program for technical assistance on the most cost effective means of harvesting brick for reuse and for finding higher dollar end markets for materials.

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This material will be provided in alternate formats upon request.



King County

Department of
Natural Resources and Parks
Solid Waste Division

The King County Construction Works web site also provides helpful information:

<http://www.metrokc.gov/dnrp/swd/construction-recycling/constructionworks.asp>