



# Lessons Learned in Building Material Reuse and Recycling in Cleveland

## ***Sustainability Pilot Background***

EPA's Brownfields Sustainability Pilots provide technical assistance to assist communities in achieving greener, more sustainable results when redeveloping brownfields. These pilots also provide models for other communities across the country.

EPA provided the City of Cleveland, Ohio with technical assistance to enhance the city's deconstruction program for brownfields and abandoned buildings. EPA's technical assistance included evaluating the city's deconstruction program and past deconstruction projects. The evaluation provided lessons learned and recommended potential strategies to enhance the city's overall deconstruction initiative and its capacity to address brownfields effectively.



## ***Cleveland Resource Recovery Project Background***

Approximately 1,700 abandoned and vacant buildings (many of which are located on brownfields) are currently marked for demolition in Cleveland. The city's Deconstruction Initiative promotes the recovery of building materials for reuse and recycling rather than traditional demolition. Due to the number of abandoned and vacant buildings, demolitions increased from 195 in 2005 to 1,139 in 2008. With this increase, demolition and construction materials now constitute one of the largest waste streams entering Cleveland area landfills – and local landfill space is dwindling quickly. Diverting demolition materials through deconstruction—a “soft” demolition technique used to dismantle buildings and maximize recovery of materials for reuse and recycling—will help conserve existing landfill space and reduce the need for new landfills.

## ***Project Highlights***

EPA's technical assistance to the City of Cleveland included interviewing local stakeholders involved with brownfield properties. The technical assistance team conducted stakeholder interviews with: city staff in the Office of Sustainability and Department of Health; representatives from Hard-Hatted Women, a nonprofit workforce development program for women in trades and technical careers; a representative of Rosby Resource Recycling, a for profit company in the deconstruction building materials reuse market; deconstruction contractors; and demolition contractors.

The technical assistance team's discussions with stakeholders focused on:

- Identifying options for maximizing the recovery and sound environmental management of materials at future brownfields deconstruction projects
- Overcoming regulatory challenges to deconstruction
- Integrating deconstruction planning into requests for proposals for brownfields contractors, architects and developers
- Identifying vendors to support demolition and deconstruction in the Cleveland area

EPA's technical assistance team helped the city evaluate its deconstruction program including any past deconstruction projects. The team also toured several city sites where deconstruction is underway including a site located in an urban, residential neighborhood. These activities led to: identifying lessons learned specific to the city's deconstruction program; and developing strategies for addressing the lessons and goals for further enhancement of the city's deconstruction program. The lessons learned and potential strategies for addressing lessons learned are organized into five general categories:

- Procurement
- Contract specifications
- Stakeholder participation
- Portfolio management of brownfields and abandoned buildings
- Reuse building material markets

## **Challenges and Lessons Learned**

### **Antiquated Procurement Procedures**

The City of Cleveland's procurement procedures were originally established for conventional construction. Demolition projects—where disposal of materials in permitted landfills rather than sorting contaminated materials from reusable materials—were the norm. EPA's technical assistance team recommended that the city develop a construction and demolition (C&D) materials management plan. The C&D management plan would set policy and specify goals (including deconstruction goals) for reducing and reusing building materials for all new construction, renovation or demolition projects.



*City of Cleveland deconstructing an abandoned building as part of its Deconstruction Initiative program.*

### **Specify Deconstruction in Bid Documents and Contracts**

Contractors rely almost exclusively on contract specifications when providing cost estimates for projects. Unless deconstruction is specified in a bid document, typically contractors do not include deconstruction costs in a bid. EPA's technical assistance team recommended that the city ensure all contracts, contract templates or bid specifications are reviewed by the city's Office of Sustainability or Department of Economic Development for inclusion of deconstruction requirements and removal of language that may discourage deconstruction.

### **Effective Portfolio Management**

Establishing ownership and custodianship of properties is often time consuming and imposes barriers to immediate actions. In the meantime, abandoned and unsecured buildings can be vandalized and stripped of valuable materials, reducing the building's value for deconstruction. The technical assistance team recommended that Cleveland consider other cities' abandoned buildings programs such as Chicago's Fast Track Abatement ordinance. Through the ordinance, Chicago is authorized to board, repair or demolish (deconstruct) buildings that are vacant, open or a community hazard without seeking time consuming court orders. Chicago also maintains a list of pre-qualified "Fast Track" contractors that can mobilize within a day after receiving a notice to proceed.

The City of Cleveland is evaluating the information provided through EPA's technical assistance. In the short term, the city hopes to implement site specific strategies with the greatest potential for increasing deconstruction of abandoned buildings on city brownfields. Long term, the city plans to apply knowledge gained from the pilot and future deconstruction projects to incorporate deconstruction methods in all aspects of brownfields redevelopment and in citywide demolition strategies.

### **Sources for Additional Information**

For more information on this project, please see the full Cleveland technical assistance report at:  
[http://www.epa.gov/brownfields/sustain\\_plts/factsheets/cleveland.pdf](http://www.epa.gov/brownfields/sustain_plts/factsheets/cleveland.pdf)

### **Regional Contact Information**

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