

Materials Reuse Network/deconstruction



...a group interested in increasing awareness of and activities related to deconstruction and building materials reuse in Connecticut.

Members of MRN/deconstruction include professionals from deconstruction, demolition, architecture, green building development, training & education, community colleges, solid waste management, engineering, historic preservation and environmental activism.

CT Solid Waste Management Plan



Objective 4 – Management of Special Wastes Priorities for Managing C & D

- Maximize source reduction & reuse
- Maximize recycling
- Beneficial use of special waste

MRN/deconstruction



- First meeting in November 2008
- Goals
 - Want to increase awareness
 - Need more trained professionals and workers
- Identified obstacles to increase deconstruction activities
 - Definition of demolition (Regulation/29-402 CTGS)
 - Demolition registration (29-402 CTGS)

Department of Public Safety



- **Regulation of Department of Public Safety**

Sec. 29-401-1. Definitions (d) Demolition means any wrecking activity directed to the disassembling, dismantling, dismembering and/or razing of any structure or part thereof not exempt under the provisions of section 29-402 of CTGS.

- **State Demolition Code (Part IV)**

Sec. 29-402. (a) No person shall engage in the business of demolition of buildings without a certificate of registration obtained from the Department of Public Safety.

Industry: Deconstruction vs. Demolition



- **Deconstruction** is the selective dismantlement of building components, specifically for re-use, recycling, and waste management. It differs from demolition where a site is cleared of its building by the most expedient means.
- Deconstruction has also been defined as “**construction in reverse**”. The process of dismantling structures is an ancient activity that has been revived by the growing field of sustainable, green building. Buildings, like everything, have a life-cycle. Deconstruction focuses on giving the materials within a building a new life once the building as a whole can no longer continue.

Industry: Deconstruction vs. Demolition



- **Demolition** is the tearing-down of buildings and other structures, the opposite of construction.
- Demolition contrasts with **deconstruction**, which involves taking a building apart while carefully preserving valuable elements for re-use.

Industry: Deconstruction vs. Demolition



- **Deconstruction**

- The process of carefully dismantling a building in order to salvage components for reuse and/or recycling. Results in products for sale, trained labor force, improved environmental quality.

- **Demolition**

- The act of destroying a building (or portion), often with heavy machinery, employing very few and resulting in only garbage for the landfill.

Source: David G. Hampton, Jr. Chicago, 2008

Evolutionary Order of Reuse



- The *New* 5 R's

- Retain (preserve)
- Rehabilitate (restore)
- Repurpose/Reuse (adapt)
- Recycle
- Rubbish/refuse

- Deconstruction Hierarchy

- Preservation
- Renovation
- Repurpose
- Deconstruction
 - Reuse materials
 - Recycle materials

In Connecticut



- Demolition means any wrecking activity directed to the **disassembling, dismantling**, dismembering and/or razing of any structure or part thereof not exempt under the provisions of section 29-402 of CTGS.

Exemptions to Demolition Registration



- Sec. 29-402. (c) The provisions of this section shall not apply to (1) a person who is engaged in the disassembling, transportation and reconstruction of historic buildings for **historical purposes** or in the demolition of **farm buildings** or in the renovation, alteration or reconstruction of a single-family residence, (2) the removal of underground petroleum storage tanks, (3) the burning of a building or structure as part of an organized fire department training exercise, or (4) the demolition of a single-family residence or out building by an owner of such structure if it does not exceed a height of thirty feet, provided the owner shall be present on site while such demolition work is in progress, shall be held personally liable for any injury to individuals or damage to public or private property caused by such demolition, and provided further such demolition shall be permitted only with respect to buildings which have clearance from other structures, roads or highways equal to or greater than the height of the structure subject to demolition. The local building official may require additional clearance when deemed necessary for safety.

Role of Deconstruction in Managing C & D



- **C & D Recycling – NOW**
 - Paving asphalt, concrete, brick
 - Soil & Stone
 - Steel
 - Wood
 - Asphalt roofing shingles (some)
- **C & D Recycling – Potential**
 - More asphalt roofing shingles
 - Gypsum wallboard – from new construction
 - More deconstruction

Role of Deconstruction in Managing Waste



• Deconstruction – Now

- ✦ Doors, windows Cabinetry
- ✦ Flooring Radiators, sinks, tubs
- ✦ Appliances Banisters
- ✦ Stepping stones, tiles Lighting

• Deconstruction – Potential

- ✦ Farming Lumber Copper, copper wire
- ✦ Steel I-Beams Aluminum, aluminum wire
- ✦ Plywood Steel
- ✦ Wood sheathing Lead (flashing)
- ✦ Insulation AND MORE!!
- ✦ Asphalt

Impact on C &D in the Waste Stream



Connecticut
Construction & Demolition
Recovery Rate
= 7%

[SWAC Subcommittee: C & D Waste Management](#)

Potential Economic Impact



- Incinerating** 10,000 tons of waste creates 1 job
- Landfilling** 10,000 tons of waste creates 6 jobs
- Recycling** 10,000 tons of waste creates 36 jobs
- **Reuse** 10,000 tons of waste creates 28-296* jobs

Source: EPA, "Resource Conservation Challenge: Campaigning Against Waste," EPA 530-F-02-033, 2002

- Source: Institute for Local Self Reliance , "Recycling Means Business,"
<http://www.ilsr.org/recycling/recyclingmeansbusiness.html> Last accessed August 5, 2009.

Job Creation: Reuse and Recycling Vs. Disposal



Type of Operation

10,000 tons of
waste creates

• Product Reuse	
○ Computer Reuse	296 jobs
○ Textile Reclamation	85
○ Misc. Durables Reuse	62
○ Wooden Pallet Repair	28
• Recycling-based Manufacturers	25 jobs
○ Paper Mills	18 jobs
○ Glass Product Manufacturers	26
○ Plastic Product Manufacturers	93
• Conventional Materials Recovery Facilities	10 jobs
• Composting	4 jobs
• Landfill and Incineration	1 job

Role of Deconstruction in CT Economy



If building deconstruction were fully integrated into the demolition industry, at least 100,000 jobs could be created in this sector.

Source: Institute for Local Self Reliance , “Recycling Means Business,”
<http://www.ilsr.org/recycling/recyclingmeansbusiness.html> Last accessed August 5, 2009.

Ideas to Facilitate Deconstruction



- Inform/educate local Building Inspectors. DPS has invited DEP to co-present a section of the training program for local building inspectors (Spring 2010?) to introduce the idea and concepts of deconstruction as they may be facing more deconstruction contractors in the future.
- Identify specific deconstruction activities with DPS that are currently acceptable without a demolition registration (i.e. soft stripping, other).
- Add definition of Deconstruction/change demolition definition (State Demolition Code, Section 1, Sec. 29-401-1.)

Ideas to Facilitate Deconstruction



- Add a new Demolition Registration Class. Add a “Class C”, a special classification for deconstruction with competency criteria (State Demolition Code, Sec. 29-401-3(a).)
- Allow demolition contractors to subcontract with ‘qualified’ deconstruction contractors (State Demolition Code, Sec. 29-401-3(c).)
- Add/change qualification requirements to Demolition Registration – add 3 years of deconstruction experience (supervisory level) (State Demolition Code, Sec. 29-401-3(f).)

Ideas to Facilitate Deconstruction



- Create a separate Deconstruction License with competency criteria (3rd party qualification?).
- Add Deconstruction to the list of exemptions for certificate of registration (State Demolition Code (Part IV) Sec. 29-402).
- Ideas we haven't thought of yet...

MRN/deconstruction



- Next Meeting: Thursday, September 24, 2pm – EST
DEP, 79 Elm Street, Hartford
 - Guest: Rosita Forte-Dobson, SBDC Business Development Specialist (DECD)

Let Sherill Baldwin know if you want to get added to the **MRN/deconstruction e-distribution list** to stay informed of upcoming meetings, articles of interest and training opportunities.

Sherill Baldwin
CT DEP
Source Reduction & Recycling Program
860.424.3440
Sherill.Baldwin@ct.gov