

Materials Reuse Network/deconstruction



CT DEP
SOLID WASTE ADVISORY COMMITTEE
MAY 26, 2009

MRN/deconstruction



- First met in November 2008
- Want to increase awareness
- Need more trained professionals
- Discovered a barrier to increase deconstruction activities
 - Definition of demolition (Regulation/29-402 CTGS)
 - Demolition registration (29-402 CTGS)

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.

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.

Demolition



- Statistics show that the demolition of buildings in the United States produces **124,670,000 tons** of debris each year.
- Consider that one year's debris is enough to build a wall about **30 feet** high and **30 feet** thick around the entire coast of the continental United States (**4,993 miles**).
 - Deconstruction Institute, Benefit Calculator

Demolition in CT



- [Group seeks to block demolition - Greenwich Time:](#)
"In 1783, a house on Weaver Street was seized by the state because its owner, Ezechiel Merritt, was suspected of being a Loyalist during the American Revolutionary War. The historic home, located at 181 Weaver St. is slated for demolition. And the town Historic District Commission, which is dedicated to preserving historic homes in town, wants to save it."

Demolition in CT



- TearDown Reports/Stats
- Connecticut (28)

Chester, Darien, Deep River, East Haddam, Enfield, Essex, Fairfield, Greenwich, Griswold, Guilford, Haddam, Harwinton, Lyme, New Canaan, New Milford, Norwalk, Norwich, Old Lyme, Old Saybrook, Ridgefield, Riverside, Stoneyton, Westport, Weston, Wethersfield, Willington, Wilton, Woodstock

[National Trust for Historic Preservation](#)

Benefits of Deconstruction - Energy



Consider your **2,000** square foot house - it contains **893** million Btus of embodied energy!

- Careful deconstruction followed by recycling of all steel and plastic materials could preserve **58.60** million Btus of its embodied energy.
- Careful deconstruction followed by the reuse of recovered lumber could preserve **23.40** million Btus of its embodied energy.
- The reuse of building materials results in the maximum possible preservation of embodied energy. With only a minimal expenditure of energy to clean and transport the materials to a new building site, their lifespan (and therefore the original investment of energy to create the materials) is extended.
- The **6,000 BF** of lumber that can be recovered and reused from an average single family home contains **23 million** Btu's of embodied energy that can be preserved through deconstruction (equivalent to **205 gallons** of gasoline).
- Recycling building materials is one way to preserve some of the embodied energy in a building. For many building materials, recycling used into new consumes less energy than extracting virgin raw materials from the earth. Manufacturing new building components using recycled inputs instead of virgin can reduce energy expenditures by about **50%** for steel and over **90%** for plastics. Deconstruction allows for a careful separation of building materials, maximizing the potential for recovery and recycling.
- An average home contains about **4,700 pounds** of steel and **770 pounds** of recyclable plastics. If carefully deconstructed, these materials could be recycled into new products with a net savings (or preservation of embodied energy) of **59 million** Btu's (**513 gallons** of gas equivalent).

Can it Really Make an Impact?



Connecticut
Construction & Demolition
Recycling Rate
= 7%

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

Where are we now?



MRN/deconstruction – Goals

- Recover more C & D materials for reuse and recycling
 - Increase awareness – deconstruction an option
 - Train more to enter the industry/engage in deconstruction activities
 - Encourage municipalities and businesses to include deconstruction in their C & D projects
 - Increase awareness – availability of used building materials
 - ✦ [Reuse Centers and Material Exchanges \(DEP web page\)](#)

Where are we now (snap shot)



- Exploring the opportunities
 - Educate, educate, educate
 - Need to create definition of deconstruction for CT
 - When is it deconstruction/when is it demolition?
 - Separate license for deconstruction?
 - Separate demo registration for deconstruction?
 - Sample ordinances and programs
 - Training/certification/workshops/seminars

Where we are now (snap shot)



- **Training/Workshops**

- Incorporate into HS/College construction programs
- Gateway/BMRA – certification programs
- Apprenticeship – to increase the number of trades people?
- Building Materials Reuse Centers have need too
- Deconstruction/C & D recycling - Speakers list

MRN/deconstruction



- Next Meeting: June 23, 2pm – DEP, Hartford
- E-distribution list – announces upcoming training programs and meetings.

Sherill Baldwin

Office of Source Reduction & Recycling

860.424.3440

Sherill.baldwin@ct.gov