Be Prepared
Managing Disaster Debris

Northeast Recycling Council, Inc.
www.nerc.org
Background

- **What is NERC?**
  - Non-profit
  - 10 Northeast states
  - Mission: environmental sustainability through solid waste management

- **EPA Contract: Develop debris management guide**
  - Small businesses and residents
  - Tool for communities
  - Practical
  - 3 Rs & proper disposal

NERC is an equal opportunity employer & provider
Words to the Wise

- Long after the disaster is gone, the debris remains
- You can’t reduce the amount of debris, but you can reduce the impact
- Government & public preparedness can help!
A Good Motto to Apply…

- **BE PREPARED** which means you are always in a state of readiness in mind and body to do your DUTY.

- **Be Prepared** in Mind by having disciplined yourself to be obedient to every order, and also by having thought out beforehand any accident or situation that might occur, so that you know the right thing to do at the right moment, and are willing to do it.
Disaster Debris Characteristics

- Vegetative debris
- Wood, brick, concrete, drywall, glass, insulation, etc.
- Carpet
- Asphalt
- Vehicles
- Metals
- Appliances
- Electronics
- Furniture
- Personal belongings
- Household hazardous wastes
- Soil & rock
- Plastic
- Sandbags

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Tornado
Flood

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Maine Floods

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Ice Storm
Snow Storm

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Lardon Construction/www.lccmulch.biz
Hurricane
Hurricane Irene

Northeast Recycling Council, Inc.
Irene

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Irene Hits Brattleboro

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New Orleans Landfill after Katrina
On average, debris removal accounts for 27 percent of the total damage cost associated with a natural disaster.
Pre-Disaster Planning

- Allows for more cost-effective options
- Helps avoid mistakes
- Speeds recovery
- Assists in obtaining reimbursement from FEMA
  - Establish policies that support diversion efforts over disposal
Goals

- Community recovery
- Divert materials away from landfills or incineration
  - Salvage
  - Recycling
  - Composting

➤ Without diversion
  - A disaster can substantially impact disposal capacity
  - And, costs
Disaster Debris Management Plan

- Types of disasters likely
- Types & amounts of debris
  - Past disasters, formulas
- Resources available
- Strategy for handling debris
Plan, cont’d

- Communication– biggest component!
  - Team, responders, haulers, public

- Funding

- Know the FEMA & State requirements
  - Plan for documenting, tracking, monitoring
  - Certified volume capacity of municipal & contractor vehicles
  - Staff/volunteers to monitor, track, & certify all loads
Plan, cont’d

- Incorporate into emergency management plan for community or region

- Selection of planning team
  - Include: Representatives from local solid waste office, waste haulers/equipment operators, in addition to other emergency responders
  - Appoint a debris project manager
Resources

- Staff
  - Sources of additional staff, volunteers
- Existing solid waste management strategy, facilities, & capacity
- Available debris removal equipment
- Mutual aid agreements
- Haulers and processors
  - Existing & pre-qualified; Standby contracts
Resources, cont’d

- Potential markets for materials
  - Agriculture, secondary fuel options
- HHW & small-quantity generator disposal options
- Temporary storage (“staging”) & processing sites
- Reuse options/salvage
- Public information
Multiple Solutions

- The fundamental component of a disaster debris management strategy is the collection of debris.
- One single component of materials management—recycling, mulching, combustion, etc.—is typically not sufficient to handle the amount of debris.
Diversion

- Works best if coupled with existing recycling, C&D debris, and yard waste recovery programs
- Focus on increasing capacity of existing programs to deal with sudden influx of materials
- Regional coordination & multijurisdictional agreements
- Pre-qualified contractors
Contracted Services

- Debris clearance – Response Phase
- Debris removal – Recovery Phase
- Reduction & recycling
- Hazardous waste handling, processing, disposal

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Contracted Services, cont’d

- DMS construction, management, operations
- Demolition
- Tree removal
- Environmental compliance
Expedited Contracting Procedures

- Pre-drafted contracts
  - Finalized with appropriate scope of work

- Pre-qualified contractors
  - Contractors should meet minimum standards
    - Insurance, bonding, licensing
  - Municipality may advertise a RFQ
  - Invited to bid on contract

- Pre-event contracts
  - Solicit bids & award contracts during non-disaster times

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Type of Contract Matters!

- **Time-and-Material Contracts**
  - Typically used during initial response
  - FEMA will only reimburse during first 70 hours of contractor work

- **Unit-Price or Lump Sum Contracts**
  - After 70 hour period
  - Start process of RFP for recovery phase contracts early in process of disaster cleanup
General Contract Provisions

- Basis of payment & payment process
  - Verification of completed work
  - Volume or weight of contractors loads
- Duration of contract
- Performance measures
- Agreement to restore collateral damage
- A termination for convenience
- A conflict resolution process
- Clearly defined scope of work, tasks
Response Phase

- Focus on debris removal posing an immediate threat
  - Clear major arterial routes
    - Move debris to side of road
- Unstable structures
- Hospitals, police & fire stations, shelter areas, residential areas
Response Phase, cont’d

- Municipalities often use own labor & equipment
- May also supplement by activating mutual aid agreements
- Or, by awarding short-term debris removal contracts for specific work
Recovery Phase

- Focus on collection of remaining debris
  - Material moved to side of road during response phase
  - Debris removal from residences & businesses

- Guidance to residents

- Removal & processing/disposal in most cost effective & expeditious manner

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Contractors at Work

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Source Separation

- Imperative for end use marketability
- Imperative prior to burning
- CD/furniture, yard waste, appliances, electronics, scrap metal, HHW
- Monitoring is essential
Resident Debris Removal Strategy

- Curbside collection
- Drop-off
  - Collection centers – roll-off bins
- Combination
- Addressing harmful materials
  - White goods – refrigerants
  - Household & small quantity generator hazardous wastes
Debris from Personal Property

- Town will pickup debris moved to the town right-of-way
- Town accepts debris at designated drop-off locations
- Town does not accept debris from private property
- FEMA eligible – will reimburse 75% of added cost
Debris Management Sites

- Temporary, permitted site
- Allows for stockpiling debris for recycling, reuse, and/or volume reduction
- Operational flexibility
- Best sites
  - Existing disposal or transfer facilities
  - Maintenance facilities
  - Other government-owned properties
Debris Management Sites, cont’d

- Considerations
  - Zoning restrictions
  - Environmental impacts
  - Historic preservation concerns
  - Suitability of traffic patterns
  - Distance from local impacts

- Ideal
  - Large paved (impervious) area
  - Separated from residences, schools, etc.
  - Away from water body or wetland

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Debris Management Sites, cont’d

- Include sites in Debris Management Plan
- If site is not already permitted, consider
  - Additional costs of planning
  - Engineering
  - Permitting
  - Extra time to complete environmental and historic compliance reviews
- DEP site permit – streamlined
- Baseline data collection to document condition of land prior to DMS use

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Debris Management Site
Obtain Permits, if applicable

- Waste processing & recycling operations
- Temporary land-use permits
- Land-use variances
- Traffic circulation strategies
- DOT curb cut permit (if necessary)
- Air quality permits
- Water quality permits
- Coastal commission land-use permits
- Household Hazardous Waste handling permits
- Fire Department permits
Material Separation at DMS

- Vegetative debris
- Hazardous materials
- White goods
- Other recyclables
  - Wood
  - Metal
  - Concrete, asphalt, masonry
  - Soil

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Off-Loading & Processing

- Materials placed in assigned cells
  - Tipping areas (unloading)
  - Resident drop-off collection bins
- Vegetative debris volume reduction
  - Chipping reduces volume by ~75%
- Appropriate processing for end market
- Containers/storage for transport
Managing Vegetative Disaster Debris

- **Beneficial uses, such as:**
  - Land spreading - preferred
  - Composting
  - Soil amendment (agricultural applications)
  - Biomass fuel

- **Burn in pits/air-curtain incinerators**
  - Volume reduction

- **Landfilling**
Additional Debris Plan Features

- Environmental compliance of DMS
- Safety concerns
- Setbacks around DMS
- Permitting of DMS
- List of recyclable debris materials
  - Potential end-markets
DMS Management

- Site Manager
  - Day-to-day operations
  - Maintaining daily logs, site progress reports
  - Enforcing safety & permitting requirements

- Debris Monitors
  - Quantify debris loads & issue load tickets
  - Inspect loads

- Environmental Compliance Personnel
  - Monitor & track environmental impact
Public Information Strategy

- Create information to be distributed
- Process to distribute the information
- Process to update, correct, revise, & redistribute information as operations progress
- Establish a debris information center or a venue to address all concerns, questions, & complaints
Public Information

- Public’s cooperation is crucial
- Pre-disaster preparedness
- Effective & timely information about the clean-up effort
- How will disaster debris be handled?
  - When will regular refuse/recycling service resume?
Facebook Page

Northeast Recycling Council, Inc.

Scholarie County (NY) Emergency Services

5,219 likes • 30 talking about this • 15 were here

Government
The use of the name Scholarie County does not indicate an endorsement by Scholarie County.

Photos Likes Map Video

5,219

Out in your children’s classroom? Do you teach art? Do you belong to a church group, nursery group, after school care group? We would love to see you attend the Cross Train the Trainer program tomorrow from 9am to 11am! Come for one, two or all sessions! RSVP 518-837-6222. We may be bringing personal preparedness kits to the school.

Scholarie County Emergency Management
American Red Cross Cordially Invite You to a Train the Trainer Seminar

Thursday, April 19th from 2-5pm
Temporary EMO (MOSA Admin Building)
State Rt 7, Howes Cave, NY 12092

Schedule of Events:
1: Introductions & Welcome
2: Be Red Cross Ready & Citizen CPR (All Ages)
3: Scrubby Bear Hand-Washing (Ages 2-5)

Recent Posts by Others

Scholarie County Donations for Flood Victims
Please "LIKE" our page -- CARE donation center now at.
1 • Wednesday at 9:00am
Chronicles of the Sick Bus
Check out my blog! http://youridleshere.blogspot.com
April 14 at 9:03pm
Kelly Brennan-Felitti
@ Hurricane Irene Victims Haven’t Received Government Funding
April 4 at 7:48pm
Judith Warner Tabor Warner
best of luck, she doesn’t need luck, to Colleen Flynn Fullerton
1 • April 3 at 12:10am

More Posts →

Recommendations

Write a recommendation...

John Carlson
your doing a great job keep up the good work. about 3 months ago

Kay Bonney
Here’s where you can get the latest news on what’s going on. about 4 months ago

Laura Milak

See All

See All
Communication Techniques

- Press releases, brochures, guides
  - Pre-disaster preparedness
  - Post-disaster clean-up, recovery
- Newspaper, TV, & radio announcements
- Fliers, door hangers
- Internet, Twitter, Facebook
- Telephone: Prepare your staff!

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Communication, cont’d

- Communication limitations must be considered
  - Telephone service?
- Prepared handouts for emergency staff, utility workers, clean-up crews to distribute
- Outreach to residents in emergency shelters

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What the Public Needs to Know

- Safe & effective clean-up
- What can be salvaged? How?
- How should materials be separated?
- Which materials...Where? When?
- Storage & transportation of HHW
Please Separate Your Waste

Waste management recommendations after a natural disaster

Residents and Small Businesses
As you clean up after a flood, please take steps to protect yourself by wearing waterproof gloves and by washing up with soap afterwards.
If you have a fuel oil tank in your basement, please contact Call Center-218-477-4747.

Flood-Related Material
For Pickup, Check With Your Licensed Waste Hauler
To minimize the impact to the environment please separate items for your waste hauler and/or bring items to the facilities and destinations listed below.
1. Large Appliances and Electronics
A. Refrigerators, freezers, ovens, dishwashers, air conditioners, furnaces, washing machines, clothes dryers, etc.—to Clay County Landfill (appliance corral) for a fee. B. Televisions, computers and monitors—to collection sites at Moorhead Transfer Station or Clay County Landfill. Residential only.

2. Household Hazardous Waste
2729 Hwy 10 E, Moorhead
Hours: Mon & Wed 8-4pm and 1st Sat. of Month 8-12 Noon
Note: Please put any leaking containers of HHW in a tub or lined box and don’t mix wastes together. Keep labels with products or write the name on the container so wastes can be identified and safely handled. Residents only may bring to HHW Facility: (No Fee)
Automotive products, such as gas, oil, antifreeze, and parts cleaners
Cleaners, such as bleach, ammonia, oven, toilet and kitchen cleaners
Mercury-containing items, such as thermometers, thermostats and fluorescent light bulbs
Paints and Solvents, such as oil, latex, stains, thinners, spray paint, acetone, xylene and toluene
Lawn & Garden products, such as fertilizers, pesticides, bug and weed killers

Questions: Please call 299-5077
3. Demolition Waste  Sheetrock, wallboard, wood, pipes, wiring, shingles, cement, insulation, lumber, window glass, and any part of the building structure—to Demolition Landfill, north of Hwy 10, Glyndon, (218) 498-2430. (Fee charged.)

4. Municipal Waste  Household garbage, food, lamps, furniture, bedding, clothing, dishes, books, magazines, papers, cardboard, small appliances, housewares, carpet removed from the building, and any asbestos-containing waste—to Clay County Landfill, address and phone number at top. (Fee charged.)


Thank you for your cooperation. We appreciate your help. In cooperation with the 651-296-6300 or 800-657-3864 toll-free www.pca.state.mn.us
Disaster Debris Management Guide

- Practical information
  - Unique
  - Concise
- Tool for communities
  - Answers to common questions from the public
Recovery, Recycling, Disposal

- Appliances, books, brush, carpet, drywall, food, furniture, linens, wood, & more
- Guide is posted for free download on the NERC website
- Copy available in Word for towns to include local emergency management information
Sample Guide Listing

**Brush**—trees, branches, shrubs, and logs

*Pre-disaster*: Trim brush away from house. Plan plantings to minimize potential damage to buildings. Keep trees and shrubbery trimmed to help make trees more wind resistant by removing diseased or damaged limbs.

*Recovery*: Stack brush, tree limbs, branches and other vegetative materials in pile. Keep separate from other debris.

*Mulch*: Use chipper to chip materials on site. Or, take to town mulch facility.

Northeast Recycling Council, Inc.
Don’t Wait!

- Make a plan
- Prepare for implementation
- Document, document, document
- Monitor implementation
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