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August 2007

Dear Municipal Official:

The Massachusetts Department of Environmental Protection (MassDEP) and Massachusetts Emergency Management Agency (MEMA) are pleased to present this guidance document for local and regional government officials titled *Disaster Debris Management Planning: An Introduction for Local Government Officials*.

This document will be particularly useful for local governments that have not already established plans for managing debris in the event of a disaster, such as a hurricane, earthquake, or flood. It serves as a starting point for developing a local disaster debris management plan and integrating that plan into existing local emergency management plans. We have provided a number of resource links to more detailed information on disaster debris management planning.

This document is an initial step in a more comprehensive effort by MEMA and MassDEP to support and implement improved planning for disaster debris management. We look forward to continuing to work with local and regional government officials on disaster debris management planning. Over the course of the coming year, we will issue a revised state Disaster Debris Management Plan and develop training sessions on planning for disaster debris management.

We encourage you to develop local disaster debris management plans, or regional plans that include local input and address local needs, as part of your emergency planning. In addition to being better prepared to respond more effectively following a disaster event, there are other benefits under the Federal Emergency Management Agency's (FEMA) Public Assistance Pilot Program. Under that program, municipalities that have a debris management plan approved by FEMA and have identified pre-qualified debris contractors will qualify for increased federal reimbursement for debris management costs. Please see <http://www.fema.gov/government/policy/papilot.shtm> for more information on that program.

Local government has a critical role to play in disaster debris management and it is important that our planning and assistance reflect input from local government officials. If you have comments, questions, or suggestions, we encourage you to contact the MassDEP or MEMA staff listed below.

MassDEP

John Fischer, (617) 292-5632, john.fischer@state.ma.us

MEMA

Mike Philbin, (508) 820-2008, mike.philbin@state.ma.us

We look forward to working with you to continue to improve Massachusetts' planning for disaster debris management across all levels of government.

Sincerely,



Arleen O'Donnell
Acting Commissioner
MassDEP



Kenneth J. McBride
Acting Director
MEMA

Disaster Debris Management Planning
An Introduction for Local Government Officials
August 2007

INTRODUCTION

Many people do not realize that disaster debris management is typically the largest response cost for disasters such as hurricanes, other storms, animal disease outbreaks, earthquakes and other disaster events. In disaster events, local governments are the lead responders. Local resources need to be fully utilized before state resources can be brought into play. Similarly, state resources must also be fully utilized before federal agencies will provide assistance. Even when state and federal agencies do become involved with disaster response actions, local agencies will play critical roles.

The benefits of advance planning for disaster debris management include:

- Increasing local control of disaster debris management
- Reducing debris management costs
- Increasing the speed and efficiency of clean-up
- Minimizing the short and long term environmental and public health impacts
- Enabling consistency with federal reimbursement requirements

Massachusetts has a statewide Disaster Debris Management Plan, which is an annex to the Commonwealth's Comprehensive Emergency Management Plan. That plan is currently being revised and we plan to issue a revised version in late 2007. Once revised, that plan will mirror this guidance, except that this document is primarily focused on planning at the local and regional level.

There are several key themes that run through this guidance:

- **Diverting Debris from Disposal:** Massachusetts has very limited disposal capacity to accommodate disaster debris. Therefore, all stages of debris management must emphasize debris separation to maximize recycling, composting, and other diversion from disposal.
- **Determining Debris Management Sites in Advance:** It is critical that local governments pre-identify locations within their jurisdictions that can be temporarily used for disaster debris storage, staging, and/or processing prior to final disposition or disposal. Having these locations identified in advance will improve local government ability to implement emergency debris clearing; conduct processing, consolidation, recycling, diversion and removal of debris materials, and return the jurisdiction to pre-disaster condition as soon as possible. Pre-identification of DMSs also allows advance planning of site plans, layout and operations.
- **Track and Monitor All Work for Reimbursement Purposes:** In the event of a federal state of emergency, local debris management costs will be at least partially reimbursed, but it is critical that these activities are done in accordance with state and federal

regulations, that debris management activities are properly monitored, that costs are recorded and documented, and that other FEMA reimbursement requirements are adhered to.

LOCAL GOVERNMENT ROLES AND RESPONSIBILITIES

Disaster Debris Management Team: The best time to determine and clarify the roles of local departments, managers, and staff is before a disaster strikes. The first step should be to establish a local debris management team to coordinate across department responsibilities. This team should include clear authority and chain of command, including establishing a local incident commander. This team should include all relevant local operations needed for disaster debris management, including administration, contracting/procurement, legal, operations, and engineering. Contact information for all team members should be readily available in multiple formats (i.e., paper and electronic) and locations. Any debris management planning should be closely coordinated with local comprehensive emergency planning and the local emergency management director.

All aspects of debris management should be clearly assigned within this team. These include:

- Pre-planning, including identifying local government and contractor resources, establishing a master street map and recommended debris collection routes, and identifying a debris management site(s)
- Monitoring and tracking costs for reimbursement purposes
- Communicating with state and federal emergency management officials
- Managing and overseeing any applicable contractors, including what duties contractors will be responsible for
- Establishing or updating mutual aid agreements with adjacent and other nearby towns

TIP: For towns with curbside trash and recycling collection, those collection routes may be the best routes to use for debris collection. You should ensure that your town has these routes readily available for use following a disaster. This collection may be done by your regular trash collection company, or by another company. If you plan to use your regular trash collection company, keep in mind the increase in volume of material to be collected as well as the specific sorting requirements for disaster debris. Or, school bus routes may be used for planning debris collection. Snow plow routes that prioritize key roadways and facilities (e.g., hospitals) may be particularly useful for debris clearance purposes.

While this guidance focuses on disaster debris management, the local debris management team should be integrated with other local emergency response planning, so that the debris management is addressed as part of the overall disaster response. You should also establish a schedule for updating your debris management and other disaster response planning on a regular basis.

DEBRIS QUANTITIES AND TYPES

It is not possible to precisely identify the amount of debris that could be generated by all types of disaster events. However, it is possible to estimate the “worst case” for a major disaster event, given the size of your municipality and relative density of buildings and vegetation. You should also be aware of the types of debris that you could expect to be generated and ensure that your debris planning addresses each category of debris.

To forecast a rough estimate of the overall amount of debris that you might expect from a hurricane or similar major storm event, you can either use actual data from a previous disaster event in your municipality or nearby municipalities, generic modeling developed by the United States Army Corps of Engineers (USACE), or a combination of both. The Army Corps model can be found at http://209.225.176.11/ceerp/images/stories/documents/debris/technical/link4_debris_modeling_estimating_debris_quantities.doc.

The factors that go into the USACE hurricane debris-estimating model are:

- Households in your jurisdiction
- Storm category factor (1-5)
- Vegetative cover (light, medium, or heavy)
- Commercial density (light, medium, or heavy)
- Precipitation factor (none/light or medium/heavy)

Example: For a municipality with 10,000 households and medium vegetative and commercial density, a worst-case debris estimate based on this model would be:

$$\begin{array}{rcccccc} 10,000 & \times & 26 \text{ cubic yards} & \times & 1.3 & \times & 1.2 & \times & 1.3 \\ \text{households} & & \text{cat 3 storm factor} & & \text{veg. cover} & & \text{comm. Density} & & \text{precip. factor} \\ = 527,280 \text{cubic yards} \end{array}$$

Estimating debris generation will enable you to understand what local resources will be needed to manage disaster debris as well as at what point local resources would likely be overwhelmed and state and/or federal assistance required. In addition to having an estimate of the overall amount of debris that may need to be managed, you also need to anticipate what types of debris may be generated and what management solutions may be needed for these types of debris.

Typical categories of debris include:

Vegetative Waste: This is typically one of the largest volume debris streams and much of it can be diverted from disposal through using for lumber, chipping for mulch, composting, or using as fuel for power plants with wood-fired boilers.

Building Debris: Building debris is also generated in large amounts in most disaster events. Depending on the composition and condition, it may be possible to divert much of this debris from disposal through construction and demolition debris processing facilities.

TIP: If building debris contains obvious asbestos containing materials, those materials must be separated and managed separately from the rest of the debris and disposed of as asbestos waste. Otherwise, the entire amount of debris may need to be managed as asbestos containing materials.

Bulky Waste: Material such as carpet, furniture, mattresses, etc. must typically be sent for disposal.

Appliances and Electronics: These should be collected separately and diverted from disposal for recycling.

TIP: Residents setting out refrigerators and freezers for collection should be asked to remove all food and dispose of that separately as trash, and also remove doors for safety.

Vehicles: Whether cars, trucks, or boats, vehicles must be held to allow them to be claimed for insurance purposes and should be tracked by vehicle identification number (VIN) or license plate number.

Trash: There will likely be a significant increase in household trash after many disaster events as people return to their homes and clean out damaged items. Trash collection may also be temporarily increased if trash collection is disrupted for some amount of time.

Hazardous Household Products/Oil and Hazardous Material: These should be collected for separate management and disposal. Your municipality's existing household hazardous waste collection company may be able to handle this collection, though those companies may have limited ability and be extremely busy following a disaster. Your municipality may wish to collect hazardous products from small businesses. Otherwise, businesses are responsible for managing and safely disposing of their own hazardous materials. In other cases, disasters may result in damaged oil tanks and oil spills that may require cleanup through the 21E Waste Site Cleanup program.

Soils and Sediments: Disasters that have large amounts of rainfall and result in flooding may leave behind large amounts of soil and sediments that need to be managed. These materials need to be handled carefully and may need to be handled as hazardous waste, as they may contain high levels of bacterial or toxic contamination. Debris management staff working in and around contaminated flood waters and sediments may require personal protective equipment as well as work safety practices to guard against exposure to contaminated materials.

Infectious/Medical Waste: In the case of animal or human disease outbreaks, there will likely be large amounts of infectious and medical waste. Because these materials require special and costly handling and management, and because of the risks they pose, the focus should be to keep these materials separate from other trash to minimize the amount of material that needs to be disposed of as medical waste. In addition, any workers handling or otherwise exposed to this material should wear personal protective equipment to protect against infectious agents.

MassDEP is developing separate guidance on managing animal carcasses with different types of infectious diseases.

DEBRIS CLEARANCE AND COLLECTION

Debris management typically occurs in two phases (1) initial clearance of debris (e.g. from roadways, power lines, etc., to facilitate emergency services) and (2) long term removal, processing, and management of debris. During the first phase, debris is cleared from power lines and key roadways to restore transportation, emergency access, and utility services as quickly as possible. At this stage, debris will most likely be left at the side of the road for later collection. Debris clearance will be the primary debris management activity during the first few days following a disaster. This may require coordination with utility companies, local and state police, and public works/highway agencies.

Following initial debris clearance, debris management will shift to removing, collecting, processing, and disposing of debris. This will include all debris in public areas, as well as debris set out by residents for collection.

TIP: FEMA reimbursement is generally limited to debris collected from public rights of way.

Typically, local resources must be exhausted and either a state or federal emergency declaration issued before state and federal agencies will assist with debris management, so local governments should plan to play a primary role in clearing, collecting, and managing debris. Local planning should identify all local resources, whether municipal or private, that may be available to assist with debris collection and management, recognizing that primary options may not be available or may be overwhelmed. This should include identifying local or Massachusetts-based contractors that own heavy equipment needed for debris removal and collection such as bulldozers, dump trucks, skid steer loaders, front end loaders, and logging trucks and can provide skilled operators to run the equipment.

You may want to establish local or regional disaster debris collection and management contracts prior to a disaster event. There are several potential advantages to contracting in advance, including:

- More easily and thoroughly identifying qualifying companies
- Establish prices and general contract scope in advance
- Qualifying for increased federal reimbursement under the FEMA Public Assistance Pilot program – see <http://www.fema.gov/government/policy/papilot.shtm> for more information on that program.

Collection options may include:

- Curbside collection through existing solid waste and recycling contractors
- Additional clearance and collection routes run by municipal staff or additional contractors, potentially including specialized contractors for certain types of debris (e.g., white goods or electronics, vehicles)

- Collecting material at existing or temporary additional drop-off centers
- Residents self-hauling material directly to debris management sites
- Relying on state or federal collection contracts or staff if local resources are exhausted.

TIP: In order to enable diversion of debris from disposal, it is critical that different types of debris be segregated at the point of collection.

Quick collection immediately after the disaster event will assure the public that recovery efforts are in progress and help the community return as quickly as possible to pre-disaster conditions. While prompt removal of debris is an important goal, it is even more important that debris that can be diverted from disposal is segregated from other debris that must be disposed. This is particularly important in Massachusetts, as disposal capacity will be extremely limited following a large disaster event. Because segregating mixed debris at debris management sites is practically impossible, it is critical that different debris types are segregated at the time of collection. Therefore, it is also critical to provide clear guidance to residents on how to properly segregate material, so that collection can be done efficiently and maximize debris segregation. Similarly, debris that is delivered to debris management sites in segregated form must be kept separate at the debris management site.

Because of the importance of keeping debris segregated and because debris may be set out over the course of multiple weeks, it is likely that collection crews will need to repeat the same collection routes multiple times. For example, one truck may only collect white goods and electronics and cover each collection route multiple times, while other vehicles would only collect building debris or vegetative waste. It is also recommended that debris collection and management contracts provide incentives for haulers to divert material from disposal by paying higher rates or incentive payments per ton or cubic yard of debris diverted instead of disposed.

Local debris management plans should pre-identify all recycling, composting, and other diversion outlets within reasonable shipping range, as well as transfer stations, landfills, and municipal waste combustors that can be utilized in the event of a disaster. This analysis should begin with existing facilities that the municipality works with. However, it is important to recognize that some facilities may not be operational or available and that alternative facilities may be needed.

DEBRIS MANAGEMENT SITES

In cases where existing collection contracts and existing drop-off centers are overwhelmed, there may be a need to consolidate and process debris collected locally before shipping it for ultimate disposition. A debris management site is a location to temporarily store, segregate, and/or process debris before it is hauled to its final disposition.

Whenever possible, local governments should identify debris management sites in their communities prior to a disaster event. Identifying sites in advance will enable more efficient and faster debris removal and management, as well as better site selection. By contrast, selecting and establishing a debris management site after a disaster strikes will be very difficult and will result in delays in collecting and processing debris and may result in a poor site being selected.

This document provides summary guidance for selecting a debris management site location, operating a debris management site, and properly closing the site.

Debris Site Selection: Locating effective debris sites requires evaluating a wide range of factors including parcel size, topography, and ownership, in addition to past uses of the land and its proximity to residences, water supplies and wetlands. Poorly located sites can quickly fill with debris and/or lead to nuisance conditions, contamination of water supplies, damage to other resources, and public health risks.

- Where possible, storage and staging sites should be:
 - owned or controlled by municipal or state government;
 - large enough to accept and store large quantities of debris (where possible, recommend 50-100 acre sites for large debris staging areas);
 - have easy access, including being near the area of debris generation, be easy to enter and exit, and be near transportation arteries; and
 - ready to use as staging areas without extensive site modifications.

- Where possible sites generally should not be:
 - within an identifiable or known floodplain and flood prone areas;
 - within 250 feet of a private drinking water supply;
 - within 500 feet of a public drinking water supply;
 - within 100 feet of a surface water body;
 - within 250 feet of a residential dwelling;
 - within an Interim Wellhead Protection Area or Zone II; or
 - within an Area of Critical Environmental Concern (ACEC), endangered species habitat or historic site.

In addition, debris storage areas should be at least 100 feet from property lines.

While these criteria should be met when possible to minimize environmental and public health risks and impacts, they are considered to be preferred criteria, rather than requirements. Options for debris management sites may be very limited, and it may not be possible to identify a site that meets all of these criteria. In such a case, these criteria should be met to the maximum extent possible.

Debris staging sites may be of different sizes and have different siting criteria depending on the type and volume of materials they are intended to handle and the type of handling and processing that will be done at the site. For example, sites that will need to accept large amounts of vegetative waste and building debris (the two largest debris streams in most disaster events) would need to be very large sites with flat open areas that could accommodate very large amounts of debris. Such sites would likely need to operate for a long period of time before they can be fully cleared out and closed. On the other hand, some smaller volume debris streams, such as white goods (appliances), electronics, and hazardous household products, may be able to be collected at smaller sites such as local Departments of Public Works facilities, transfer stations, or recycling centers.

The U.S. Army Corps of Engineers model used above to estimate debris quantities (http://209.225.176.11/ceerp/images/stories/documents/debris/technical/link4_debris_modeling_estimating_debris_quantities.doc)

can also be used to estimate the number of acres of debris management sites needed to handle a given quantity of debris. This model uses assumptions that may not be relevant for Massachusetts (e.g., burn pits) but it still can give you an approximate idea of the area that you may need for debris management.

This model assumes that debris piles are stacked 10 feet high, which would allow up to 16,117 cubic yards/acre. The USACE model also assumes that 60% of the site area would need to be used for roadways, safety buffers, and other activities and, therefore, not available for debris storage. Using a simple figure (which may be high for many municipalities in many disaster events), if you had to manage 1,000,000 cubic yards of debris and this debris was cycled through once during the period of debris management (i.e., the site only had to handle up to 500,000 cubic yards at one time), this would require 31 acres for debris storage, or a total site area of 51 acres (assuming only 40 percent of the site could be used for debris storage). Keep in mind that a DMS may not need to handle all of the debris generated locally, as some may be hauled directly to other locations.

MassDEP can work with your municipality to review a proposed debris management site with regard to the above criteria. Working with MassDEP in advance will ensure that a debris management site is consistent with state criteria and avoid disagreement over debris management site locations during a disaster event. To guide you in determining a debris management site, MassDEP has developed the form attached at the end of this document. Once your municipality has selected a proposed debris management site location, you should submit that information to MassDEP at Debris Management Planning, MassDEP, One Winter Street, Boston, MA 02108. This information will then be shared with the applicable MassDEP regional office.

TIP: In a declared state of emergency, debris management sites operated on a temporary basis are not expected to require state permits. However, the local government should notify MassDEP of any local debris management site(s) activated in response to a disaster event. MassDEP may inspect sites to ensure that they are properly operated and closed. Advance coordination with MassDEP, along with local agencies such as the Conservation Commission, Board of Health, Public Works Department and Fire Department, will help to ensure better site selection and reduce potential problems with debris site operation and closure.

Debris Site Operation: Debris management sites are only intended for use during a disaster event and state of emergency and associated debris management activities. In the absence of an emergency, these sites and activities would be subject to solid waste permitting and site assignment regulations. During a declared state of emergency, MassDEP expects to waive these regulatory requirements to allow the temporary operation of debris management sites for up to 90 days. Entities that need to operate a DMS beyond that 90 day period will require separate approval from the solid waste section chief in the appropriate MassDEP regional office.

To the maximum extent possible, DMSs should have:

- Storm-water controls, such as silt fences, to prevent discharge of contaminated runoff into water bodies;
- Controls to prevent offsite migration of dust, wood chips or other debris residuals from vehicular traffic and from the handling of debris;
- Monitors to correctly identify and segregate waste types for appropriate management and ensure that the site is operated properly;
- Monitoring towers to enable monitors to view incoming truck loads;
- Clearly marked separate staging/processing areas for all material categories targeted for recycling or diversion;
- Fencing surrounding the operating areas of the site;
- Clearly marked entrance(s) and exit(s) for haulers and citizens delivering materials;
- Site layout that facilitates drop-off traffic flow and/or parking by citizens, while also separating truck loading/unloading and equipment operation from pedestrian traffic as much as possible;
- Access control and security measures after operating hours to limit unauthorized access to the site;
- Signs to inform haulers and the general public of the types of waste accepted, hours of operation, and who to contact in case of after hours emergency;
- Fire control equipment available on site (fire extinguishers, water connection, soil)
- Operating costs should be tracked in accordance with FEMA requirements, in the event that cost reimbursement is pursued with FEMA. (See <http://www.fema.gov/government/grant/pa/policy.shtm> for FEMA Public Assistance information.)

To the maximum extent possible, debris received at the staging site should be separated into the following categories and should be stored separately to minimize cross-contamination:

- Vegetative Waste
- C&D debris
- White goods
- Household trash and bulky waste
- Other separated recyclable categories where applicable (i.e., metal, asphalt, brick and concrete, etc.)

One of the main functions of debris management sites is to serve as volume reduction and consolidation areas for debris brought to the sites from the impacted areas. Preferred volume reduction methods include recycling, composting, and chipping woody debris for mulch or biomass fuel. Where possible, mixed C&D debris should be sent to a C&D processor that can separate and divert metal, asphalt, brick, and concrete, wood and other materials from disposal. If C&D debris contains asbestos, it must be managed as regulated asbestos containing material. Trash delivered to the staging area should be placed in transfer trailers at the end of the working day, and all windblown/scattered debris shall be picked up at the end of the day.

Burning of vegetative debris is not a preferred disposal option, but may be allowed on a case-by-case basis if all other options are exhausted. Any burning allowed will only be in accordance with specific prior written approval from MassDEP after consultation and concurrence with the local Fire Department. The use of air curtain technology would be required. (Burning of other types of debris will not be allowed.)

TIP: For sites that may handle large amounts of vegetative waste, it is helpful to identify where equipment such as chippers and grinders may be obtained or readily available locally or on a shared basis with other municipalities. Equipment sharing should be considered in mutual aid agreements.

In accordance with the National Fire Protection Association, mulch and chip piles should not exceed 18 feet in height, 50 feet in width or 350 feet in length. Piles should be subdivided by fire lanes at least 25 feet wide around each pile. These piles should not be compacted. Smoking should only be allowed in designated areas well away from any combustible material. The local fire department shall be notified upon commencement of debris management site activities.

If possible before starting operations, or otherwise within no more than 48 hours of opening a debris management site, the municipality should notify the appropriate MassDEP regional office of the following information:

- a description of the nature of the site operations (types of material accepted and how managed, operating hours)
- a description of the physical address and GPS coordinates, if available;
- a description of any operating conditions or practices not addressed in this guidance;
- where materials will be sent from the staging site; and
- a primary and secondary local contact person and their contact information.

If a contractor is operating the debris management site, contract terms should place clear responsibility on the contractor for maximum debris separation and diversion in operation of the DMS, monitoring and record keeping, and correct closure of the site post-disaster. You should ensure that your planned debris management contracts and activities are in compliance with FEMA contracting and reimbursement requirements. See FEMA Debris Management Guide (DMG 325) and Appendices at: <http://www.fema.gov/pdf/government/grant/pa/demgde.pdf> and FEMA Public Assistance guidance (publications 321, 322, 323) at: <http://www.fema.gov/government/grant/pa/policy.shtm>.

Key aspects of these requirements include:

- (1) The debris management covers only what is needed to return to pre-disaster conditions in public areas, although under special circumstances where public health and safety are threatened, clean-up can occur on private land (see references above).
- (2) All costs must be documented with records kept and activities must be monitored to guard against fraudulent costs.
- (3) All work for which reimbursement is requested must be done in compliance with all state and federal requirements.

- (4) The municipality should have proper local monitors to ensure that work activities and costs are thoroughly documented and records are retained appropriately.
- (a) Example: Debris load tickets should identify as closely as possible the cross-street and exact location where each load of debris is collected in order for the cost to be reimbursed.

Debris Site Closure: DMSs should only be operated as long as it is necessary to store and process disaster debris that cannot be handled by the existing solid waste management infrastructure. These are only intended to operate as temporary staging areas, not as ongoing solid waste facilities. Entities that need to operate a DMS for more than 90 days will require separate MassDEP approval. Debris is expected to be processed and removed from DMSs as quickly as possible so that debris can be safely managed and the site expeditiously returned to its previous use. Once this activity is completed, the DMS must be properly closed. Otherwise the operator may be subject to MassDEP enforcement. Key aspects of properly closing a DMS include:

- Remove all materials from the site for proper use or disposal. Material such as wood chips or other materials that cannot be sent for recycling or other beneficial uses should be sent for disposal so that the site can be returned to its pre-disaster state.
- Areas that were used for building debris or other mixed debris should typically have soil and groundwater sampling conducted to identify any contamination from operating the site. Unless otherwise specified by MassDEP, these samples should typically include total RCRA metals, volatile organic compounds, and semi-volatile organic compounds.

TIP: Because a DMS should be restored to its pre-disaster condition upon closure, it is important to gather baseline information about a location prior to bringing debris there. This should include photos of the site and identification of any existing contamination.

Local governments must obtain final written approval from the MassDEP solid waste section chief in the region where the site is located in order for any debris management site to be considered properly closed. The site operator should contact the appropriate MassDEP regional office (<http://mass.gov/dep/about/regional.htm>) to discuss what is necessary for site closure and should again notify the regional office when closure is deemed complete.

COMMUNICATION AND OUTREACH

Your disaster debris management plan should include a plan for communicating with residents on debris management issues. This plan should emphasize the fact that normal communication and outreach channels may not be available or effective, particularly if people have been forced to leave their homes and if electronic communication systems are down. Planning must identify and develop alternative outreach channels that can be used. These may include radio announcements, distributing information at shelters, and distributing information door to door. It may be helpful to prepare a template of public information on debris management as part of your pre-disaster planning and then fill in specific information (e.g., dates, times, locations of collection) after the disaster event.

Important information to include in public service announcements or other public communication on disaster debris collection:

- Where to put material for collection (e.g., at curbside, ensure it is not obstructing vehicle traffic)
- How to separate and prepare materials for collection (e.g., separate vegetative debris, building materials, appliances, hazardous products; empty refrigerators/freezers and remove doors)
- When will regular collection for household trash, recycling, and yard waste resume and how to manage those materials until regular collection begins
- Other collection mechanisms available for public use, if applicable (e.g., drop-off centers, specific debris management site area for use by residents)
- Expected dates and schedule for collection (when specific dates are known)
- Contact information for questions on managing debris

FUNDING, REIMBURSEMENT, MONITORING, AND RECORD-KEEPING

It is critical that you keep records of all debris management activities and costs incurred in the event that federal reimbursement is available. Debris management activities also need to be monitored to ensure that bills for debris management services are legitimate. It is important to keep in mind that any federal funding will be on a reimbursement basis and not paid in advance. Your plan should identify local General Fund or private funds that can be used to start debris management until FEMA reimbursement is received. If you do not already have mutual aid agreements established with nearby municipalities, you should consider establishing these for disaster debris management and other disaster recovery activities.

Within the overall disaster response Incident Command System, record-keeping and monitoring for debris management activities should be planned for within the “Finance and Administration” function and connected with that emergency response function.

More details on FEMA reimbursement requirements can be found on the FEMA web site at http://www.fema.gov/government/grant/pa/debris_main.shtm.

Disaster Debris Management Site Selection Worksheet

Site Name _____

Site Address _____

Estimated Size in Acres _____

Estimated Volume of Debris Able to Hold (cubic yards) _____
(Note: Assume up to 16,000 cubic yards/acre and only 40 percent of site available for debris storage.)

Primary Local Government Point of Contact:

Name _____ Phone _____ Email _____

Secondary Local Government Point of Contact:

Name _____ Phone _____ Email _____

Preferred Disaster Debris Management Site Criteria

- The site is owned or controlled by municipal or state government.
- The site has easy access, including being near the area of debris generation, easy to enter and exit, and near transportation arteries.
- The site is ready to use as a debris management site without extensive site modifications.
- The debris storage and handling areas would be at least 100 feet from property lines.
- To the maximum extent possible, the site location minimizes potential environmental and public health impacts, including considering setbacks from public water supplies, surface water bodies, and residential dwellings and avoiding areas such as flood plans, drinking water Zone IIs, and Areas of Critical Environmental Concern.

If any of these criteria are not met, please explain why not and how any concerns regarding that criterion would be addressed: _____

Anticipated Site Activities

(Note: intended for use only in declared disaster, NOT for routine operation.)

- A site plan and layout has been prepared that considers the management and operating practices recommended in this guidance.

What types of disaster debris do you expect to manage at this site? (e.g., vegetative waste, C&D debris, hazardous household products, etc) _____

What debris processing or other handling activities do you expect to conduct at this site? (e.g., sorting and transfer for recycling, chipping vegetative waste, transfer of trash for disposal, etc.) _____

Please summarize any other benefits or concerns with using this site as a debris management site.

Submit to: John Fischer, MassDEP, One Winter Street, Boston, MA 02108

Summary Listing of Web Resources

FEMA

FEMA Debris Management Page: http://www.fema.gov/government/grant/pa/debris_main.shtm.

FEMA Debris Management Guide: <http://www.fema.gov/government/grant/pa/demagde.shtm>

FEMA Public Assistance Guidance: <http://www.fema.gov/government/grant/pa/policy.shtm>

FEMA Public Assistance Pilot Program: <http://www.fema.gov/government/policy/papilot.shtm>

US Army Corps of Engineers Emergency Response Portal: <http://209.225.176.11/ceerp/>

US Army Corps of Engineers Hurricane Debris Estimating Model:
http://209.225.176.11/ceerp/images/stories/documents/debris/technical/link4_debris_modeling_estimating_debris_quantities.doc

MEMA

www.mass.gov/mema

MassDEP

List of Solid Waste, Composting, and C&D Processing Facilities:
<http://www.mass.gov/dep/recycle/solid/swfacil.htm>

Finding Recycling Facilities

<http://www.mass.gov/dep/recycle/reduce/assistan.htm#services>