Debris Management Annex

Primary Agency

Emergency Management
General Services or Contracted Agency

Supporting Agencies

Virginia Department of Health
Virginia Department of Environmental Quality

Introduction

Purpose:
To facilitate and coordinate the removal, collection, and disposal of debris following a disaster in order to mitigate against any potential threat to the health, safety, and welfare of the impacted citizens, expedite recovery efforts in the impacted area, and address any threat of significant damage to improved public or private property.

Scope:
Natural and man-made disasters precipitate a variety of debris that would include, but not limited to such things as trees, sand, gravel, building/construction material, vehicles, personal property, etc.

The quantity and type of debris generated from any particular disaster will be a function of the location and kind of event experienced, as well as its magnitude, duration, and intensity.

The quantity and type of debris generated, its location, and the size of the area over which it is dispersed, will have a direct impact on the type of collection and disposal methods utilized to address the debris problem, associated costs incurred, and how quickly the problem can be addressed.

In a major or catastrophic disaster, many state agencies and local governments will have difficulty in locating staff, equipment, and funds to devote to debris removal, in the short as well as long term.

Private contractors will play a significant role in the debris removal, collection, reduction, and disposal process of state agencies and local governments.

The debris management program implemented by state agencies and local governments will be based on the waste management approach of reduction, reuse, reclamation, resource recovery, incineration, and land filling, respectively.

Policies:

- The debris removal process must be initiated promptly and conducted in an orderly, effective manner in order to protect public health and safety following an incident;

- The first priority will be to clear debris from key roads in order to provide access for emergency vehicles and resources into the impacted area;

- The second priority that debris removal resources will be assigned is providing access to critical facilities pre-identified by state and local governments;

- The third priority for the debris removal teams to address will be the elimination of debris related threats to public health and safety including such things as the repair, demolition, or barricading of heavily damaged and structurally unstable buildings, systems, or facilities that pose a danger to the public; and

- Any actions taken to mitigate or eliminate the threat to the public health and safety must be closely coordinated with the owner or responsible party.

Concept of Operations

Organization:

The General Services will be responsible for coordinating debris removal operations for the locality. The locality will be responsible for removing debris from property under its own authority, as well as from private property when it is deemed in the public interest. Debris must not be allowed to impede recovery operations for any longer than the absolute minimum period. To this end, Public Facilities will stage equipment in strategic locations locally as well as regionally, if necessary, to protect the equipment from damage, preserve the decision maker's flexibility for employment of the equipment, and allow for the clearing crews to begin work immediately after the incident.

The General Services will also develop and maintain a list of approved contractors who have the capability to provide debris removal, collection, and disposal in a cost effective, expeditious, and environmentally sound manner following a disaster. The listing will categorize contractors by their capabilities and service area to facilitate their identification by state agencies and local governments, as well as ensure their effective utilization and prompt deployment following the disaster. Where appropriate, the locality should expand ongoing contract operations to absorb some of the impact.

Sample contracts with a menu of services and generic scopes of work will be developed prior to the disaster to allow the locality to more closely tailor their contracts to their needs, as well as expedite the implementation of them in a prompt and effective manner.

The locality will be responsible for managing the debris contract from project inception to completion unless the government entities involved are incapable of carrying out this responsibility due to the lack of adequate resources. In these circumstances, other state and federal agencies will be identified to assume the responsibility of managing the debris contract. Managing the debris contract would include such things as monitoring of performance, contract modifications, inspections, acceptance, payment, and closing out of activities.

The locality is encouraged to enter into cooperative agreements with other state agencies and local governments to maximize the utilization of public assets. The development of such agreements must comply with the guidelines established in their agency procurement manual. All state agencies and local governments who wish to participate in such agreements should be pre-identified prior to the agreement being developed and implemented.

Debris storage and reduction sites will be identified and evaluated by interagency site selections teams comprised of a multi-disciplinary staff who are familiar with the area. A listing of appropriate local, state and federal contacts will be developed by the appropriate agencies to expedite the formation of the interagency, multi-disciplinary site selection teams.

Initially, debris will be placed in temporary holding areas until such time as a detailed plan of debris collection and disposal is prepared. This is not anticipated until after the local traffic has been restored. Temporary debris collection sites should be readily accessible by recovery equipment and should not require extensive preparation or coordination for use. Collection sites will be on public property when feasible to facilitate the implementation of the mission and mitigate against any potential liability requirements. Activation of sites will be under the control of the County/City engineer and will be coordinated with other recovery efforts through the local EOC. Where appropriate, final disposal may be to the County sanitary landfill.

Site selection criteria will be developed into a checklist format for use by these teams to facilitate identification and assessment of potential sites. Criteria will include such factors of ownership of property, size of parcel, surrounding land uses and environmental conditions, and transportation facilities that serve the site.

To facilitate the disposal process, debris will be segregated by type. It is recommended that the categories of debris established for recovery operations will be standardized. The state and its political subdivisions will adapt the categories established for recovery operations by the Corps of Engineers. The categories of debris appear in Tab 1. Modifications to these categories can be made as needed. Hazardous and toxic materials/contaminated soils, and debris generated by the event will be handled in accordance with federal, state, and local regulations. The area hazardous materials coordinator will be the initial contact for hazardous/toxic materials. (See the County Hazardous Materials Plan.)

The County General Services is responsible for the debris removal function. The General Services will work in conjunction with designated support agencies, utility companies, waste management firms, and trucking companies, to facilitate the debris clearance, collection, reduction, and disposal needs of the locality following a disaster.

Due to the limited quantity of resources and service commitments following the disaster, the locality will be relying heavily on private contractors to fulfill the mission of debris removal, collection, and disposal. Utilizing private contractors instead of government workers in debris removal activities has a number of benefits. It shifts the burden of conducting the work from state and local government entities to the private sector, freeing up government personnel to devote more time to their regularly assigned duties. Private contracting also stimulates local, regional, and state economies impacted by the incident, as well as maximizes state and local governments' level of assistance from the federal government. Private contracting allows the locality to more closely tailor their contract services to their specific needs. The entire process (e.g., clearance, collection, transporting, reduction, and disposal, etc.) or segments of the process can be contracted out.

Responsibilities:

- Develop local and regional resource list of contractors who can assist local government in all phases of debris management;
- Develop sample contracts with generic scopes of work to expedite the implementation of debris management strategies;
- Develop mutual aid agreements with other state agencies and local governments, as appropriate;
- Identify and pre-designate potential debris storage sites for the type and quantity of debris anticipated following a catastrophic event;
- Pre-identify local and regional critical routes in cooperation with contiguous and regional jurisdictions;
- Develop site selection criteria checklists to assist in identification of potential debris storage sites;
- Identify and address potential legal, environmental, and health issues that may be generated during all stages of the debris removal process;
- Identify and coordinate with appropriate regulatory agencies regarding potential regulatory issues and emergency response needs;
- Develop the necessary right-of-entry and hold harmless agreements indemnifying all levels of government against any potential claims;
- Establish debris assessment process to define scope of problem;
- Develop and coordinate prescript announcements with Public Information Office (PIO) regarding debris removal process, collection times, storage sites, use of private contractors, environmental and health issues, etc.;
- Document costs for the duration of the incident;
- Coordinate and track resources (public, private);
- Upon completion of debris removal mission, close out debris storage and reduction sites by developing and implementing the necessary site remediation and restoration actions; and
- Perform necessary audits of operation and submit claim for federal assistance

Tab 1 to Debris Management Annex

DEBRIS CLASSIFICATIONS*

Definitions of classifications of debris are as follows:

1. **Burnable materials**: Burnable materials will be of two types with separate burn locations.

   a. **Burnable Debris**: Burnable debris includes, but is not limited to, damaged and disturbed trees; bushes and shrubs; broken, partially broken and severed tree limbs and bushes. Burnable debris consists predominately of trees and vegetation. Burnable debris does not include garbage, construction and demolition material debris.

   b. **Burnable Construction Debris:** Burnable construction and demolition debris consist of non-creosote structural timber, wood products, and other materials designated by the coordinating agency representative

2. **Non-burnable Debris**: Non-burnable construction and demolition debris include, but is not limited to, creosote timber; plastic; glass; rubber and metal products; sheet rock; roofing shingles; carpet; tires; and other materials as may be designated by the coordinating agency. Garbage will be considered non-burnable debris.

3. **Stumps**: Stumps will be considered tree remnants exceeding 24 inches in diameter; but no taller than 18 inches above grade, to include the stump ball. Any questionable stumps shall be referred to the designated coordinating agency representative for determination of its disposition.

4. **Ineligible Debris**: Ineligible debris to remain in place includes, but is not limited to, chemicals, petroleum products, paint products, asbestos, and power transformers.

   Any material found to be classed as hazardous or toxic waste (HTW) shall be reported immediately to the designated coordinating agency representative. At the coordinating agency representative's direction, this material shall be segregated from the remaining debris in such a fashion as to allow the remaining debris to be loaded and transported. Standing broken utility poles; damaged and downed utility poles and appurtenances; transformers and other electrical material will be reported to coordinating agency. Emergency workers shall exercise due caution with existing overhead, underground utilities and above ground appurtenances, and advise the appropriate authorities of any situation that poses a health or safety risk to workers on site or to the general population.

* Debris classifications developed and used by Corps of Engineers

Tab 2 to Debris Management Annex

DEBRIS QUANTITY ESTIMATES

The formula used in this model will generate debris quantity as an absolute value based on a known population, and using a worse case scenario.

Determine population (P) in the affected area, using the 2000 Census Data for Rockbridge County, City of Buena Vista, and the City of Lexington. The assumption of three persons per household (H) is used for this model.

The model formula is as follows:

Q = H (C) (V) (B) (S)

Where

Q is quantity of debris in cubic yards

H is the number of households ()

C is the storm category factor in cubic yards. It expresses debris quantity in cubic yards per household by category and includes the house and its contents, and land foliage--Category 5 storm Value of C Factor is 80 cubic yards.

V is the vegetation characteristic multiplier. It acts to increase the quantity of debris by adding vegetation including shrubbery and trees on public rights of way--Vegetative Cover Heavy - Value of Multiplier is 1.3.

B is the commercial/business/industrial use multiplier and takes into account areas that are not solely single-family residential, but includes retail stores, schools, apartments, shopping centers and industrial/manufacturing facilities--Commercial Density Heavy - Value of Multiplier is 1.3.

S is the storm precipitation characteristic multiplier which takes into account either a wet, or a dry storm event, with a wet storm, trees will up-root generating a larger volume of storm generated debris (for category III or greater storms only)--Precipitation Characteristic Medium to Heavy - Value of Multiplier is 1.3.

Then **Q = (H) x 80 (C) x 1.3 (V) x 1.3 (B) x 1.3 (S) = 1.9 MILLION CUBIC YARDS**

References:

District Corps of Engineers, Emergency Management Branch, Debris Modeling