

**DRF 4**  
**DEBRIS MANAGEMENT**

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## **DRF 4**

### **DEBRIS MANAGEMENT**

**PRIMARY AGENCIES:**           **Springfield Public Works**  
   **Greene County Highway Department**

<b>SUPPORT AGENCIES:</b>	<b>Public Information Office</b>	<b>City Utilities</b>
	<b>Spfd-Greene County Parks</b>	<b>Mercy EMS</b>
	<b>Springfield Fire Department</b>	<b>Cox EMS</b>
	<b>Fire Protection Districts</b>	<b>Health Dept.</b>
	<b>Springfield Police Department</b>	<b>Sheriff's Office</b>
	<b>Office of Emergency Management</b>	<b>Support Personnel</b>

#### **I. PURPOSE**

This Debris Plan overview has been developed to provide the framework for the City/County government and other entities to clear and remove debris generated during a public emergency within the jurisdictional limits of Springfield and unincorporated Greene County. This Plan unifies the efforts of public and private organizations for a comprehensive and effective approach to:

- A. Provide organizational structure, guidance, and standardized guidelines for the clearance, removal, and disposal of debris caused by a major debris-generating event.
- B. Establish the most efficient and cost effective methods to resolve disaster debris removal and disposal issues.
- C. Initiate and coordinate private sector debris removal and disposal contracts to maximize cleanup efficiencies when deemed appropriate by Springfield and/or Greene County elected officials.
- D. Expedite debris removal and disposal efforts that provide visible signs or recovery designed to mitigate the threat to the health, safety, and welfare of residents.
- E. Coordinate partnering relationships through communications and pre-planning with local, State, and Federal agencies that have debris management responsibilities.

#### **II. SCOPE**

Springfield and Greene County presents opportunities for a number of potential natural and technological disasters or emergencies. The Springfield and Greene County Office of Emergency Management is responsible for planning for and implementing emergency preparedness, response and recovery, and mitigation activities.

Springfield and Greene County subscribes to the guidance in the Emergency Operations Plan (EOP) developed through coordinated efforts of all responsible agencies. The EOP establishes responsibilities for each City/County government agency departments and sets forth lines of authority and organizational relationships that are essential for the protection of the public. The EOP also establishes the concepts and policies under which all elements of the City/County government will operate during disasters and emergencies by providing for the integration of those resources.

This Plan is based on guidance provided by Springfield and Greene County department heads and procedures outlined in the EOP. This plan focuses on the types of activities that are likely to be required during a disruption or emergency, without regard to the type or cause of that disruption or emergency.

### III. SITUATION AND ASSUMPTIONS

#### A. Situation

1. Springfield and Greene County is vulnerable to numerous natural and technological hazards, including severe weather and hazardous materials spills. Ice storms, tornadoes, severe lightning, wind storms, hail and floods pose the highest natural threats to the City/County. Critical government and private facilities are potential targets for terrorist attack. The City/County can manage many disaster situations with internal resources. Listed below are potential debris-generating events that may overwhelm the available assets and capabilities:

Springfield and Greene County Hazards	
Natural Hazards	Human Caused Hazards
Dams	Chemical Hazards
Droughts	Biological Hazards
Earthquakes	Radiological Hazards
Extreme Heat	Nuclear Hazards
Flooding	Explosives
Land Subsidence (Sinkholes)	Civil Disorder
Thunderstorms/Tornadoes	Technological Hazards
Wildfires	Waste
Winter Storms	

2. This Plan establishes the framework within which the City/County will respond and coordinate the removal and disposal of debris generated by potential manmade and natural disasters. This Plan will also address the potential role that State and Federal agencies and other groups will take in a debris operation.
3. This Plan takes an all-hazards approach to identifying and responding to the following hazards that may pose a threat to Springfield and Greene County:
  - a. Natural Hazards-severe weather, ice storms, tornadoes, flooding, hail, or earthquakes;
  - b. Human-caused Events and Hazards- urban fires, special events, civil disorder, or transportation accidents; and
  - c. Terrorist Incidents- bomb threats or attacks, sabotage, hijacking, armed insurrection, or Weapons of Mass Destruction (WMD) incidents.
3. This Plan defines the roles and responsibilities of local emergency managers with respect to debris planning prior to an event and actions following a major debris-generating event.

#### B. Assumptions

1. Natural disasters such as ice storms, tornadoes, and flooding precipitate a variety of debris that includes, but is not limited to, trees and other vegetative organic matter, construction materials, appliances, personal property, mud, and sediment. Human caused disasters such as terrorist attacks may result in a large number of casualties and heavy damage to buildings and basic infrastructure. Crime scene constraints may hinder normal debris operation, and contaminated debris may require special handling. These factors will necessitate close coordination with local, State and Federal law enforcement, health, and environmental officials.

3. The quality 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 removal and disposal methods utilized the associated costs, and the speed with which the problem can be addressed. Further, 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.

**For planning purposes and for pre-positioning response assets, this plan assumes that the magnitude of the event may exceed the capabilities of Springfield and Greene County.**

4. The fact that this Plan is based on an event that may exceed Springfield and Greene County's capabilities in no way diminishes the value of the Plan for use in response to other types and categories of events. This Plan establishes a general framework that can, with minor modifications, be used in any debris-generating event.
5. This Plan addresses the clearing, removal, and disposal of debris generated by the above hazards based on the following assumptions:
  - a. A major natural or human caused disaster that requires the removal of debris from public lands and waters could occur at any time;
  - b. The amount of debris resulting from a major natural disaster will exceed Springfield and Greene County's in-house removal and disposal capabilities;
  - c. Springfield and Greene County will contract for additional resources to assist in the debris removal, reduction, and disposal processes;
  - d. Federal assistance will be requested to supplement debris removal capabilities in coordination with the Joint Debris Management Team.
6. For the purpose of preparedness, Springfield and Greene County has pre-qualified independent contractors who are able to meet collection removal needs for a large debris generating event. Job functions would include the monitoring process and debris collection and removal. These contractors were selected through the standard Springfield and Greene County contracting/procurement procedures and in accordance with the FEMA Debris Removal Applicant's Contracting Checklist (see **Appendix 15**).

#### **IV. CONCEPT OF OPERATIONS**

##### **General**

The Joint Debris Management Team will be the point of contact to coordinate and control all personnel and equipment responding to a major debris-generating event. The Plan provides guidance for the efficient and effective control and coordination of initial debris assessments through debris clearance, removal, and disposal operations.

#### **V. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES**

One of the primary functions of this Plan is to clearly delineate a basic organization and assign specific responsibilities. During the conduct of debris operations, many issues will arise that are not specifically mentioned in this plan. However, responsibilities are sufficiently defined so that unexpected issues can be assigned and resolved efficiently.

## **A. Debris Management Personnel**

### **1. Damage Assessment Teams**

The Joint Debris Management Team is responsible for coordinating impact assessment for all City/County public structures, equipment, and debris clearance immediately following a large-scale disaster. Impact assessments are performed by Damage Assessment Teams and used to prioritize impacted areas and resource needs. The teams will be composed of personnel from Springfield Public Works and Greene County Highway Department.

The DMC Debris Coordinators will have the primary mission of coordinating the efforts of department personnel to identify debris impacts on critical roads and make initial estimates of debris quantities. Based on this prioritization, The Joint Debris Management Team will issue urgent assignments to clear debris from at least one lane on all evacuation routes and identified primary and secondary roads to expedite the movement of emergency service vehicles such as fire, police and medical responders.

Damage Assessment Teams will conduct initial zone-by-zone windshield surveys to identify the type of debris and to estimate amounts of debris on the roadways and on private and public property. The results of the windshield surveys will be provided to the Joint Debris Management Team and to the DMC Liaison Officer located at the EOC.

The Debris Manager will establish initial priority for debris clearance based upon the following as provided by the Damage Assessment Teams:

- a. Extrication of people.
- b. Major flood drainage ways.
- c. Egress for fire, police, and Emergency Operations Center.
- d. Ingress to hospitals, jail and special care unit.
- e. Major traffic routes.
- f. Supply distribution points and mutual aid assembly areas.
- g. Government facilities.
- h. Public Safety communications towers.
- i. American Red Cross shelters.
- j. Secondary roads to neighborhood collection points.
- k. Access for utility restoration.
- l. Neighborhood streets.
- m. Private property adversely affecting public welfare.

During the debris clearance and removal process, the DMC staff will be responsible for coordinating with the Debris Coordinator and other utility companies as appropriate to ensure that power lines do not pose a hazard to emergency work crews.

## **B. Primary Agencies**

### **Springfield Public Works Department**

The Springfield Public Works Department's responsibilities include, but are not limited to the following with respect to any and all debris management issues:

- a. Designate a Debris Manager to oversee debris clearance and removal operations in the City and to be part of the Joint Debris Management Team.
- b. Provide a City Debris Coordinator to the Debris Management Center (DMC) staff to coordinate all city debris assignments.
- c. Provide personnel and equipment to assist in clearing city roadways.

- d. Provide personnel and equipment to operate and staff the Debris Contractor Oversight Team (DCOT) element of the DMC, including communications equipment, transportation, etc.
- e. Provide personnel and equipment to remove and dispose of debris
- f. Ensure that the DMC is provided all needed administrative staff and equipment support, including administrative support personnel, computers, desks, chairs, etc.
- g. Shall have pre contract bids on hand to submit for bid process immediately following a disaster.

### **Greene County Highway Department**

Greene County Highway Department's responsibilities include, but are not limited to, the following with respect to any and all debris management activities:

- a. Designate a Debris Manager to oversee debris clearance and removal operations in the County and to be part of the Joint Debris Management Team.
- b. Provide a County Debris Coordinator to the DMC staff to coordinate all county personnel and equipment debris assignments.
- c. Provide personnel and equipment to initiate the clearing of emergency evacuation routes and access to critical facilities throughout the County (Phase I) as directed by the Joint Debris Management Team in coordination with the County Debris Coordinator located at the DMC.
- d. Ensure that the County Debris Coordinator at the DMC is provided all needed logistics and support, including cell phone, transportation, etc.
- e. Ensure that the County Debris Coordinator keeps the Joint Debris Management Team informed of the clearing process and any problems encountered or expected.

## **C. Support Agencies**

### **Office of Emergency Management**

The Emergency Management Director is responsible for daily operational control and overall management of the Emergency Operations Center and its' staff. The Emergency Management Director will receive current information on the severity of the disaster from many sources.

Briefing will be conducted to the Emergency Management Director on the status of the debris clearing, removal and disposal operations.

- a. Assure that Springfield-Greene County is represented at all meetings with other government and private agencies involved with the debris cleanup operation.
- b. Coordinate with affected municipalities within Springfield and Greene County on all debris clearance, removal and disposal issues through conference calls or other means.
- c. Convene emergency debris coordinating meetings at the EOC or other location as appropriate.
- d. Ensure the debris management effort is provided with all available administrative staff and field support personnel.
- e. During EOC activation, the Debris Manager will coordinate debris management issues from the EOC. The Debris Manager will be responsible for coordinating all debris clearance and cleanup actions with the EOC. Actions will focus on keeping track of field site assignments and progress of the initial debris clearance from public roadways and critical facilities.
- f. The Debris Manager will inform the Emergency Management Director of cleanup progress and any problems encountered or expected.
- g. The Debris Manager will coordinate debris issues with municipalities, other government and private agencies involved with the debris cleanup operation.

- h. The Debris Manager will coordinate the dissemination of public information with the EOC Public Information Officer (PIO) and the Emergency Management Director.

#### **Public Information Officer**

The City/County Public Information Officers (PIOs) will develop a proactive information management plan. Emphasis will be placed on actions that the public can perform to expedite the clean-up process. Flyers, newspapers, radio, and TV public service announcements will be used to encourage public cooperation for such activities as:

- a. Separating burnable and non-burnable debris;
- b. Segregating Household Hazardous Waste (HHW);
- c. Placing Disaster debris at the curbside;
- d. Keeping Debris piles away from fire hydrants and valves;
- e. Reporting locations of illegal dump sites or incidents of illegal dumping;
- f. Segregating recyclable materials; and white goods
- g. Disseminate pickup schedules through the local news media

See Debris Removal Chart (**Appendix 16**).

#### **Springfield and Greene County Park Board**

The Springfield and Greene County Park Board's responsibilities include, but are not limited to, the following with respect to any and all debris management activities:

- a. Provide a Parks Debris Coordinator to the DMC staff to coordinate all park debris assignments.
- b. Provide personnel and equipment to assist in clearing major evacuation routes and access to critical facilities (Phase I).
- c. Provide personnel and equipment to assist in the removal and disposal of debris (Phase II) as directed by the Joint Debris Management Team through the Parks Debris Coordinator.
- d. Provide specialized equipment and trained operators to assist in the clearing and removal of woody vegetation from along critical rights-of-way.
- e. Ensure that debris removal from parks and recreational facilities is coordinated through and approved by the Joint Debris Management Team through the Parks Debris Coordinator.
- f. Ensure that the Parks Debris Coordinator is provided all needed logistical support, including cell phones, transportation, etc.
- g. Ensure that the Parks Debris Coordinator keeps the Joint Debris Management Team informed of cleanup progress and any problems encountered or expected.
- h. Assist in debris management site investigations.
- i. Provide digital map files of all identified parks and property greater than 10 acres.
- j. Coordinate with the Joint Debris Management Team for the removal, storage, burning, and disposal of debris at debris collection/management sites.

#### **Fire and Emergency Medical Services**

- a. Respond to fire and other emergencies at debris management sites.
- b. Respond to request to investigate and handle hazardous materials incidents.
- c. Approve debris management burn sites in accordance with appropriate local requirements to ensure safe burning.
- d. Issue bans on open burning based upon assessment of local conditions and ensure dissemination of information to the public.
- e. Supervise burn sites in accordance with all appropriate local requirements to ensure safe burning, subject to amendments by the Health Department and/or Fire Marshall.

#### **Police / Sheriff's Department**

- a. Assists in handling illegal dumping activities by general public.
- b. Assists in monitoring debris management sites to ensure compliance with local traffic regulations.

#### **Springfield - Greene County Health Department**

- a. Assist in monitoring debris management site operations and closeout activities.
- b. Assist as necessary on all environmental and health issues.
  - Air quality protection measures
  - Water quality protection measures
  - Soil quality protection and measures
- c. Regulate the burning at debris management sites in regulation to air quality concerns.

#### **City Utilities**

- a. Provide a City Utilities Debris Coordinator to the DMC
- b. Coordinate with the Joint Debris Management Team with regards to debris removal along electrical easements and rights-of-way to ensure that all lines are de-energized.

### **D. Support Personnel**

#### **Debris Response and Recovery Teams**

This section of the Plan provides a listing of primary debris-related responsibilities for directors and managers, as well as debris-specific assignments for tasks and issues that normally arise during debris operations.

#### **Debris Managers / Joint Debris Management Team**

A designee from Springfield Public Works will assume the role of the City Debris Manager and a designee from Greene County Highway Department will assume the role of the County Debris Manager. These two individuals will make up the Joint Debris Management Team. Their responsibilities include, but are not limited to, the following with respect to any and all debris management issues:

- a. Overall control of the DMC
- b. Receive regular updates from the City/County/Parks Debris Coordinators regarding cleanup progress and any problems encountered or expected.
- c. Identify agency staff members for debris management monitoring duties (Roving, Load Site, and Disposal Site Monitors).
- d. Communicate timely information to the City Manager and County Administrator and the City/County EOC staff regarding the status of the debris clearing, removal, and disposal operations.
- e. Assure that the City/County is represented at all meetings with other government and private agencies involved with the debris cleanup operation.
- f. Coordinate with appropriate City, County, State, and Federal agencies, including FEMA, USACE, and others as appropriate.
- g. The Joint Debris Management Team will activate the DMC and fully implement the debris plan upon notification by the City/County Emergency Manager. This will likely occur during Level II and Level I emergencies.
- h. Implement the following notification system to rapidly notify appropriate staff as to where and when to report for duty. This system must be kept up-to-date to ensure key

staff can readily be reached. The notification system should be maintained in such a manner that notification can be made at any time.

**Level IV-** Involves an event likely to be within the capabilities of local government and results in only limited (does not require involvement beyond the duty officer and several assistants) need for State assistance. Typical daily activities continue while the event is monitored. Notification is limited to those State agencies that have normal day-to-day emergency responsibilities or regulatory requirements. If the event occurs during non-duty hours, the duty officer may be required to report to the EOC to monitor the situation and respond to requests for State assistance.

**Level III-** Involves any event that has the potential to develop into an emergency or disaster and will likely require the assistance of at least two or three City/County agencies. A limited staff will be in place in the EOC staffed with City/County EMA personnel and those agencies essential to the response. Twenty-four hour staffing may be required. Daily activities are altered to accommodate the situation. All applicable State agencies are alerted.

**Level II-** Involves an event which has become, or is becoming, an emergency or disaster and requires significant City/County and State response and possible Federal response and recovery assistance (local government capabilities clearly exceeded). The direction and control, primary resources, mass care, and environmental and natural resources groups are at least partially staffed on a 24-hour basis in the EOC. Support agencies are alerted and most City/County EMA personnel are assigned to emergency/disaster functions. The governor will declare a State of Emergency. The Springfield and Greene County EOP is implemented. FEMA Emergency Response Team A (ERT-A) and State Liaison may be requested.

**Level I-** Involves a declared disaster, which requires an extensive City/County and State response where the State and local governments are clearly overwhelmed. The Springfield and Greene County EOC is fully staffed for 24-hour operations by all of the primary agencies. The State requests implementation of the Federal Response Plan and the presence of the FEMA Region VII State Liaison and the ERT-A, if not previously requested.

### **Debris Coordinators**

The Joint Debris Management Team will be supported by debris coordinators made up of personnel from Springfield Public Works, Greene County Highway Department and Springfield and Greene County Parks Board personnel. These coordinators will constitute the daily operating element of the DMC.

- a. The Debris Coordinators are responsible for daily operational control of the DMC staff. They will receive current information on the severity of the disaster from the EOC. Requests for debris removal or disposal from the emergency response staff will go through the EOC to the Debris Coordinators. Requests for debris removal from public facilities and roadways will be reviewed and approved by the Joint Debris Management Team, before being carried out.
- b. The Debris Coordinators will keep the Joint Debris Management Team and DMC staff informed on all ongoing debris management operations through, at a minimum, daily meetings and/or reports.
- c. The Debris Coordinators will maintain a daily journal and file on all debris related documents and issues.
- d. The Debris Coordinators will obtain all necessary regulatory permits for debris collection, reduction, temporary storage, and final disposal.

### **Debris Management Center Staff**

The DMC is organized to provide a central location for the coordination and control of all debris management requirements.

Specific DMC staff actions will include the following:

- a. Making recommendations for Springfield and Greene County force account and Contractor work assignments and priorities based on the City/County Debris Control Zones.
- b. Appendix B contains a map showing the boundaries of the various Debris Control Zones.
- c. Reporting on Debris removal and disposal progress, and preparing status briefings.
- d. Providing input to the EOC PIO on debris removal and disposal activities.
- e. Coordinating with the State on debris issues affecting adjacent counties.
- f. Coordinating City/County debris removal and disposal operations with environmental regulators from the City, County, and State.
- g. Coordinating with State and Federal agencies are required in the event of a major natural or human caused debris generating disaster that exceeds the City/County's capabilities.

### **Debris Contractor Oversight Team (DCOT)**

The City Debris Manager (DM) and Debris Management Center (DMC) staff will coordinate debris removal and disposal operations for all portions of the City. Phase II operations involve the removal and disposal of curbside debris by City force account and private contractors. While City agencies will provide oversight of their own removal operations, contractor operations will be overseen by the Debris Contractor Oversight Team (DCOT).

The DCOT is responsible for the coordination, oversight, and monitoring of all debris removal and disposal operations performed by private Contractors. Mixed debris will be collected and hauled from assigned Debris Control Zones to designated TDSR sites or to designated landfill locations. Clean woody debris will be hauled to the nearest designated vegetative TDSR site for eventual grinding.

Load tickets will be used to track all debris that is loaded, hauled, and disposed of. Load tickets are to be used by both in-house and contracted haulers and will serve as supporting documentation for contractor payment as well as for requests for Federal assistance or reimbursement.

Franchise garbage contractors will continue to pick up refuse in accordance with current procedures, routes, and removal schedules. They will haul debris only as requested by the contracting authority.

The DCOT team supervisor will be located at the DMC and will provide overall three roving monitors, load site monitors, and disposal site monitors described below. Specific responsibilities include the following:

- a. Planning and conducting debris management site inspections, quality control, and other Contractor oversight functions.
- b. Receiving and reviewing all debris load tickets that have been verified by a Disposal Site Monitor (see description below)
- c. Making recommendations to the Debris Manager regarding distribution of force account and Contractor work assignments and priorities.
- d. Reporting on progress and preparation of status briefings.
- e. Providing input to the DMC PIO on debris cleanup activities and pickup schedules.

The DCOT Supervisor will oversee the activities of three types of monitors. The functions and responsibilities of the field monitors are described below. (See Appendix G, Debris Removal and Disposal Monitoring Plan).

### **Roving Monitors**

Two-person teams of Roving Monitors will be assigned to specific Debris Control Zones or to a specific Contractor depending upon the distribution of work assignments. The Roving Monitors' mission is to act as the "eyes and ears" for the Debris Manager and DCOT Supervisor to ensure that all contract requirements, including safety, are properly implemented and enforced.

Staff to fulfill the Roving Monitor positions will be provided by local personnel. Roving Monitors will have the authority to monitor Contractor operations and to report any problems back to the DCOT Supervisor. Roving Monitors may request contract compliance, but do not have the authority to otherwise direct Contractor operations or to modify the contract scope of work.

The following actions will be initiated immediately after a debris-generating disaster:

- a. The Debris Manager will establish two-person roving monitor teams with their own transportation and communications.
- b. Roving Monitor teams will be assigned to each contractor's debris removal and disposal zone. Roving Monitors will monitor debris operations on a full-time basis and make unannounced visits to all loading and disposal sites within their assigned debris management zone(s). In addition, Roving Monitors shall do the following:
  - a. Assist in the measuring of all Contractor trucks and trailer with the Contractors representative. Take photographs of all trucks and trailers.
  - b. Obtain and become familiar with all debris removal and disposal contracts for which they are providing oversight.
  - c. Observe all phases of debris management operation, to include loading sites, debris management sites, and final landfill sites.
  - d. Complete a Debris Loading Site Monitoring Checklist (Attachment 1) for every site visited.
  - e. Complete a Debris Disposal Site Monitoring Checklist (Attachment 2) for every TDSR Site visited. Ensure that operations are being followed as specified in the applicable Debris Removal and Disposal Contract with respect to local, state, and federal regulations.
  - f. Complete the stockpiled Debris Field Survey Form (Attachment 3) at least weekly at all temporary TDSR Sites to determine estimated quantities of debris stockpiled.
  - g. Periodically measure curbside debris using the estimating formulas shown in (Attachment 4).
  - h. Prepare a daily written report of all Contractor activities observed to include photographs.
  - i. Periodically monitor each debris management site to ensure that operations are being followed as specified in the applicable Debris Removal and Disposal Contract with respect to local and Federal regulations and the Debris Removal and Disposal Monitoring Plan (Appendix G).

Roving Monitors will also submit daily written reports to the DCOT supervisor outlining their observations with respect to the following:

- a. Is the Contractor using the site properly with respect to layout and environmental considerations?
- b. Has the Contractor established lined temporary storage areas for ash, household hazardous wastes, and other materials that can contaminate soil and groundwater?
- c. Has the Contractor established environmental controls in equipment staging areas, fueling, and equipment repair areas to prevent and mitigate spills of petroleum products and hydraulic fluids?
- d. Are plastic liners in place under stationary equipment such as generators and mobile lighting plants?
- e. Has the Contractor established appropriate rodent control measures?

- f. Are burn sites constructed and operating in accordance with the plans and requirements in (Appendix H)?
- g. Has the Contractor established procedures to mitigate smoke, dust, noise, and traffic flow?

Roving Monitors' reports will also include written observations at loading sites, disposal sites, and the locations of any illegal dumping sites. If the monitor sees a problem they are to notify the DMC immediately and take photographs of the site.

### **Load Site Monitors**

Load Site Monitors will be stationed at designated Contractor debris loading sites. The Load Site Monitors' primary function is to verify the debris being picked up is eligible under the terms of the contract.

Load Site Monitor positions will be staffed from Springfield Public Works and Greene County Highway Department as well as from other City/County departments as required and designated by City/County elected officials depending on the magnitude of the debris-generating event. Load Site Monitors will be assigned to each Contractor's debris loading site within designated Debris Control Zones, and will initiate and sign load tickets as verification that the debris being picked up is eligible.

The primary tracking mechanism for all debris loaded, hauled, and disposed of will be the Load Ticket. Load tickets will be initiated at pickup and closed-out upon drop-off of each load, and are to be used by both city and contracted haulers.

### **Disposal Site Monitors**

Disposal Site Monitors will be located at both debris management sites and landfill sites as identified by the DMC throughout the recovery process. The Disposal Site Monitors' primary function is to ensure that accurate load quantities are being properly recorded on pre-printed load tickets (see Figure 2).

At each debris management site and landfill disposal site, the contractor will be required to construct and maintain a monitoring station tower for use by the Disposal Site Monitor. The Contractor will construct the monitoring station towers of pressure treated wood with a floor elevation that affords the Disposal Site Monitor a complete view of the load bed of each piece of equipment being utilized to haul debris. The Contractor will also provide watch site with chairs, table, and portable sanitary facilities.

The Disposal Site Monitor will estimate the quantity (in cubic yards) of debris in each truck/trailer entering the Contractor's selected temporary debris management site or landfill disposal site and will record the estimated quantity on pre-numbered debris load tickets (see Figure 2 on page 6 for a sample load ticket).

Disposal Site Monitors will be staffed by City/County personnel depending on the magnitude of the debris-generating event. The Disposal Site Monitors will be stationed at all debris management sites and landfill disposal sites for the purpose of verifying the quantity of material being hauled by the Contractor. The Disposal Site Monitor will be responsible for closing out and signing each load ticket and returning a copy to the DCOT Supervisor at the end of each day.

At each TDSR site and landfill disposal site, the Contractor will be required to construct and maintain a monitoring station tower for use by the Disposal Site Monitor. The Contractor will construct the monitoring station towers of pressure treated wood with a floor elevation that affords the Disposal Site Monitor a complete view of the load bed of each piece of equipment being utilized to haul debris. The Contractor will also provide each site with chairs, table, and portable sanitary facilities.

## **Franchise Garbage Contractors**

Franchise garbage Contractors will continue to pick up refuse in accordance with current procedures, routes, and removal schedules. They will not haul disaster debris unless expressly authorized by the Debris Manager.

### **E. State Support Agency (SEMA)**

While the local government has the primary responsibility for daily monitoring operations, the State ensures that the local government follows PA Grant guidance. The State ensures that the local government is following PA grant requirements.

The State should ensure that the applicant is performing all required responsibilities of adequate monitoring, including:

- a. Safety
  - The contractor is complying with public and employee safety standards
  - Safety requirements are being met during the conduct of debris operations on State highways and roads (including load limits and truck covers, where required)
- b. Compliance
  - All work complies with local ordinances and State and Federal regulations
  - Environmental compliance is occurring on all debris management sites (DMSs)
  - Appropriate preservation measures are taken for places and buildings pertaining to the State's historic and archaeological treasures
- c. Debris Operations
  - Trucks are measured, certified, and operate properly
  - Trucks are loaded properly and loads are accurately evaluated
  - Load tickets are properly completed and controlled by the applicant
- d. Management and Oversight
  - Debris sites are properly mobilized and administered
  - Accurate records and appropriate documentation are kept
  - Contractor activities are conducted as mandated in contractor scope of work

### **F. Federal Support Agency (FEMA)**

Local governments may request Public Assistance (PA) grant funding from the Federal Emergency Management Agency (FEMA) to offset expenses incurred from debris removal. Effective coordination is required between the PA applicant, the State, and FEMA to ensure that debris removal operations are efficient, effective, and eligible for FEMA PA grant funding. Eligible PA applicants are encouraged to monitor their debris removal operations and document eligible quantities and reasonable expenses to ensure that the work is eligible for PA grant funding. Monitoring debris removal operations requires the PA applicant's comprehensive observation and documentation of debris removal work performed from the point of debris collection to final disposal.

Monitoring debris removal work involves constant observation of crews to ensure that workers are performing eligible work in accordance with PA guidelines and all applicable Federal, State, and local regulations.

## **G. Actions taken by Operational Time Period**

### **1. Phase I-Initial Response**

For ease of control and coordination, debris management operations are divided into two phases.

Phase I will be implemented immediately after a debris-generating event to open emergency evacuation routes and roadways to critical facilities and affected neighborhoods. The major emphasis during the phase is to simply push debris from the traveled way to the right-of-way or curb. This activity is commonly referred to as Debris Clearance. Little or no effort is made to remove debris from the right-of-way.

Debris managers may use force account labor on Phases 1 and 2, depending on the scope and size of the incidents. Availability of personnel and time may determine the use of force account labor.

Springfield Public Works Department and Greene County Highway Department will be responsible for implementing all Phase I activities with support as required from EOC.

#### **Phase I activities include:**

- a. Implementation of the Debris Management Plan.
- b. Determination of incident –specific debris management responsibilities.
- c. Establishment of priorities based on evacuation needs and prediction models.
- d. Identification and procurement of debris management sites.
- e. Activation of pre-authorized contracts, if necessary to support Phase I clearance operations.
- f. Implementation of Public Information Plan.
- g. Coordination and tracking of resources.
- h. Formal documentation of costs.
- i. Identify task force organization of debris clearance teams.

### **2. Phase II-Recovery**

Phase II may be implemented as early as two to five days following a major debris-generating event, and will encompass the processes of debris removal and disposal. This delay is normal and allows time for affected citizens to return to their homes and begin the cleanup process. Debris must be brought to the rights-of-way or curb to be eligible for removal at public expense.

The Joint Debris Management Team will be responsible for implementing all Phase II activities with assistance as required from all supporting agencies. All debris removal and disposal operations will be coordinated by the Joint Debris Management Team located at the DMC. Phase II may be quite lengthy as disaster recovery continues until pre-disaster conditions are restored.

#### **Phase II activities include:**

- a. Activation of pre-approved contracts to support Phase II operations.
- b. Notification to citizens of debris removal procedures.
- c. Activation of debris management sites.
- d. Removal of debris from right-of-way and critical public facilities.
- e. Movement of debris from debris management sites to permanent landfills.
- f. Final documentation of costs for reimbursement, as applicable.
- g. Identify task force organization of debris clearance teams.

### **3. Phase II Debris Removal and Disposal Overview**

The general concept of debris removal operations includes multiple, scheduled passes by each critical site, location, or right-of-way. This manner of scheduling debris removal allows residents to return to their properties and bring debris to the edge of the right-of-way as property restoration proceeds.

The City/County has been divided into Debris Control Zones to control and expedite debris removal and disposal operations (please refer to Appendix 2 for zone Delineation).

### **4. Phase II Debris Removal and Disposal Operations**

The Joint Debris Management Team and staff will coordinate debris removal and disposal operations for all portions of Springfield and Greene County. Phase II operations involve the removal and disposal of curbside debris by City/County personnel and/or Contractor crews.

Under this plan mixed debris will be collected and hauled from assigned Debris Control Zones to City/County designated debris management sites or to designated landfill locations. Clean woody debris will be hauled to the nearest designated vegetative debris management site for eventual burning or grinding. A listing of debris management sites can be found in **(Appendix 3)**.

Primary tracking mechanism for all debris loaded, hauled, and disposed of under this plan will be the Load Ticket, which is shown in **(See Figure 2)**. Load tickets will be initiated at pickup sites and closed-out upon drop-off of each load at a debris management site or permanent landfill, and are to be used to document both City/County force account and Contracted haulers. Load Tickets will serve as supporting documentation for Contractor payment as well as for requests for reimbursement from federal grant programs (FEMA) and mutual aid recipients.

#### **Load Ticket Disposition**

The Load Ticket will be a 5-part pre-printed form. **(See Figure 2)**.

At initiation of each load, the Load Site Manager will fill out all items in Section 1 of the Load Ticket and will retain Part 1 (White Copy). The remaining copies will be given to the driver and carried with the load to the disposal site.

Upon arrival at the disposal site, the driver will give all four copies to the Disposal Site Monitor. The Disposal Site Monitor will complete Section 2 of the Load Ticket and retain Part 2 (Green). Parts 3, 4, and 5 will be given either to the Contractor's on-site representatives or to the truck driver for subsequent distribution.

All trucks will be measured by the Contractor and DMC staff before the operation begins and periodically rechecked throughout the operation.

The Contractor will be paid based on the number of cubic yards of eligible debris hauled per truckload. Payment for hauling debris will only be approved upon presentation of Part 4 (Pink) of the Load Ticket with the Contractor's invoice.

Load Tickets will also be completed and retained for City/County force account vehicles as a primary mechanism for tracking debris quantities deposited at Debris Management Sites.

Springfield-Greene County <b>LOAD TICKET</b>		<b>Ticket No.</b> 000001
<b>Section 1</b>		
<b>Prime Contractor:</b>		<b>Date:</b>
<b>Subcontractor (Hauler):</b>		<b>Departure Time:</b>
<b>Driver:</b>		<b>Truck Plate No.:</b>
<b>Measured Bed Capacity (cu. yds.):</b>		
<b>Debris Pickup Site Location:</b> (must be a street address)		
<b>Debris Type:</b>	<input type="checkbox"/> <b>Vegetation</b> <input type="checkbox"/> <b>Construction &amp; Demolition</b>	
	<input type="checkbox"/> <b>Mixed</b> <input type="checkbox"/> <b>Other:</b> _____	
<b>Loading Site Monitor:</b>	<b>Print Name:</b> _____  <b>Signature:</b> _____	
<b>Remarks:</b>		
<b>Section 2</b>		
<b>Debris Disposal Site Location:</b>		
<b>Estimate Debris Quantity (cu. yds.):</b>		<b>Arrival Time:</b>
<b>Disposal Site Monitor:</b>	<b>Print Name:</b> _____  <b>Signature:</b> _____	
<b>Remarks:</b>		
Copies:    White – Load Site Monitor                      Green – Disposal Site Monitor Canary, Pink, Gold – Onsite Contractor's Representative or Driver		

Part 1 (White) Load Site Monitor (Turned in daily to the DMC)  
Part 2 (Green) Disposal Site Monitor (Turned in daily to the DMC)  
Part 3 (Canary) Driver or Contractor's on-site representative (Contractor Copy)  
Part 4 (Pink) Driver or Contractor's on-site representative (Contractor Copy)  
Part 5 (Gold) Driver or Contractor's on-site representative (Driver/Subcontractor Copy)

## **Annual Training Workshop**

The City DM will be responsible for coordinating an annual training workshop for all assigned DCOT personnel. The purpose of the workshop is to review the Debris Management Plan procedures and to ensure that the DCOT operation works smoothly. Items of discussion will include:

- a. Contractor responsibility
- b. Mobilization sites
- c. Logistical support
- d. Pre-storm mobilization
- e. Procedures for call- up of Contractor personnel and equipment
- f. Haul routing
- g. Contractor vehicle identification and registration
- h. Debris hauling load ticket administration
- i. Mobilization and operation of the TDSR sites
- j. Contractor payment request submission, review, and verification
- k. Special procedures for Household Hazardous Waste
- l. TDSR site closure requirements

The DCOT team supervisor will be detailed from Springfield Public Works and Greene County Highway Department as well as from other City/County departments as required and designated by City/County elected officials. The DCOT team may also be supplemented with contracted inspectors and other personal as needed.

## **Household Hazardous Waste and White Goods**

The Joint Debris Management Team will identify one or more Household Hazardous Waste (HHW) drop-off locations within the City and County. Contractors will be encouraged to separate HHW at the curb and not haul it to a Debris Management Site. Residents will be encouraged to separate and transport HHW to pre-identified drop-off points. The Joint Debris Management Team will coordinate with the Missouri Department of Natural Resources officials for the collection of eligible industrial or commercial hazardous waste resulting from the disaster.

White goods are defined as discarded household appliances including, refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, water heaters, etc. Refrigerants and other machine fluids are regulated and will only be reclaimed by certified technicians and disposed of at a permitted facility. To avoid the releases of refrigerants or oils, the collection of white goods will be accomplished carefully by manually placing the appliance on trucks or by using lifting equipment that will not damage the elements that contain refrigerants or regulated oils. Residents will be required to segregate these materials from other types of debris.

## **Contractor Debris Removal and Disposal Operations**

Springfield and Greene County recognizes that disasters may generate debris of types and quantities that exceed the City/County's capabilities. Thus, Springfield and Greene County will implement a pre-positioned contracting process to have Contractors on stand-by to respond within a pre-determined period to assist in requested aspects of the debris operation.

The Joint Debris Management Team or authorized City/County personnel will contact the firm(s) holding pre-positioned debris removal and disposal contract(s) and advise them of impending conditions. The scope of the pre-positioned contract provides for the removal and lawful disposal of all natural disaster-generated debris, excepting household, industrial, or commercial hazardous waste. Debris removal will be limited to City/County-maintained streets, roads, and other public rights-of-way based on the extent of the disaster. Debris removal will be limited to disaster related material placed at or immediately adjacent to the edge of the rights-of-way by residents within designated Debris Control Zones.

Each Contractor, upon receipt of notice to proceed, will mobilize such personnel and equipment as necessary to conduct the debris removal and disposal operations detailed in the Contractor's General Operations Plan (required by the Debris Removal and Disposal Contract). All Contractor operations will be subject to review by the Joint Debris Management Team.

The Contractor will make multiple, scheduled passes of each site, location, or area impacted by the disaster according to assigned Debris Control Zones and as directed by the Joint Debris Management Team. Schedules will provide to the DMC PIO for publication and notification by the news media.

The load ticket, coupled with inspections by Roving, Load Site, and Disposal Site Monitors, will be the primary mechanism for monitoring Contractor performance and tracking quantities for pay purposes.

Federal support will be requested if the incident is beyond the City/County's capability and its Contractors. The USACE may be tasked by FEMA through the mission assignment process to provide the necessary support to the City/County.

If tasked by FEMA, USACE will respond by providing trained and experienced Debris Planning Response Teams that are responsible for managing the debris mission from removal to final disposal. These tasks are accomplished utilizing pre-awarded contracts to private industry Contractors experienced in debris removal operations. The USACE also has Debris Subject Matter Experts available to provide advice and support to the Contractor and the DMC staff.

### **Contractor Procurement Procedures**

Procurement of all debris related services shall comply with current City and County procurement procedures and State procurement ordinances.

Any emergency procurement shall be pre-approved by the respective City or County Procurement Officer.

In addition, procurement procedures shall be consistent with the FEMA procurement checklist found in Appendix 16.

Springfield and Greene County has pre-approved contractors for debris removal that have been obtained through standard City/County procurement procedures.

### **Temporary Debris Management and Landfill Sites**

The City/County recognizes the economic benefits of debris volume reduction, and will realize this benefit through the use of local debris management sites for processing of clean woody debris. Springfield and Greene County has identified pre-designed vegetative debris management sites for the sole purpose of temporarily storing and reducing clean woody debris through either burning or grinding. A listing of debris management sites is located in (Appendix E).

Contractors will operate the debris management sites made available by the City/County. Each Contractor will be responsible for all site setup, site operations, rodent control, closeout, and remediation costs at each of its sites. The Contractor is also responsible for the lawful disposal of all by-products of debris reduction that may be generated.

The Contractor will restore the debris management sites as close to the original condition as is practical so that it does not impair future land uses. All sites are to be restored to the satisfaction of the Debris Manager with the intent of maintaining the utility of each site.

Contractors are also expected to haul and manage construction and demolition (C&D) waste. C&D materials will be hauled to debris management sites for temporary sorting and storage until final disposal arrangements are made.

It is important to note that all material deposited at debris management sites will eventually be taken to a properly permitted landfill for final disposal. Under certain circumstances, the Joint Debris Management Team may direct Contractors to bypass C&D debris management sites and approve the hauling of mixed C&D debris directly to a properly permitted landfill for disposal.

While residents will be encouraged to segregate HHW at curbside, small amounts of HHW may be mixed in with material deposited at the debris management sites. Therefore, the Contractor must be prepared to place any HHW in a separate enclosed and lined area for temporary storage, and must report any accumulation of HHW at the debris management sites to the DCOT staff. The DCOT staff will notify the Debris Coordinators, who will coordinate for removal and disposal.

### **Temporary Debris Management Site Setup and Closeout Procedures**

The Contractor will be responsible for preparing and closing out a temporary Debris Management Site in accordance with the specification in the Debris Removal and Disposal Contract and guidance contained in (Appendix H).

### **Private Property Debris Disposal**

Dangerous structures are the responsibility of the owner to demolish in order to protect the health and safety of adjacent residents. However, experience has shown that unsafe structures will often remain in place due to lack of insurance or absentee landlords. Care must be exercised to ensure that the City/County properly identifies structures listed for demolition.

The Joint Debris Management Team will coordinate with the City, County, State and FEMA Public Assistance Officers regarding:

- a. Demolition of private structures.
- b. Removing Debris from private property.
- c. Local law and/or code enforcement requirement.
- d. Historic and archeological sites restrictions.
- e. Qualified environmental Contractors to remove hazardous materials such as asbestos and lead-based paint.
- f. Execution of Right-of-Entry/Hold Harmless agreements with landowners. A sample Right-of-Entry/Hold Harmless agreement is shown in (Appendix H).

### **Recycling Storm Debris**

The intent is to recycle as much of the storm generated debris as feasible.

**Vegetative Debris**-volume reduced, processed yard trash/vegetative storm debris will be transported to agricultural fields for use as a soil amendment in accordance with DEP policies for use of such materials and/or to cogeneration power plants for use as boiler fuel.

**Non-Vegetative, Non Hazardous Debris**- These materials commonly referred to as C/D (construction demolition debris) will attempt to be recycled if financially feasible and if volumes do not exceed the handling capacity of the Debris Management System of Temporary Debris Storage and Reduction (TDSR) sites.

### **Permitting**

All environmental and land-use variances permits necessary to establish temporary Debris Management Sites shall be obtained. Debris operations will comply with all Federal, State, and local regulations. Several agencies may be involved in issuing permits.

The following is a list of potential permits that may be required in debris operations.

- a. Waste processing and recycling operations permit
- b. Temporary land-use variances or permits
- c. Traffic or entrance permits
- d. Air quality permits
- e. Water quality permits
- f. Household Hazardous Waste permits
- g. Fire department permits
- h. Freon removal from white goods
- i. Erosion and sediment control

### **Environmental Requirements**

Following a disaster event, compliance with environmental protection laws and regulations is required. Federal and State Environmental Protection Agencies including but not limited to State Department of Environmental Quality and local Health Departments should be consulted for applicable regulatory requirements.

All Debris related activities shall be coordinated with Federal, State, and local agencies to ensure compliance with environmental and historic preservation laws/regulations/policies and determining environmental monitoring and reporting requirements for TDSR's, (**See Appendix 7**)

## **Health and Safety**

The contractor will be required to provide Springfield and Greene County with a comprehensive Health and Safety Plan.

The Health and Safety plan enables the agency and their contractors to avoid accidents during debris recovery operations and to protect workers from exposure to hazardous materials. The health and safety strategy establishes minimum safety standards for the agency and contractor personnel to follow.

The agency and contractor will disseminate safety information and how the agency will monitor compliance with the minimum safety standard to all emergency workers. The plan also includes specific corrective actions to be taken if workers do not comply with the minimum safety standards.

Debris operations involve the use of heavy equipment to move and process various types of debris. Many of these actions can pose safety hazards to emergency response and recovery personnel and the public. In addition to those safety hazards, exposure to certain types of debris, such as building materials that contain asbestos and mixed debris that contain hazardous materials, can pose potential health risks to emergency workers.

The health and safety plan provides emergency workers with information on how to identify hazardous conditions and specific guidelines on the appropriate and proper use of personal protective equipment.

## **Utility Company Property**

Springfield City Utilities and other local utility crews will remove and dispose of all utility related debris such as power transformers, utility poles, cable, and other utility company material.

## **Weapons of mass Destruction/Terrorism Event**

The handling and disposal of debris generated from a Weapons of Mass Destruction (WMD) or terrorism event will exceed the capabilities of the City/County and will require immediate Federal assistance.

Normally, a WMD or terrorism event will, by its very nature, requires all available assets and involve many more Federal and adjacent State and County departments and agencies. The nature of the waste stream as well as whether or not the debris is contaminated will dictate the necessary cleanup and disposal actions. Debris handling considerations that are unique to this type of event include:

- a. Much of the affected area will likely be a crime scene. Therefore, debris may be directed to a controlled debris management site by State and/or Federal law enforcement officials for further analysis.
- b. The debris may be contaminated by chemical, biological, or radiological contaminants. If so, the debris will have to be stabilized, neutralized, containerized, etc. before disposal. In such an occurrence, the operations may be under the supervision and direction of a federal agency and one or more specialty contractors retained by that agency. The presence of contamination will influence the need for pretreatment (decontamination), packaging and transportation.
- c. The type of contaminant will dictate the required capabilities of the personnel working with the debris. Certain contaminants may preclude deployment or resources that are not properly trained or equipped.

The Debris Manager will continue to be the single point of contact for all debris removal and disposal issues within the City/County. Coordination will be exercised through the USACE ESF #3 Branch located at the designated FEMA Disaster Field Office.

## **VI. DIRECTION AND CONTROL**

All City/County departments and agencies will maintain records of personnel, equipment, load tickets, and material resources used to comply with this Plan. Such documentation will then be used to support reimbursement from any Federal assistance that may be requested or required.

## **VII. CONTINUITY OF OPERATIONS**

City/County departments and agencies supporting debris operations will ensure 24-hour staffing capability during implementation of this plan, if the emergency or disaster requires or as directed by the Debris Manager.

## **VIII. AUTHORITY**

This plan is developed, promulgated, and maintained under the following State and Federal statutes and regulations:

- a. Public Law 93-288 as amended by Public Law 100-107, the Stafford Disaster Relief and Emergency Assistance Act and in this plan as “the Stafford Act.”
- b. Public Law 81-920, Federal Civil Defense Act of 1950, as amended.
- c. CFR, Title 44, Part 200 et seq.
- d. Springfield and Greene County Emergency Operations Plan

## **IX. DEVELOPMENT AND MAINTENANCE**

All City/County departments are responsible for the review of this Plan every five years in conjunction with the annual update to the City/County/EOP. It will be the responsibility of each tasked department and agency to update its respective portion of the Plan and ensure any limitations and shortfalls are identified and documented, and work-around procedures developed, if necessary.

The review will consider such items as:

- a. Changes in mission
- b. Changes in concept of operations
- c. Changes in organization
- d. Changes in responsibility
- e. Changes in desired contracts
- f. Changes in pre-approved contracts
- g. Changes in priorities

This Plan also may be updated as necessary to ensure a coordinated response as other Debris Management Plans are developed. Surrounding cities may also develop Debris Management plans that should be coordinated with the City/County’s Plan and other plans. This coordination is especially important with respect to allocation of resources such as temporary staging areas and disposal facilities.

## **DISASTER RECOVERY FUNCTION 4**

### **DEBRIS PLAN**

#### **APPENDICES**

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## APPENDIX 1

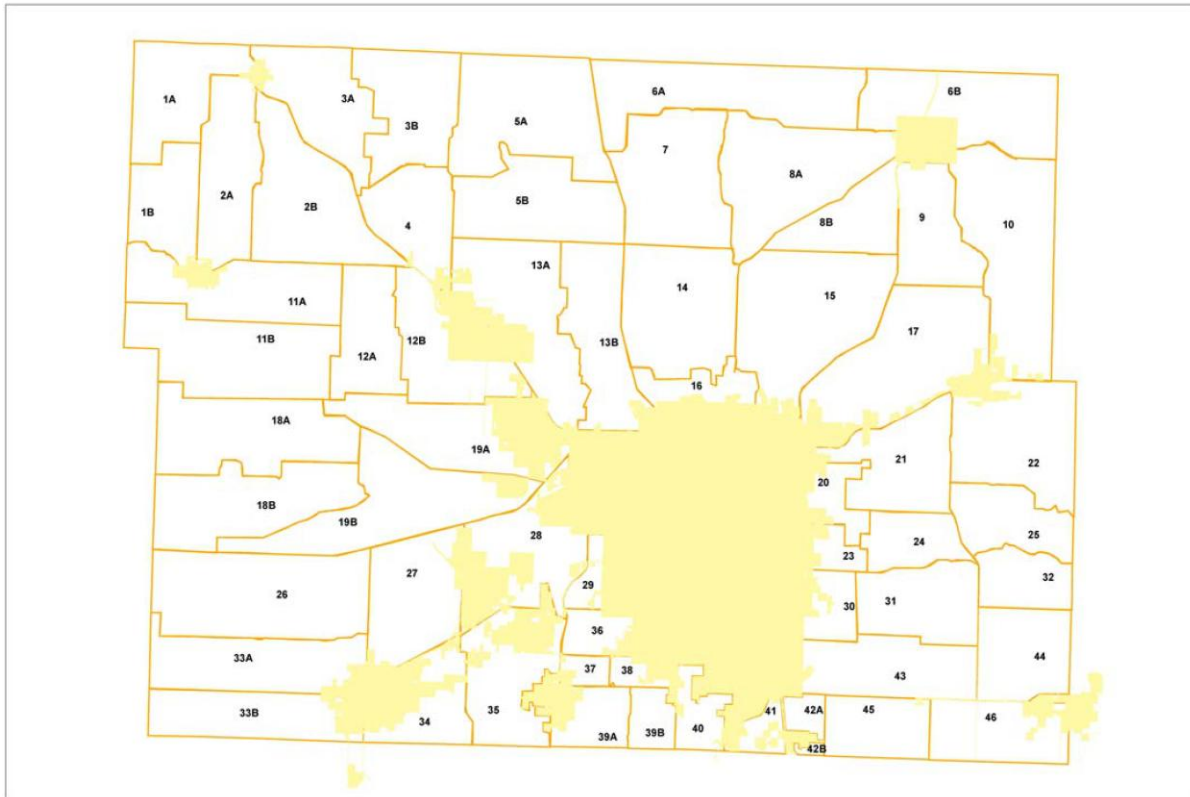
### DEBRIS MANAGEMENT CENTER FLOW CHART



## APPENDIX 2

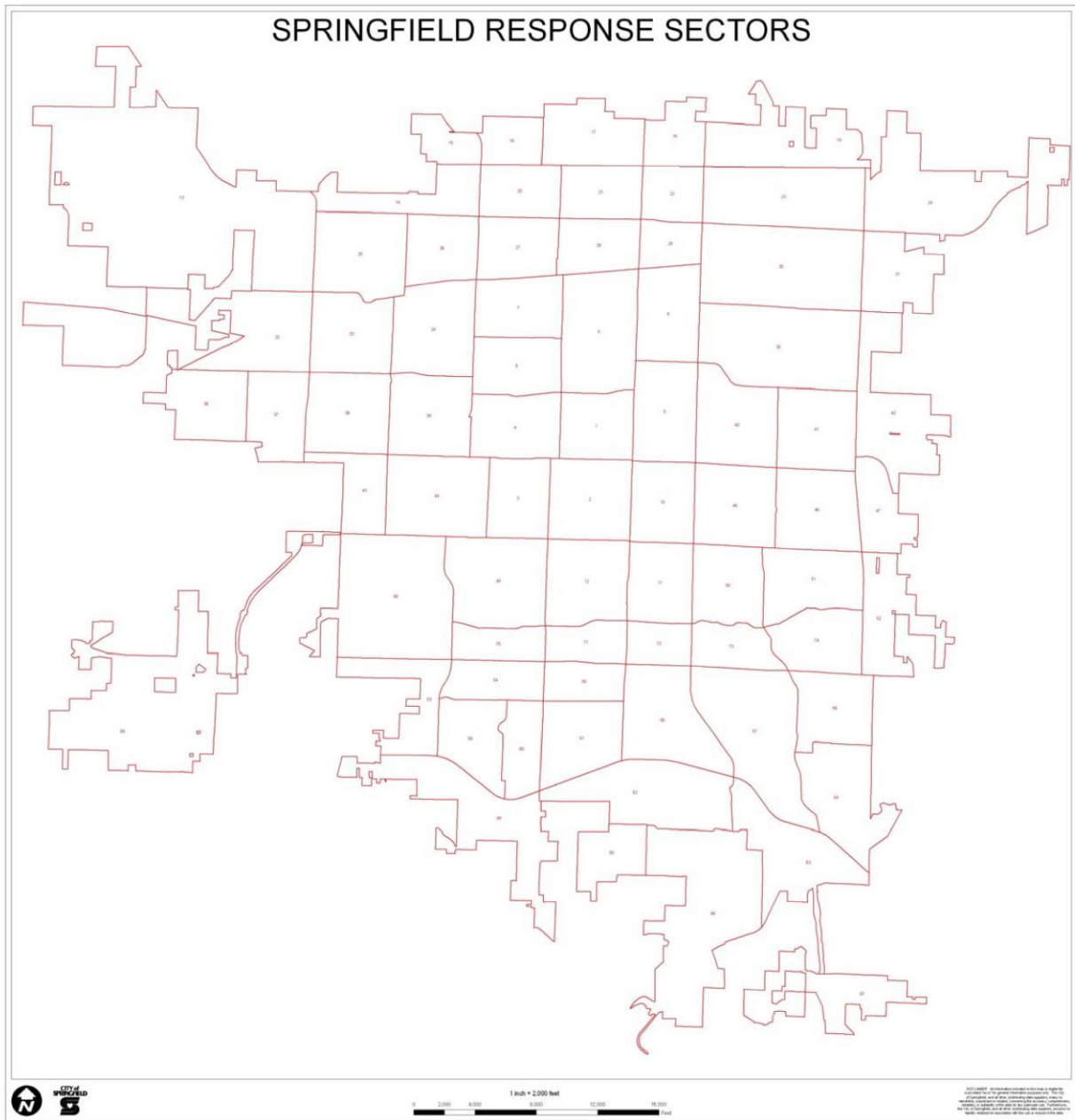
### DEBRIS CONTROL ZONE MAP

#### GREENE COUNTY DEBRIS CONTROL ZONES



## APPENDIX 2 (CONT)

### CITY OF SPRINGFIELD DEBRIS CONTROL ZONES



## **APPENDIX 3**

### **POTENTIAL TEMPORARY DEBRIS STORAGE AND REDUCTION SITES**

#### **I. Temporary Debris Staging and Reduction Sites**

Temporary Debris Staging and Reduction Sites are typically temporary in nature and used for debris segregation, stockpiling or reduction. The following Temporary Debris Staging and Reduction Sites are available for debris:

<u>Name:</u>	<u>Address:</u>
1. Meador Park	2500 S Freemont St., Springfield
2. Watkins Park	2100 W High St., Springfield
3. Cooper Park	2300 E Pythian St., Springfield
4. Wise Park	3100 W Nichols St., Springfield

#### **II. Landfills**

(See Appendix 14 for a complete listing)

## APPENDIX 4

### Monitoring Checklist, Survey Forms, Tracking Logs

#### Debris Loading Site Monitoring Checklist

Date: \_\_\_\_\_  
Arrival Time: \_\_\_\_\_ Departure Time: \_\_\_\_\_ Weather Conditions: \_\_\_\_\_  
Loading Site Location: \_\_\_\_\_  
(Street address or nearest intersection)  
GPS Location: N \_\_\_\_\_; W \_\_\_\_\_  
Loading Site Monitor's Name \_\_\_\_\_  
(Print Name)  
Roving Monitor's Name: \_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Signature)

#### Loading Site

1. Is the Site Monitor filling out the Load Ticket properly? YES ☐ NO ☐  
If NO, explain actions taken:  
\_\_\_\_\_  
\_\_\_\_\_
2. Is the Contractor loading eligible debris from the designated right-of way (approximately 15' from curb)? YES ☐ NO ☐  
If NO, explain actions taken:  
\_\_\_\_\_  
\_\_\_\_\_
3. Is the Contractor loading trucks to capacity? YES ☐ NO ☐  
If NO, explain actions taken:  
\_\_\_\_\_  
\_\_\_\_\_
4. Identify Contractor's truck numbers observed while on site:  
\_\_\_\_\_  
\_\_\_\_\_
5. Were photographs taken at the loading site? YES ☐ NO ☐  
If YES, list photo log numbers: \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_

General Notes and Comments: (Include observations within the general area as to overall cleanup activities)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(Use reverse side if necessary)

## APPENDIX 4 (cont)

### Debris Disposal Site Monitoring Checklist

Date: \_\_\_\_\_  
Arrival Time: \_\_\_\_\_ Departure Time: \_\_\_\_\_ Weather Conditions: \_\_\_\_\_  
Disposal Site Location: \_\_\_\_\_  
(Street address or nearest intersection)  
GPS Location: N \_\_\_\_\_; W \_\_\_\_\_  
Disposal Site Monitor's Name \_\_\_\_\_  
(Print Name)  
Roving Monitor's Name: \_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Signature)

#### Disposal Site

1. Is the Disposal Monitor filling out the Load Ticket properly? YES ☐ NO ☐  
If NO, explain actions taken:  
\_\_\_\_\_  
\_\_\_\_\_
2. Is the Disposal Monitor attaching a copy of the Weight Ticket to the Load Ticket? YES ☐ NO ☐  
If NO, explain actions taken:  
\_\_\_\_\_  
\_\_\_\_\_
3. Are the Contractor's trucks loaded to capacity? YES ☐ NO ☐  
If NO, explain actions taken:  
\_\_\_\_\_  
\_\_\_\_\_
4. Identify Contractor's truck numbers observed while on site:  
\_\_\_\_\_  
\_\_\_\_\_
5. Were photographs taken at the loading site? YES ☐ NO ☐  
If YES, list photo log numbers: \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_

General Notes and Comments: (Include observations of operations at the landfill)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (Use reverse side if necessary)

## APPENDIX 4 (cont)

### Stockpiled Debris Field Survey Form

Stockpiled Debris Field Survey Form	
Type of Material:	
Clean Vegetative___ Mixed___ C&D___ Mulch___ Other_____	
Stockpile Location: _____	Date: _____
Average Length of Stockpile: _____ Feet	
Average Width of Stockpile: _____ Feet	
Average Height of Stockpile: _____ Feet	
Total Cubic Feet : _____ Cubic Feet	
Total Cubic Yards:(Cubic Feet divided by 27) _____ Cubic Yards	
Contractor's Representative: _____	Date _____
Government's Representative: _____	Date _____
Remarks: _____	
See Sketch of Site on Reverse Side	

Stockpiled Debris Field Survey Form		
Stockpile Location: _____		
	Width _____ Feet	
	Height _____ Feet	
Length _____ Feet	Height _____ Feet	Length _____ Feet
	Height _____ Feet	Remarks: _____
	Height _____ Feet	_____
$\frac{L' \times W' \times H'}{27} = CY$	Width _____ Feet	_____

## APPENDIX 4 (cont)

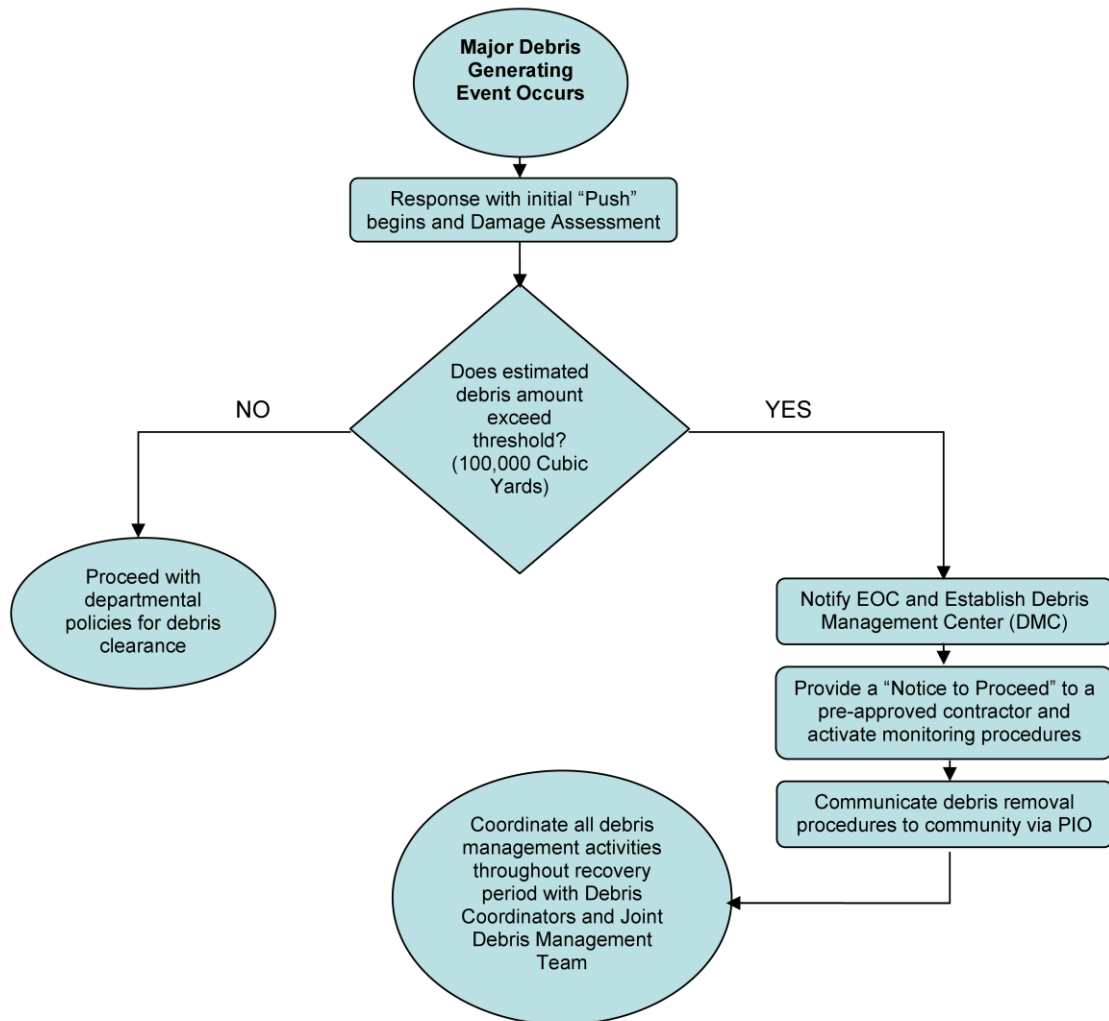
### Debris Disposal Site Load Tracking Log

#### Debris Disposal Site Load Tracking Log

<b>Date</b>		<b>Supervisor's Name</b>		<b>Debris Contractor's Site Representative's Name</b>			
<b>Weather: am:</b>		<b>Weather: pm</b>					
<b>Location</b>			<b>Monitor's Name(s)</b>				
<b>Truck No.</b>	<b>Ticket No.</b>	<b>Ticket Owner</b>	<b>Estimated Quantity (CY)</b>	<b>Monitor's Initials</b>	<b>Load Accepted</b>	<b>Load Denied</b>	<b>Remarks</b>

## APPENDIX 5

### DEBRIS RESPONSE FLOWCHART



## APPENDIX 6

### Right of Entry / Household Harmless Agreement

#### AGREEMENT FOR TEMPORARY ACCESS AND RIGHT OF ENTRY FOR STORM DEBRIS ASSESSMENT AND/OR REMOVAL

**THIS AGREEMENT**, made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between **GREENE COUNTY, MISSOURI** ("County") and \_\_\_\_\_, Owner(s) of the Property located at \_\_\_\_\_, \_\_\_\_\_, Missouri ("Owner").

#### WITNESSETH:

**WHEREAS**, Owner is the Owner in fee of a certain parcel of real estate located at \_\_\_\_\_, \_\_\_\_\_, Greene County, Missouri (the "Property");

**WHEREAS**, a recent severe weather event has resulted in significant quantities of storm-generated debris to be deposited on the Property of Owner; and

**WHEREAS**, the continued existence of storm-generated debris threatens to damage public utilities, infrastructure, and pose a danger to public health and safety; and

**WHEREAS**, Owner consents to County investigating and possibly removing any and all storm-generated debris of whatsoever nature from the above-described property (the "Project"); and

**WHEREAS**, County is in need of a temporary access, right of entry, and a license to enter and have access to the Owner's Property to commence the assessment of storm-generated debris and conduct any clean up and removal activities it deems necessary.

**NOW, THEREFORE**, for the consideration set forth herein, it is hereby agreed:

1. Owner hereby grants County temporary access and right of entry to the Property for storm debris assessment and/or removal, which temporary access shall expire upon the completion or abandonment of the Project.

2. Owner will mark any storm damaged sewer lines, water lines, gas lines, electric lines or other utility lines located on the property.

3. In the event the County elects to conduct exploratory activities to investigate the extent of storm generated debris on the Owner's Property to determine the possible options to remove said debris, County shall supply all labor and materials, at no cost to the Owner. If the County does not believe commencement or completion of the Project would be appropriate or cost effective, the County may decline or abandon the Project and remove all equipment from the property and have no further obligation under this agreement to conduct any additional storm debris assessment or removal referenced herein.

4. The County believes and asserts that it has no affirmative duty to commence this project as the storm-generated debris was the result of an act of nature that occurred on the private property of Owner. Owner and County acknowledge that the work and services being provided by County are in no way obligating the County with respect to removing storm-generated debris from the property or to conduct any future work or repairs that may be needed relating to said storm debris that currently exist or may develop on the property in the future.

5. Owner will be responsible for repair of any damage to Owner's real or personal property arising out of the work performed by County in connection with the County's activities associated with the assessment and/or removal of storm-generated debris.

6. Owner agrees to release, discharge and waive any action, either legal or equitable, that it may have against County, its elected officials, officers, agents, employees, contractors or subcontractors that might arise out of any of their activities on the above-described property. Owner further agrees to indemnify, defend and hold harmless Greene County, Missouri, its elected officials, officers, agents, employees, contractors and subcontractors, from any and all claims, liabilities, awards of judgment, costs and expenses (including, but not limited to, reasonable attorneys' fees), and damages of any nature whatsoever either to the Owner's Property or any person and/or their property situated thereon, resulting from or arising out of any act or omission of Owner which occurs while County is conducting storm generated debris assessment or removal activities on the Property.

7. Owner represents and warrants that I/we ( ☐ have / ☐ have not) (☐ will / ☐ will not) receive(d) any compensation for debris removal from any other source, including the Small Business Association (SBA) Agricultural Stabilization and Conservation Service (ASCS), private insurance, individual and family grant program or any other public assistance program. Owner will report to County any insurance settlements pertaining to the Property for storm debris removal that has been performed at government expense.

**SO AGREED ON THE DATE AND YEAR FIRST ABOVE WRITTEN.**

**OWNER(s):**

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

**GREENE COUNTY COMMISSION**

\_\_\_\_\_  
Jim Viebrock, Presiding Commissioner

\_\_\_\_\_  
Harold Bengsch, Commissioner 1<sup>st</sup> District

\_\_\_\_\_  
Roseann Bentley, Commissioner 2<sup>nd</sup> District

ATTEST:

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Richard T. Struckhoff, County Clerk

**SPRINGFIELD AND GREENE COUNTY**

**OFFICE OF EMERGENCY MANAGEMENT**

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Ryan Nicholls, CEM, Mo CEM

## APPENDIX 7

### TDSR Site Setup and Closeout

#### Guidelines

##### TDSR Site Setup

The topography and soil/substrate conditions should be evaluated to determine best site layout. When planning site preparation, think of ways to make restoration easier. For example, if the local soils are very thin, the topsoil can be scraped to bedrock and stockpiled in perimeter berms. Upon site closeout, the uncontaminated soil can be spread to preserve the integrity of the tillable soils.

The following site baseline data checklist should be used to evaluate a site before a contractor begins operations and used during and after to ensure that site conditions are properly documented.

##### TDSR Site Baseline Data Checklist

###### A. Before Activities Begin

- ☐ Take ground or aerial photographs and/or video.
- ☐ Note important features, such as structures, fences, culverts, and landscaping.
- ☐ Take random soil samples.
- ☐ Take random groundwater samples.
- ☐ Take water samples from existing wells.
- ☐ Check the site for volatile organic compounds.

###### B. After Activities Begin

- ☐ Establish groundwater-monitoring wells.
- ☐ Take groundwater samples.
- ☐ Take spot soil samples at household hazardous waste, ash, and fuel storage areas.

###### C. Progressive Updates

- ☐ Update videos/photographs
- ☐ Update maps/sketches of site layout.
- ☐ Update quality assurance reports, fuel spill reports, etc.

##### TDSR Site Operations

Lined Temporary storage areas should be established for ash, household hazardous waste, fuels, and other materials that may contaminate soils and groundwater. Plastic liners should be placed under stationary equipment such as generator and mobile lighting plants. These actions should be included as a requirement in the contract scope of work. If the site is also an equipment storage area, fueling and equipment repair should be monitored to prevent and mitigate spills of petroleum products and hydraulic fluids. Be aware of and lessen the effects of operations that might irritate occupants of neighboring areas. Establishment of buffer zone can abate concerns over smoke, dust, noise, and traffic.

Consider on-site traffic patterns and segregate materials based on planned volume reduction methods. Operations that modify the landscape, such as substrate compaction and over excavation of soils when loading debris for final disposal, will adversely affect landscape restoration.

Debris removal/disposal should be viewed as a multi-staged operation with continuous volume reduction. There should be no significant accumulation of debris at temporary storage sites. Instead, debris should be constantly flowing to burners and grinders, or recycled with the residue and mixed construction and demolition materials going to a landfill.

## **TDSR Site Closeout**

Each TDSR site will eventually be emptied of all material and be restored to its previous condition and use. The Contractor is required to remove and dispose of all mixed debris, construction and demolition debris, and debris residue to approved landfills. Appropriate Springfield and Greene County inspectors will monitor all closeout activities to ensure that the Contractor complies with the Debris Removal and Disposal Contract. Additional measures may be necessary to meet local, State and Federal environmental requirements because of the nature of the TDSR site operation(s).

### **A. TDSR Site Closeout Planning**

The Contractor must assure the Debris Manager that all TDSR sites are properly remediated. There will be significant costs associated with this operation as well as close scrutiny by the local press and environmental groups. Site remediation will go smoothly if baseline data collection and site operation procedures are followed. Closeout or re-approval of a TDSR site should be accomplished within 30 days of receiving the last load of debris.

### **B. TDSR Site Closeout Steps**

- a. Contractor is responsible for removing all debris from the site.
- b. Contractor conducts an environmental assessment with the Debris Manager and landowner.
- c. Contractor develops a remediation plan.
- d. Remediation plan reviewed by the Debris Manager, landowner, and appropriate environmental agency.
- e. Remediation plan approved by the appropriate environmental agency.
- f. Contractor executes the plan.
- g. Contractor obtains acceptance from the Debris Manager, appropriate environmental agency, and the landowner

### **C. TDSR Site Closeout Coordination**

The Contractor will coordinate the following closeout requirements through the DCOT staff:

- a. Coordinate with local and State officials responsible for construction, real estate, contracting, project management, and legal counsel regarding requirements and support for implementation of a site remediation plan.
- b. Establish an independent testing and monitoring program. The Contractor is responsible for environmental restoration of both public and leased sites. The Contractor will also remove all debris from sites for final disposal at landfills prior to closure.
- c. Refer to appropriate and applicable environmental regulations.
- d. Prioritize site closures.
- e. Schedule closeout activities.
- f. Determine separate protocols for ash, soil, and water testing.
- g. Develop decision criteria for certifying satisfactory closure based on limited baseline information.
- h. Develop administrative procedures and contractual arrangements for closure phase.
- i. Inform local and State environmental agencies regarding acceptability of program and established requirements.
- j. Designate approving authority to review and evaluate Contractor closure activities and progress.
- k. Retain staff during closure phase to develop site-specific remediation for sites, as needed, based on information obtained from the closure checklist shown below.

#### **D. Material Removal**

- a. All processed and unprocessed vegetative material shall be removed to a properly approved solid waste management site.
- b. Tires must be disposed of at a scrap tire collection/processing facility; white goods and other scrap metal should be separated for recycling.
- c. Burn residues shall be removed to a properly approved solid waste management site or land applied in accordance with these guidelines.
- d. All other materials, unrecoverable metals, insulation, wallboard, plastics, roofing material, painted wood, and other material from demolished buildings that is not inert debris (see #1 above) as well as inter debris that is mixed with such materials shall be removed to a properly permitted C&D recycling facility, C&D landfill, or municipal solid waste landfill.

#### **E. TDSR Site Remediation**

During the debris removal process and after the material has been removed from each of the TDSR sites, environmental monitoring will be needed to close each of the sites. This is to ensure that no long-term environmental contamination is left on the site. The monitoring should be done on three different media: ash, soil, and groundwater.

**Ash:** The monitoring of the ash should consist of chemical testing to determine the suitability of the material for either agricultural use or as a landfill cover material.

**Soil:** Monitoring of the soils should be by portable inspection methods to determine if any of the soils are contaminated by volatile hydrocarbons. The Contractors may do this if it is determined that hazardous material, such as oil or diesel fuel was spilled on the site. This phase of the monitoring should be done after the stockpiles are removed from the site.

**Groundwater:** The monitoring of the groundwater should be done to determine the probable effects of rainfall leaching through either the ash areas or the stockpile areas.

#### **F. TDSR Site Closure Checklist**

- ☐ Site number and location
- ☐ Date closure complete
- ☐ Household hazardous waste removed
- ☐ Contractor equipment and temporary structures removed
- ☐ Contractor petroleum spills remediated
- ☐ Ash piles removed
- ☐ Comparison of baseline information to conditions after the Contractor has vacated the temporary site.

#### **G. Site Re-approval**

Sites that were approved as TDSR sites will require re-approval for long-term storage, continuing reduction processing, and permanent disposal if site is not closed out in accordance with guidelines stated here. Sites shall be managed and monitored in accordance with the Health Department requirements and to prevent threats to the environment or public health.

## **APPENDIX 8**

### **Temporary Construction and Demolition Staging/Transfer Site Guidelines**

#### **General**

The following guidelines should be considered when establishing staging/transfer sites for Construction & Demolition (C&D) and C&D recycling treatment and processing facilities.

These guidelines apply only to sites for staging/transferring C&D storm debris (roof shingles/roofing materials, carpet, insulation, wallboard, treated and painted lumber, etc.). Arrangements should be made to screen out unsuitable materials, such as household garbage, white goods, asbestos containing materials (ACM's), and household hazardous waste.

#### **Selecting Temporary Staging/Transferring Sites**

Locating sites for staging/transferring C&D waste can be accomplished by evaluating potential sites and by revisiting sites used in the past to see if site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site. The following guidelines are presented in locating a site for "staging/transferring" and are considered "minimum standards" for selecting a site for use:

- a. Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your City to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.
- b. Unloading areas for incoming C&D debris material should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.
- c. Storage areas for incoming C&D debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.
- d. Materials separated from incoming C&D debris (white goods, scrap metal, etc.) shall be at least 50 feet from site property lines. Other non-transferable C&D wastes (household garbage, larger containers of liquid, household hazardous waste shall be placed in containers and transported to the appropriate facilities as soon as possible.
- e. Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.
- f. Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.
- g. Sites shall have an attendant(s) during operating hours to minimize the acceptance of unapproved materials and to provide directions to haulers and private citizens bringing in debris.
- h. Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks.
- i. When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of after-hours emergency.
- j. Final written approval is required to consider any TDSR site to be closed. Closeout of processing/recycling sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time

frame, permitting of the site by the State may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closeout of sites shall be in accordance with the closeout and restoration of TDSR sites guidelines.

### **C&D Treatment & Processing/Recycling Sites**

Management of C&D debris and source separated materials to be recycled shall be in accordance with the following additional conditions:

- a. Contact the city Health Department for information on managing asbestos containing materials (ACM's) or materials that are considered regulated asbestos containing materials.
- b. Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your City to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.
- c. Storage areas for incoming debris should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.
- d. Storage areas for incoming debris shall be located at least 100 feet from property boundaries and on-site buildings/structures.
- e. Sites that have identifiable wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site verification by the local Corps of engineers office or will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.
- f. Storage areas for incoming C&D debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.
- g. Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris and the intense heat generated by the air curtain burner (ACB) device. Underground utilities need to be identified prior to digging pits for using the ACB device.
- h. Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or other equipment when the facilities are closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.
- i. When possible, post signs with operating hours and information about what types of clean up waste may be accepted. Also include information as to whether only commercial haulers or the general public may deposit waste.
- j. Final written approval is required to consider any TDSR site to be closed. Closeout of processing/recycling sites shall be within six months of recycling waste. If site operations will be necessary beyond this time frame, permitting of the site by the State may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed.

## APPENDIX 9

### Temporary Vegetative TDSR Site Guidelines

#### General

When preparing temporary facilities for handling debris resulting from the clean-up efforts due to hurricane damage, the following guidelines should be considered when establishing Temporary TDSR sites.

These guidelines apply only to sites for staging or burning vegetative storm debris (yard waste, trees, limbs, stumps, branches, and untreated or unpainted wood). Arrangements should be made to screen out unsuitable materials.

The two method(s) of managing vegetative and land clearing storm debris is “chipping/grinding” for use in landscape mulch, compost preparation, and industrial boiler fuel or using an “air curtain burner (ACB)”, with the resulting ash being land applied as a liming agent or incorporated into a finished compost product as needed,

#### Chipping and Grinding Sites

Locating sites for chipping/grinding of vegetative and land clearing debris will require a detailed evaluation of potential sites and possible revisits at future dates to see if site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site.

The following guidelines are presented in locating a site for “chipping/grinding” and are considered “minimum standards” for selecting a site for use:

- a. Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your City to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.
- b. Storage areas for incoming debris and processed material should be at a minimum 100 feet from all surface waters of the state. “Waters of the state” includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.
- c. Storage areas for incoming debris and processed material shall be at least 100 feet from the site property boundaries and on-site buildings/structures. Management of processed material shall be in accordance with the guidelines for reducing the potential for spontaneous combustion in compost/mulch piles.
- d. Storage areas for incoming debris shall be located at least 100 feet from residential dwellings, commercial or public structures, potable water supply wells, and septic tanks with leach fields.
- e. Sites that have identifiable wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.
- f. Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris, and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.
- g. Sites shall have an attendant(s) during operating hours to minimize the acceptance of unproved materials and to provide directions to haulers and private citizens bringing in debris.
- h. Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks. Sites should have primary and/or secondary roads to the site.
- i. When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of an after-hours emergency.
- j. Grinding of clean wood waste such as pallets and segregated non-painted/non-treated dimensional lumber is allowed.

- k. Final written approval is required to consider any TDSR site to be closed. Closeout of staging and processing sites shall be within six months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closeout of sites shall be in accordance with the closeout and restoration guidelines for TDSR sites.

## APPENDIX 10

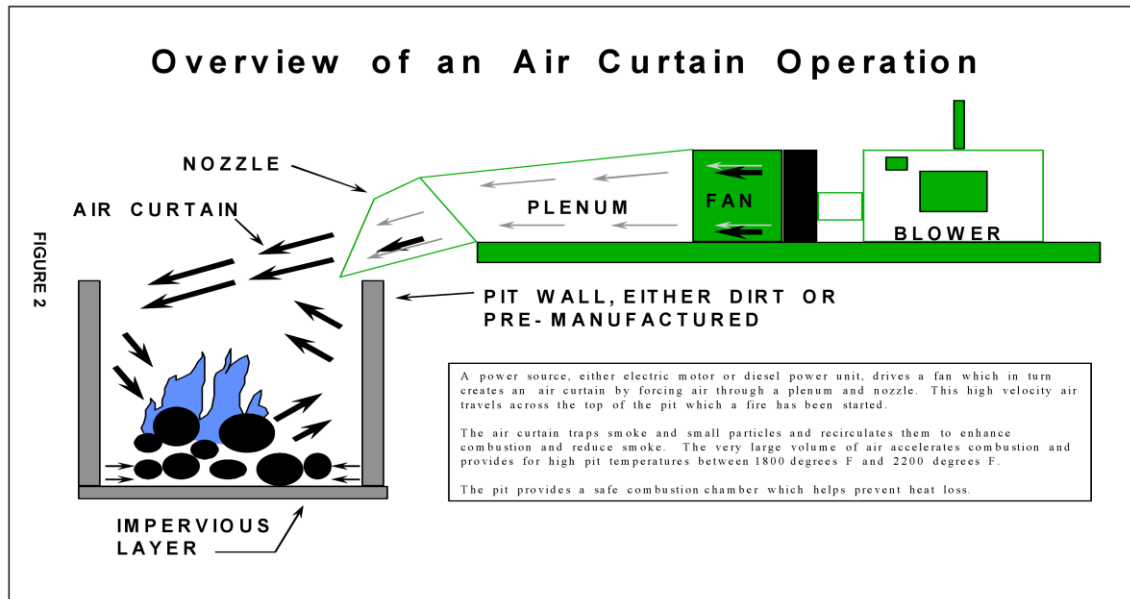
### Air Curtain Burner Site Location and Operations

Locating sites that are intended for air curtain burning (ACB) operations is a coordinated effort between Springfield and Greene County and the State of Missouri for evaluating the surrounding areas and to reevaluate potential sites used in the past.

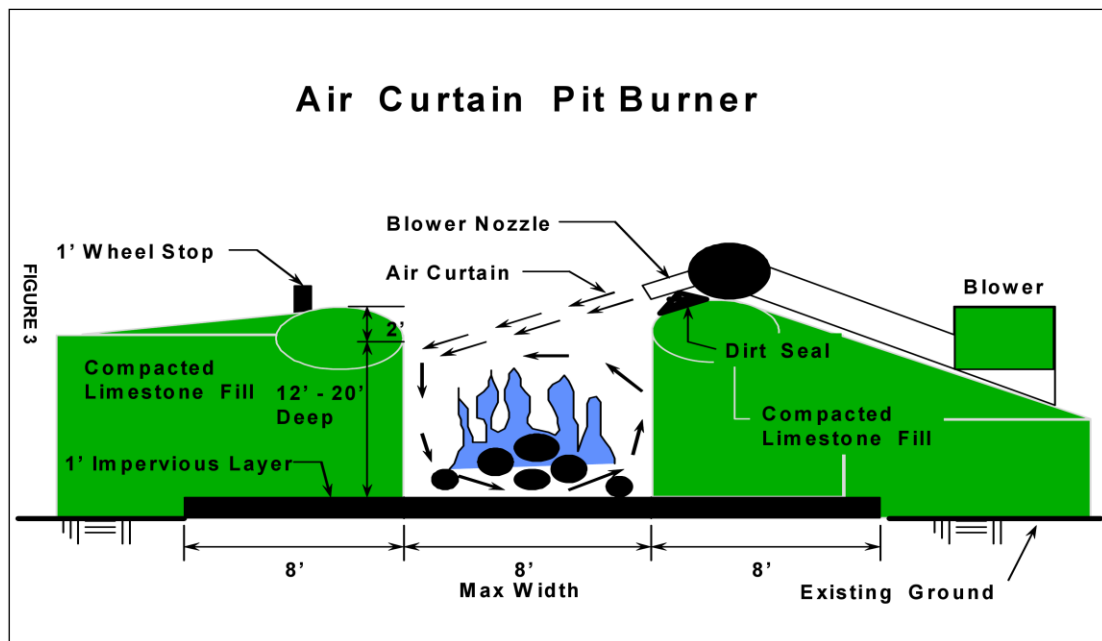
The following guidelines are presented for selecting an ACB site and operational requirements once a site is in use:

- a. Contact the local fire marshal or fire department for input into site selection in order to minimize the potential for fire hazards, other potential problems related to firefighting that could be presented by the location of the site, and to ensure that adequate fire protection resources are available in the event of an emergency.
- b. The requirements for ACB device(s), in accordance with Air Quality rules require the following buffers: a minimum of 500 feet from the SCB device to homes, dwellings and other structures and 250 feet from roadways. Contact the Missouri Department of Natural Resources for updates or changes to their requirements.
- c. Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your City to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected. If ACB pit devices are utilized, a minimum two-foot separation to the seasonal high water table is recommended. A large buffer to the seasonal high water table may be necessary due to on-site soil conditions and topography.
- d. Storage areas for incoming debris should be at a minimum 100 feet from property boundaries and on-site buildings/structures.
- e. Air Curtain Burners in use should be located at least 200 feet from on-site storage areas for incoming debris, on-site dwellings and other structures, potable water supply wells, and septic tanks and leaching fields.
- f. Wood ash stored on-site shall be located at least 200 feet from storage areas for incoming debris, processed mulch or tub grinders (if a grinding site and ACB site is located on the same property). Wood ash shall be wetted prior to removal from the ACB device or earth pit and placed in storage. If the wood ash is to be stored prior to removal from the site, then rewetting may be necessary to minimize airborne emissions.
- g. Wood ash to be land applied on site or off site shall be managed in accordance with the guidelines for the land application of wood ash from storm debris burn sites. The ash shall be incorporated into the soil by the end of the operational day or sooner if the wood ash becomes dry and airborne.
- h. Sites that have identifiable wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged, and a 100-foot buffer shall be maintained for all activities on-going at the site.
- i. Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris and the intense heat generated by the ACB device. Underground utilities need to be identifiable prior to digging pits for using the ACB device.
- j. Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or other equipment when the facilities are closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.
- k. When possible, post signs with operating hours and information about what types of clean up waste may be accepted. Also, include information as to whether only commercial haulers or the general public may use deposit waste.

Closeout of air curtain burner sites shall be within six (6) months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed.



Based on FEMA 325, *Debris Management Guide*, Appendix H, Figure 2, 1999.



Based on FEMA 325, *Debris Management Guide*, Appendix H, Figure 3, 1999.

## **APPENDIX 11**

### **Environmental Checklist for Air Curtain Pit Burners**

Incineration site inspections will also include an assessment of the environmental controls being used by the Contractor. Environmental controls are essential for all incineration methods, and the following will be monitored.

- ☐ A setback of at least 1,000 feet should be maintained between the debris piles and the incineration area. Keep at least 1,000 feet between the incineration area and the nearest building. Contractor should use fencing and warning signs to keep the public away from the incineration area.
- ☐ The fire should be extinguished approximately two hours before anticipation removal of the ash mound. The ash mound should be removed when it reaches 2 feet below the lip of the incineration pit.
- ☐ The incineration area should be placed in an above ground or below ground pit that is no wider than 8 feet and between 9 and 14 feet deep.
- ☐ Above ground incineration pits should be constructed with limestone and reinforced with earth anchors or wire mesh to support the weight of the loaders. There should be a 1-foot impervious layer of clay or limestone on the bottom of the pit to steal the ash from the aquifer.
- ☐ The ends of the pits should be sealed with dirt or ash to a height of 4 feet.
- ☐ A 12-inch dirt seal should be placed on the lip of the incineration pit area to seal the blower nozzle. The nozzle should overlap the pit edge by 3 to 6 inches.
- ☐ There should be a 1-foot high, unburnable warning stops along the edge of the pit's length to prevent the loader from damaging the lip of the incineration pit.
- ☐ Hazardous or contaminated ignitable material should not be placed in the pit. This is to prevent contained explosions.
- ☐ The airflow should hit the wall of the pit about 2 feet below the top edge of the pit, and the debris should not break the path of the airflow except during dumping.
- ☐ The pit should be no longer than the length of the blower system and the pit should be loaded uniformly along its length.

## **APPENDIX 12**

### **Land Application of Wood Ash from Storm Debris Burn Sites Guidelines**

- a. Whenever possible, soil test data and waste analysis of the ash should be available to determine appropriate application rate.
- b. In the absence of test data to indicate agronomic rates, application should be limited to 2 to 40 tons per acre/one-time event. If additional applications are necessary, due to the volume of ash generated and time frame in which the ash is generated, then an ash management plan will be needed.
- c. Ash should be land applied in a similar manner as agricultural limestone.
- d. Ash should not be land applied during periods of high wind to avoid the ash blowing off the application sites.
- e. Ash should not be land applied within 25 feet of surface waters or within 5 feet of drainage ways or ditches on sites that are stabilized with vegetation. These distances should be doubled on sites that are not vegetated and the ash should be promptly incorporated into the soil.
- f. Records should be maintained to indicate where ash is applied and the approximate quantities of ash applied.
- g. As an option to land application, ash may be managed at a permitted municipal solid waste landfill after cooling to prevent possible fire.
- h. Assistance in obtaining soil test data and waste analysis should be available through Missouri Department of Natural Resources.

## APPENDIX 13

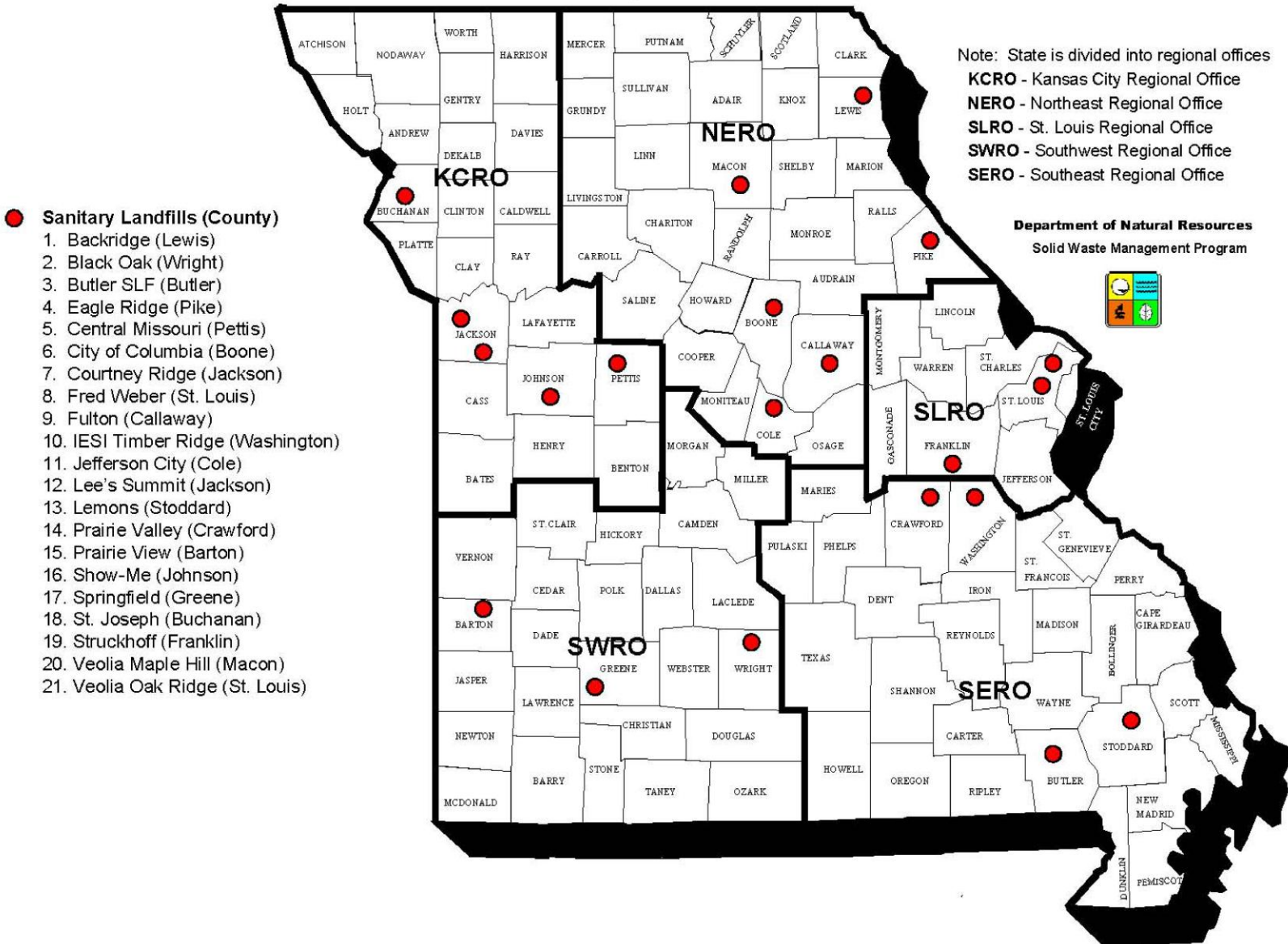
### Reducing the Potential for Spontaneous Combustion in Compost of Mulch Piles Guidelines

- a. When ground organic debris is put into piles, microorganisms can very quickly begin to decompose the organic materials. The microorganisms generate heat and volatile gases as a result of the decomposition process. Temperatures in these piles can easily rise to more than 160 degrees Fahrenheit. Spontaneous combustion can occur in these situations.
- b. Spontaneous combustion is more likely to occur in larger piles of debris because of a greater possibility of volatile gases building up in the piles and being ignited by the high temperatures. If wind rows can be maintained 5 feet to 6 feet high and 8 feet to 10 feet wide, volatile gases have a better chance of escaping the piles; and the possibility of spontaneous combustion will be reduced.
- c. Turning piles when temperatures reach 160 degrees can also reduce the potential for spontaneous combustion. Pile turning provides an opportunity for gases to escape and for the contents of the pile to cool. Adding moisture during turning will increase cooling. Controlling the amount of nitrogen-bearing (green) wastes in piles will also help to reduce the risk of fire. The less nitrogen in the piles the slower the decomposition process and consequently the less heat generated and gases released.
- d. Large piles should be kept away from wooded areas and structures and should be accessible to firefighting equipment, in case a fire were to occur. Efforts should be made to avoid driving or operating heavy equipment on large piles because the compaction will increase the amount of heat build-up, which could increase the possibility of spontaneous combustion.

## APPENDIX 14


### AREA LANDFILL LISTINGS

#### Missouri Sanitary Landfills



## APPENDIX 15

### FEMA FACT SHEETS

	<b>FEMA</b>	<b>RECOVERY DIVISION FACT SHEET RP9580.201</b>
<b>DEBRIS REMOVAL APPLICANT'S CONTRACTING CHECKLIST</b>		
<b>Overview</b>		
<p>To be eligible for reimbursement under the Public Assistance Program, contracts for debris removal must meet rules for Federal grants, as provided for in 44 CFR Part 13.36 <i>Procurement</i> (<a href="http://www.access.gpo.gov/nara/cfr/waisidx_04/44cfr13_04.html">http://www.access.gpo.gov/nara/cfr/waisidx_04/44cfr13_04.html</a>). Public Assistance applicants should comply with their own procurement procedures in accordance with applicable State and local laws and regulations, provided that they conform to applicable Federal laws and standards identified in Part 13. The following guidance is provided to assist Public Assistance applicants in the procurement process.</p>		
<b>Contracting Process Checklist</b>		
<ul style="list-style-type: none"><li><input type="checkbox"/> Use competitive bidding procedures. Complete and document a cost analysis to demonstrate price reasonableness on any contract or contract modification where adequate price competition is lacking, as detailed in 44 CFR 13.36(f).</li><li><input type="checkbox"/> Provide a clear and definitive scope of work and monitoring requirements in the request for proposals/bids. Use acceptable emergency contracting procedures that include an expedited competitive bid process only if time does not allow for more stringent procedures.</li><li><input type="checkbox"/> Require bidders to provide copies of references, licenses, financial records, and proof of insurance and bonding.</li><li><input type="checkbox"/> Obtain review from your legal representative of your procurement process and any contract to be awarded to ensure they are in compliance with all Federal, State, and local requirements.</li><li><input type="checkbox"/> Document procedures used to obtain/award contracts (procurement information, bid requests and tabulations, etc).</li><li><input type="checkbox"/> Use load ticket requirement to record with specificity (e.g., street address) where debris is picked up and the amount picked up, hauled, reduced and disposed of.</li></ul>		
<p><i>FEMA will, when requested by applicants, assist in the review of debris removal contracts. However, such a review does not constitute approval.</i></p>		
<p>Prepared By: Public Assistance Branch - Date Prepared: August 30, 2006 - Page 1 of 4</p>		



**FEMA**

**RECOVERY DIVISION**

# **FACT SHEET**

**RP9580.201**

## **DEBRIS REMOVAL**

### **APPLICANT'S CONTRACTING CHECKLIST**

#### **Contract Provisions Checklist**

**All contracts must contain/reflect the following provisions:**

- ☐ All payment provisions must be based on unit prices.
- ☐ No payments may be based on time and material costs unless limited to work performed during the first 70 hours of actual work following a disaster event.
- ☐ That payment will be made only for debris that FEMA determines eligible, referencing FEMA regulations and Public Assistance guides and fact sheets. (This is an optional provision to protect the applicant, and is used only following a major disaster declaration.)
- ☐ An invoice provision requiring contractors to submit invoices regularly and for no more than 30-day periods.
- ☐ A "Termination for Convenience" clause allowing contract termination at any time for any reason.
- ☐ A reasonable limit on the period of performance for the work to be done.
- ☐ A subcontract plan including a clear description of the percentage of the work the contractor may subcontract out and limiting use of subcontractors to only those you approve.
- ☐ The preference that the contractor use mechanical equipment to load and reasonably compact debris into the trucks and trailers.
- ☐ The requirement that the contractor provide a safe working environment, including properly constructed monitoring towers.
- ☐ Option of a unit price for extracting from ground and removing FEMA-eligible stumps (only for stumps with diameters larger than 24 inches, measured 24 inches above the ground, and with 50% or more of the root ball exposed), or including all stumps in the unit price.



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## **DEBRIS REMOVAL APPLICANT'S CONTRACTING CHECKLIST**

### **Contract Provisions Checklist - Continued**

**All contracts must contain/reflect the following provisions:**

- ☐ Requirement that all contract amendments and modifications be in writing.
- ☐ Requirement that contractor obtain adequate payment and performance bonds and insurance coverage.

### **Pre-Disaster and Stand-By Contracts Checklist**

- ☐ It is recommended that you pre-qualify contractors prior to an event and solicit bid prices from this list of contractors once an event has occurred.
- ☐ The solicitation for pre-qualifying contractors must adequately define in the proposed scope of work all the potential types of debris, typical haul distances, and size of events for which a contract may be activated.
- ☐ To ensure reasonable debris removal costs, award debris removal contracts based on unit prices (volume or weight).
- ☐ If the contract is awarded on a time and material basis, it should be limited to no more than 70 hours of actual clearance and removal operations.
- ☐ After the initial 70-hour period, payment should be on a unit price basis (volume or weight).



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## DEBRIS REMOVAL APPLICANT'S CONTRACTING CHECKLIST

### Avoidance Checklist

- ☐ **DO NOT:** Award a debris removal contract on a sole-source basis.
- ☐ **DO NOT:** Sign a contract (including one provided by a contractor) until it has been thoroughly reviewed by your legal representative.
- ☐ **DO NOT:** Allow any contractor to make eligibility determinations, since only FEMA has that authority.
- ☐ **DO NOT:** Accept any contractor's claim that it is "FEMA certified." FEMA does not certify, credential, or recommend debris contractors.
- ☐ **DO NOT:** Award a contract to develop and manage debris processing sites unless you know it is necessary, and have contacted the State for technical assistance concerning the need for such operations. Temporary debris storage and reduction sites are not always necessary.
- ☐ **DO NOT:** Allow separate line item payment for stumps 24 inches and smaller in diameter; these should be treated as normal debris.
- ☐ **DO NOT:** "Piggyback" or utilize a contract awarded by another entity. Piggybacking may be legal under applicable state law; however, the use of such a contract may jeopardize FEMA funding.
- ☐ **DO NOT:** Award pre-disaster/stand-by contracts with mobilization costs or unit costs that are significantly higher than what they would be if the contract were awarded post-disaster. Such contracts should have variable mobilization costs depending upon the size of the debris work that may be encountered.

## APPENDIX 15

### FEMA Debris Removal Guidelines

