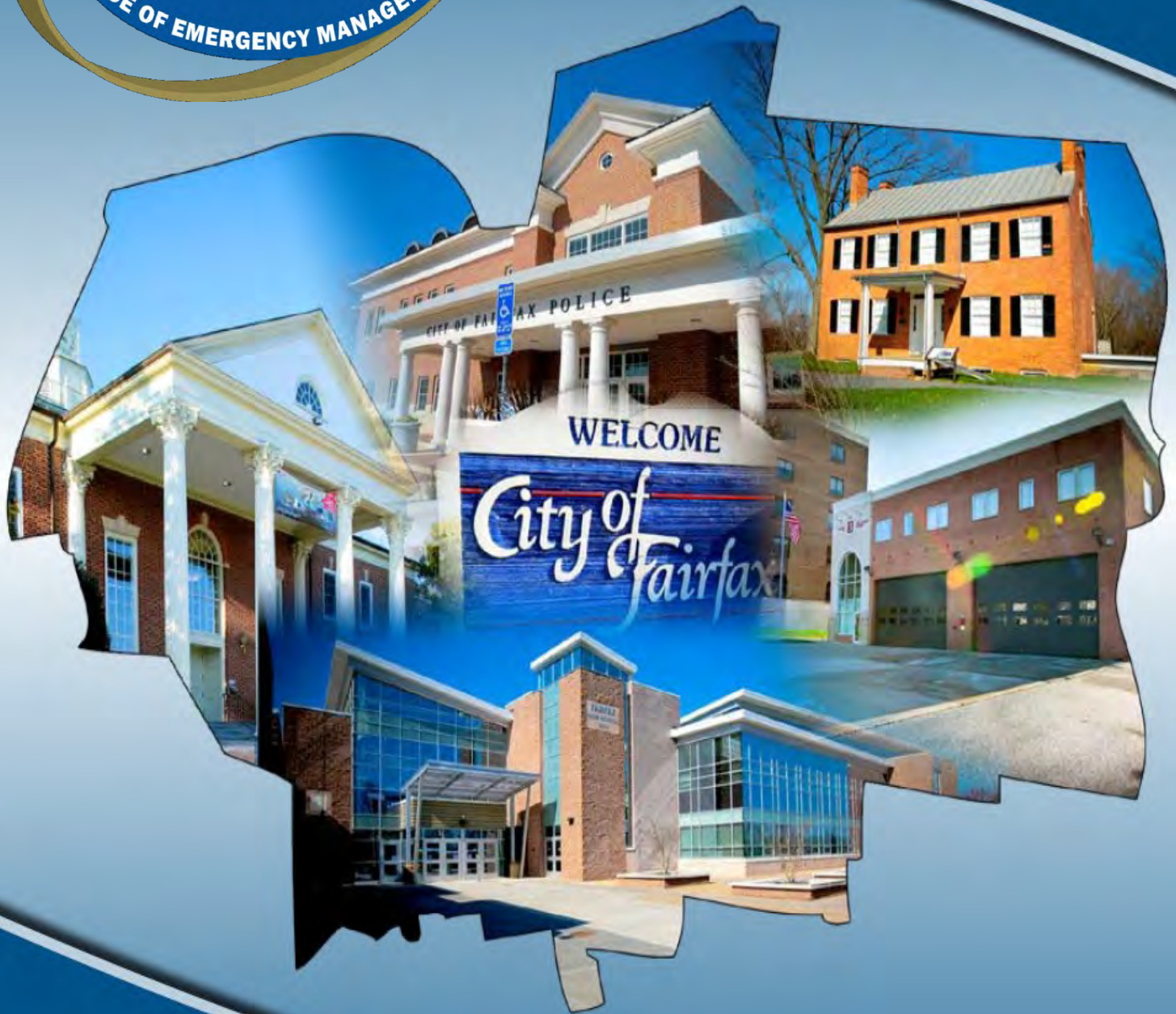


# City of Fairfax

## Emergency Management



Debris Management Plan 2014

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## I. AUTHORITY

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

- Commonwealth of Virginia Emergency Operations Plan and Sub-plans, 2012
- Public Law 93-288 as amended by Public Law 100-107, the Robert T. Stafford Disaster Relief and Emergency Assistance Act, and in this plan “the Stafford Act.”
- Public Law 81-920, Federal Civil Defense Act of 1950, as amended.
- CFR, Title 44, Part 200 et seq.
- City of Fairfax Emergency Operations Plan, dated September 2013

## II. OVERVIEW

### *Background*

The institutions of the City of Fairfax, along with the natural and built environment, present opportunities for a number of potential natural and technological disasters or emergencies. The Emergency Management Coordinator is responsible for planning and emergency preparedness, response and recovery, and mitigation activities. The City coordinates with all National Capital Region localities and the Virginia Department of Emergency Management (VDEM) in response to disasters, emergencies, severe weather conditions, and other catastrophic events.

The City subscribes to the guidance contained in the City’s Emergency Operations Plan (EOP). The EOP establishes responsibilities for each City government agency 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 government will operate during disasters and emergencies by providing for the integration of those resources.

This plan is based on guidance provided by the City’s 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.

### *Purpose*

This plan has been developed to provide the framework for City government and other entities to clear and remove debris generated during a public emergency within the City of Fairfax city limits. This plan unifies the efforts of public and private organizations for a comprehensive and effective approach to:

- Provide organizational structure, guidance, and standardized guidelines for the clearance, removal, and disposal of debris caused by a major debris-generating event.

- Establish the most efficient and cost effective methods to resolve disaster debris removal and disposal issues.
- Implement and coordinate private sector debris removal and disposal contracts to maximize cleanup efficiencies.
- Expedite debris removal and disposal efforts that provide visible signs of recovery designed to mitigate the threat to the health, safety, and welfare of City residents.
- Coordinate partnering relationships through communications and pre-planning with County, State, and Federal agencies that have debris management responsibilities.

### *General Approach*

The City of Fairfax is vulnerable to numerous natural and technological hazards, including severe weather and hazardous materials spills. Tropical storms, hurricanes, tornadoes, severe lightning, wind storms, hail and floods pose the highest natural threats to the City. Critical government and private facilities are potential targets for terrorist attack. The City can manage many disaster situations with internal resources. However, there are potential debris-generating events that may overwhelm the City's assets and capabilities.

This plan establishes the framework within which the City 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 during a debris operation.

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.

#### Planning Basis and Assumptions

Natural disasters such as hurricanes, tornadoes, and flooding precipitate a variety of debris scenarios which include, but are not limited to, trees and other vegetative organic matter, construction materials, appliances, personal property, mud, and sediment. Man-made 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 operations, and contaminated debris may require special handling. These factors will necessitate close coordination with local, State and Federal law enforcement, health, and environmental officials.

This plan takes an all-hazards approach to identifying and responding to the following hazards that may pose a threat to the City of Fairfax:

- Natural Hazards – severe weather, hurricanes, tornadoes, flooding, hail, or earthquakes;
- Human-caused Events and Hazards – urban fires, special events, civil disorder, or transportation accidents; and
- Terrorist Incidents – bomb threats or attacks, sabotage, hijacking, armed insurrection, or Weapons of Mass Destruction (WMD) incidents.

The quantity and type of debris generated, its location, and the size of the area over which it is dispersed will have a direct impact on the type of 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 type 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 exceeds the capacities of the City of Fairfax.

The fact that this plan is based on an event that exceeds the City of Fairfax’s capacities 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.

This plan addresses the clearing, removal, and disposal of debris generated by the above hazards based on the following assumptions:

- A major natural or man-made disaster that requires the removal of debris from public or private lands and waters could occur at any time;
- The amount of debris resulting from a major natural disaster will exceed The City of Fairfax’s in-house removal and disposal capabilities;
- The City of Fairfax will contract for additional resources to assist in the debris removal, reduction, and disposal processes;
- Federal assistance will be requested to supplement the City of Fairfax’s debris capabilities in coordination with the City’s Debris Manager.

*Debris Forecasting and Hazard Analysis (Events and Assumptions)*

The purpose of a hazard analysis is to assess those hazards that have the potential to cause a low to moderate or moderate to high debris-generating event. Hazards with the potential of generating a significant amount of debris have been assessed for the purposes of this plan. The table below rates each hazard by quantifying the possibility of occurrence, the potential to generate debris, and the probability of having regional impacts.

Hazard Analysis

Event	Nature of Debris	Debris Generation Potential	Regional Debris Impact
Hurricane/ Tropical Storm	Vegetative, construction materials from damaged or destroyed structures and personal property, and sediment	Moderate to High	Low to Moderate

Tornado	Vegetative, construction, materials from damaged or destroyed structures and personal property	High	Low
High Winds	Vegetative, construction materials from damaged or destroyed structures and personal property	Low to Moderate	Low to Moderate
Flood	Sediment, wreckage, personal property, and sometimes hazardous materials deposited on public and private property	Low to Moderate	Low
Man-Made	Building materials, hazardous substances, concrete, metals, glass, spoiled foods, charred wood, electrical wires, furnishings, appliances and personal effects	Low to Moderate	Low
Wildfire	Vegetative, construction, materials from damaged or destroyed structures and personal property, and animal carcasses	Low to Moderate	Low

*Federal Assistance*

Regardless of the scope of a disaster, the affected communities and States often need the assistance of the Federal government when responding to and recovering from the event. It is not necessary for the community to exhaust its resources before it requests Federal assistance.

The City Manager and the Emergency Service Coordinator will request Federal assistance when the debris-generating event exceeds the City of Fairfax in-house debris clearing, removal, and disposal capabilities. The request will be submitted through the Virginia Department of Emergency Management (VDEM). VDEM will forward the request for a mission assignment to the Federal Emergency Management Agency (FEMA).

Additionally, the U.S. Army Corps of Engineers (USACE) may provide a liaison to the City’s Emergency Operations Center (EOC) when activated. This liaison will serve as an advisor to the EOC staff providing advice as needed and ensuring that the USACE is prepared to respond when tasked.

The USACE will alert a Debris Planning and Response Team (PRT) and the Advance Contracting Initiative (ACI) Contractor under contract for that area and have them ready to respond when a mission assignment is received. Once the USACE receives a mission assignment from FEMA, the management groups for both the PRT and ACI Contractor will be available to meet with the City Debris Manager to conduct contingency planning as required.

The USACE will also provide staffing to the Debris Management Center (DMC) when activated to ensure a coordinated debris operation. USACE will coordinate with the DMC staff on the use of any pre-identified temporary debris storage and reduction sites (TDSR) and disposal sites, and identify/acquire other sites as required to accomplish the mission assignment.

While this request is being processed, local and State government officials should not delay in taking the necessary response and recovery actions. Such actions should not depend on the availability of Federal assistance.

### **III. DEBRIS MANAGEMENT STAFF RESPONSIBILITIES**

#### *Debris Response and Recovery Organization and 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.

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

#### **1. Debris Manager**

The Director of Public Works will assume the role of the City Debris Manager (DM). The City Debris Manager's responsibilities include, but are not limited to, the following with respect to any and all debris management issues:

- Provide a DMC Liaison Officer to the City Emergency Operations Center (EOC) to coordinate debris requests and actions as required.
- Provide a Public Works Debris Coordinator to the DMC staff to coordinate all agency debris assignments.
- Coordinate all media reports on debris operations with the Community Relations Office Public Information Officer (PIO).
- Provide personnel and equipment to assist in clearing major evacuation routes and access to critical facilities.
- Provide personnel and equipment to remove and dispose of debris.



- Provide personnel and equipment to operate and staff the Debris Contractor Oversight Team (DCOT) element of the DMC, including communications equipment, transportation, etc.
- Ensure that the DMC is provided all needed administrative staff and equipment support, including administrative support personnel, computers, desks, chairs, etc.
- Receive regular updates from the Debris Removal Coordinator (DRC) regarding cleanup progress and any problems encountered or expected.
- Identify agency staff members for debris management monitoring duties (Roving, Load Site, and Disposal Site Monitors) and provide list of names to the DCOT supervisor.
- Provide yearly training and refresher training for all personnel assigned to debris management monitoring responsibilities.
- Provide personnel and equipment to the Damage Assessment Team, as requested.
- Communicate timely information to the City Manager and the City DOC staff regarding the status of the debris clearing, removal, and disposal operations.
- Assure that the City is represented at all meetings with other government and private agencies involved with the debris cleanup operation.
- Coordinate with appropriate County, State, and Federal agencies, including FEMA, USACE, and others as appropriate.
- 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 I** – 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 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 DOC to monitor the situation and respond to requests for assistance.

**Level II** – 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 agencies. A limited staff will be in place in the EOC, staffed with City Emergency Support Function (ESF) 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 agencies are alerted.

**Level III** – Involves an event which has become, or is becoming, an emergency or disaster and requires significant City 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 ESF personnel are assigned to emergency/disaster functions. The governor will declare a State of Emergency. The City EOP is implemented. The Advanced Element of the FEMA Emergency Response Team (ERT) and State Liaison may be requested.

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

- Overall control of the DMC.
- Convene emergency debris coordinating meetings.
- Appoint a Debris Removal Coordinator (DRC) responsible for daily operational control of the DMC.
- Ensure that the DMC is provided all needed administrative staff support.
- Provide media relations in coordination with the City's Community Relations Office.

The Debris Manager will dispatch a DMC Liaison Officer to the City EOC to coordinate and respond to any debris removal or disposal request. Actions will focus on keeping track of Debris Control Zone assignments and progress of the initial debris clearance during Phase I of debris management operations from emergency evacuation routes and critical facilities. The DMC Liaison Officer will keep the City EOC staff informed of any problems encountered or expected.

## **2. Debris Removal Coordinator**

The Debris Manager will be supported by a joint debris staff made up of personnel from Public Works Department (PW), Parks and Recreation Department (P&R), and other City department staff personnel. The joint staff will constitute the daily operating element of the DMC.

The Debris Removal Coordinator (DRC) is responsible for daily operational control of the DMC staff. The DRC will receive current information on the severity of the disaster from the DMC Liaison Officer located at the City EOC. All requests for debris removal or disposal from the emergency response staff will go through the DMC Liaison Officer to the DRC. Requests for debris removal from public facilities and roadways will be reviewed and approved by the DRC before being directed to the appropriate DMC Debris Coordinators (PW and P&R ) to implement the request.

- The DRC will appraise the extent of damage and resulting debris and issue directives to the appropriate Debris Coordinators who in turn will notify their

departments to execute the tasking as defined by their department's Standard Operating Guidelines.

- The DRC will ensure that all contractor debris removal and disposal operations are properly monitored utilizing personnel assigned to the Debris Contractor Oversight Team (DCOT).
- The DRC will keep the City DM and DMC staff informed on all ongoing debris management operations through, at a minimum, daily meetings and/or reports.
- The DRC will maintain a daily journal and file on all debris related documents and issues.

### **3. Disaster Operations Center Debris Liaison Officer**

The DOC Debris Liaison Officer will be located at the City EOC and will be responsible for coordinating with the DMC staff all requests for debris activities initiated by the City DOC staff.

### **4. Public Works Department Debris Coordinator**

The Public Works Debris Coordinator will:

- Maintain a listing of all available Public Works equipment identified for possible debris clearing and disposal missions.
- Coordinate all Public Works debris assignments approved by the Debris Manager.
- Ensure that required logistical support is available, including cell phones, transportation, etc.
- Obtain all necessary regulatory permits for debris collection, reduction, temporary storage, and final disposal.
- Ensure that the Debris Manager is kept informed of cleanup progress and any problems encountered or expected.

### **5. Department of Parks and Recreation**

The Director of Parks and Recreation's (P&R) responsibilities include, but are not limited to, the following with respect to any and all debris management activities:

- Provide a P&R Debris Coordinator to the DMC staff to coordinate all P&R debris assignments.
- Provide personnel and equipment to assist Public Works in clearing major evacuation routes and access to critical facilities during Phase I of debris management operations.

- Provide personnel and equipment to assist in the removal and disposal of debris (Phase II) as directed by the DRC through the P&R Debris Coordinator.
- Provide specialized equipment and trained operators to assist in the clearing and removal of woody vegetation from along critical rights-of-way.
- Ensure that debris removal from parks and recreational facilities is coordinated through and approved by the Debris Manager through the P&R Debris Coordinator.
- Ensure that the P&R Debris Coordinator is provided all needed logistical support, including cell phones, transportation, etc.
- Ensure that the P&R Debris Coordinator keeps the Debris Manager informed of cleanup progress and any problems encountered or expected.
- Assist in TDSR site investigations.
- Provide digital map files of all identified P&R property greater than 10 acres.
- Coordinate with the Debris Manager for the removal, storage, burning, and disposal of debris at debris collection/management sites at P&R parks.

## **6. Parks and Recreation Debris Coordinator**

The P&R Debris Coordinator will:

- Maintain a listing of all available P&R equipment identified for possible debris removal and disposal missions.
- Coordinate all P&R debris assignments approved by the DRC.
- Ensure that required logistical support is available, including cell phones, transportation, etc.
- Ensure that the DRC is kept informed of cleanup progress and any problems encountered or expected.

## **7. Debris Management Center Staff**

The DMC is organized to provide a central location for the coordination and control of all debris management requirements. The DMC will be located at the City of Fairfax Property Yard, 3410 Pickett Road, Fairfax, VA 22031.

The DMC organizational diagram shown in Figure 1 identifies the DMC staff positions required to coordinate the actions necessary to remove and dispose of debris using both City and contractor assets.

Specific DMC staff actions will include the following:

- Making recommendations for City force account and contractor work assignments and priorities based on the City's Debris Control Zones. Appendix B contains a map showing the boundaries of the various Debris Control Zones.
- Reporting on debris removal and disposal progress, and preparing status briefings.
- Providing input to the Community Relations Office PIO on debris removal and disposal activities.
- Coordinating with the County and State on debris issues affecting adjacent jurisdictions.
- Coordinating City debris removal and disposal operations with solid waste managers and environmental regulators from the County and State.
- Coordinating with the following Federal agencies in the event of a major natural or man-made debris-generating disaster that exceeds the City's capabilities:
  - Federal Emergency Management Agency (FEMA)
  - U.S. Army Corps of Engineers (USACE)
  - Local Office of the Federal Bureau of Investigation (FBI)

## **8. Public Information Officer**

The Community Relations Office will provide a PIO to work directly with the DMC staff. The PIO will develop a proactive information management plan. Emphasis will be placed on actions that the public can perform to expedite the cleanup process. Flyers, newspapers, radio, and TV public service announcements will be used to encourage public cooperation for such activities as:

- Segregating Household Hazardous Waste (HHW)
- Placing disaster debris at the curbside
- Keeping debris piles away from fire hydrants and valves
- Reporting locations of illegal dump sites or incidents of illegal dumping
- Segregating recyclable materials; and
- Disseminate pickup schedules through the local news media.

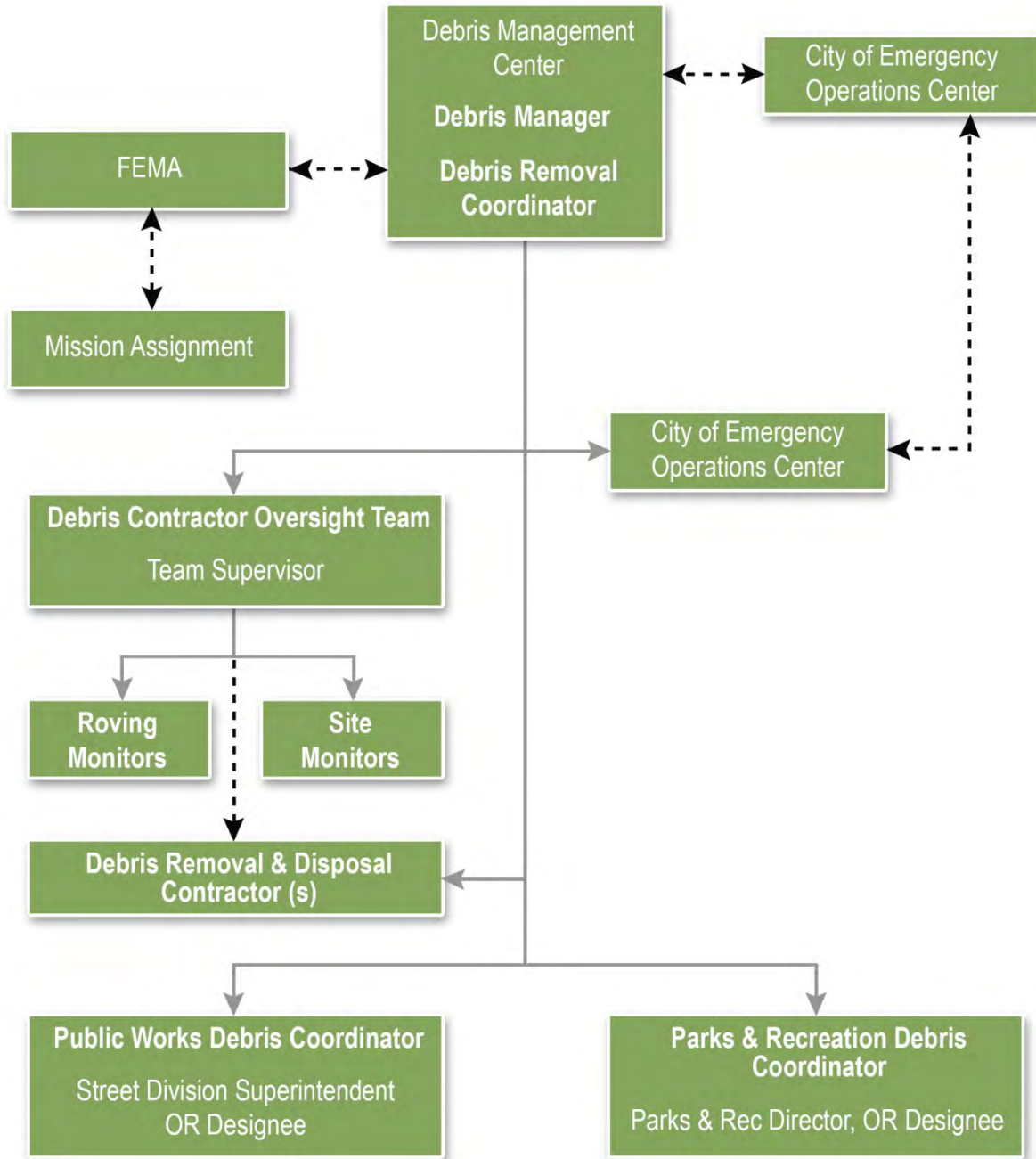


Figure 1 Debris Management Center Organization

### *Debris Response and Recovery Support Agencies*

Specific responsibilities of the various supporting agencies are shown in the sections that follow:

#### **9. Fire Department**

- Respond to fire and other emergencies at TDSR sites.
- Respond to request to investigate and handle hazardous materials incidents.
- Issue bans on open burning based upon assessment of local conditions and ensure dissemination of information to the public.

#### **10. Police Department**

- Assist in monitoring illegal dumping activities.
- Assist in monitoring TDSR sites to ensure compliance with local traffic regulations.
- Coordinate traffic control at all loading sites and at entrances to and from TDSR sites.

#### **11. Department of Health**

- Assist in monitoring TDSR site operations and closeout activities.
- Assist as necessary on all environmental and health issues. (Refer to *Fairfax County Health Department SOPs*)

#### **12. Electric Power Company**

Coordinate with the Debris Manager with regards to debris removal along electrical easements and rights-of-way to ensure that all lines are de-energized.

- Provide a debris coordinator to the DMC.

## **IV. DEBRIS MANAGEMENT RESPONSE AND RECOVERY OPERATIONS**

The City DM will be the single point of contact to coordinate and control all personnel and equipment responding to a major debris-generating event. This plan provides guidance for the efficient and effective control and coordination of initial debris assessments through debris clearance, removal, and disposal operations.

## *Damage Assessment Teams*

The Office of Code Administration, with the assistance of the Public Works Department, Utilities, Finance/Real Estate Assessments, Schools Administration, Parks and Recreation Department and other agencies, is responsible for damage assessment.

The Assistant Chief Code Administrator will designate a Damage Assessment Coordinator (DAC) who will be responsible for organizing and deploying Damage Assessment Teams (DAT). The DAC is responsible for coordinating impact assessment for all City public structures, equipment, and debris clearance immediately following a large-scale disaster. Impact assessments are performed by DAT and used to prioritize impacted areas and resource needs.

The DMC Public Works Debris Coordinator will have the primary mission of coordinating the efforts of Public Works personnel to identify debris impacts on critical roads and make initial estimates of debris quantities. Based on this prioritization, the DRC 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. A listing of critical facilities is provided in Appendix D. A priority primary road clearance list is found in Appendix E.

The DAT 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 DRC and to the DMC Liaison Officer located at the City DOC.

The DRC will establish initial priority for debris clearance based upon the following ranking as provided by the DAT:

- Extrication of people.
- Major flood drainage ways.
- Egress for fire, police, and Disaster Operations Center.
- Ingress to hospitals, jail, and special care unit.
- Major traffic routes.
- Supply distribution points and mutual aid assembly areas.
- Government facilities.
- Public Safety communications towers.
- American Red Cross shelters.
- Secondary roads to neighborhood collection points.
- Access for utility restoration.



- Neighborhood streets.
- Private property adversely affecting public welfare.

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

### **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 this phase is to simply push debris from the traveled way to the rights-of-way or curb. This activity is commonly referred to as Debris Clearance. Little or no effort is made to remove debris from the rights-of-way.

Public Works will be responsible for implementing all Phase I activities with support as required from Parks and Recreation and Utilities. Requests for additional assistance will be submitted to the DRC located at the DMC.

Phase I activities include:

- Implementation of the Debris Management Plan.
- Determination of incident-specific debris management responsibilities.
- Establishment of priorities based on evacuation needs and prediction models.
- Identification and procurement of TDSR sites.
- Activation of pre-positioned contracts, if necessary to support Phase I clearance operations.
- Implementation of Public Information Plan.
- Coordination and tracking of resources.
- Formal documentation of costs.

### **Phase II - Recovery**

Phase II will be implemented within 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 City DM will be responsible for implementing all Phase II activities with support as required from Public Works, Parks and Recreation and Utilities. All debris removal and disposal operations will be coordinated by the DRC located at the DMC. Phase II may be quite lengthy as disaster recovery continues until pre-disaster conditions are restored.

Phase II activities include:

- Activation of pre-positioned contracts.
- Notification to citizens of debris removal procedures.
- Activation of TDSR sites.
- Removal of debris from rights-of-way and critical public facilities.
- Movement of debris from TDSR sites to permanent landfills.

**Phase II Debris Removal and Disposal Overview**

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

The City has been divided into 5 Debris Control Zones to control and expedite debris-removal and disposal operations (refer to Appendix C for zone delineation). The estimated quantity of debris that would be generated by a Category 2 Hurricane for the entire city is shown below in Table 1.

**Table 1 - City Debris Estimates**

JURISDICITON	CAT 2 DEBRIS ESTIMATES (CUBIC YARDS)	TDSR SITE REQUIREMENTS (ACRES)
City of Fairfax	67,220 CY	4 Minimum / 7 Maximum

Note: Estimated debris based on damage to 50% of structures.

Required acres represent the worst case and assume open space. Multiple small or large sites may be used in this situation.

**Phase II Debris Removal and Disposal Operations**

The DRC and 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/or contractor crews. All City-hired debris removal and disposal contractor operations will be overseen by the Debris Contractor Oversight Team (DCOT).

Under this plan, mixed debris will be collected and hauled from assigned Debris Control Zones to City-designated TDSR sites or to designated landfill locations. Clean woody debris will be hauled to the nearest designated vegetative TDSR site for eventual grinding. A listing of TDSR sites can be found in Appendix F.

The primary tracking mechanism for all debris loaded, hauled, and disposed of under this plan will be the Load Ticket, which is shown in Figure 2 below. Load tickets will be initiated at pickup sites and closed-out upon drop-off of each load at a TDSR site or permanent landfill, and are to be used to document both City force account and contracted haulers. Load tickets will serve as supporting documentation for contractor payment as well as for requests for FEMA reimbursement, in the event of a Federal disaster declaration.

<b>CITY OF FAIRFAX 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>		
<b>Copies:</b> White – Load Site Monitor                             Green – Disposal Site Monitor Canary, Pink, Gold – Onsite Contractor’s Representative or Driver		

Figure 2 Sample Load Ticket

For tracking of all debris moved in response to a given event, the following is the disposition of each ticket part:

- 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 representatives (Contractor Copy)
- Part 4 (pink) Driver or Contractor's on-site representatives (Contractor Copy)
- Part 5 (gold) Driver or Contractor's on-site representatives (Driver/Subcontractor Copy)

## 1. Debris Contractor Oversight Team

The Debris Contractor Oversight Team (DCOT) is responsible for the coordination, oversight, and monitoring of all debris removal and disposal operations performed by private contractors (see Appendix F, Debris Contract Oversight Team Standard Operating Guidelines).

The DCOT supervisor and team members will be detailed from Public Works, as well as from other City departments as required. The DCOT team may also be supplemented with contracted inspectors and other personnel as needed.

The DCOT team supervisor will be located at the DMC and will provide overall supervision of the three monitoring elements described below. Specific responsibilities include the following:

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

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

### a) 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 DRC 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 Public Works, a contractor, or from local government personnel. Roving Monitors will have the authority to monitor City 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.

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:

- Assist in the measuring of all Contractor trucks and trailer with the contractor's representative. Take photographs of all trucks and trailers.
- Obtain and become familiar with all debris removal and disposal contracts for which they are providing oversight.
- Observe all phases of debris management operation, to include loading sites and TDSR sites.
- Prepare a daily written report of all contractor activities observed to include photographs.
- Periodically monitor each TDSR 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 H).

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

- Is the contractor using the site properly with respect to layout and environmental considerations?
- 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?
- Are plastic liners in place under stationary equipment such as generators and mobile lighting plants?
- Has the contractor established appropriate rodent control measures?
- Has the contractor established procedures to mitigate 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.

b) Load Site Monitors

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

Load Site Monitor positions will be staffed from Public Works or a contractor, and will be supplemented by other City department personnel 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.

c) Disposal Site Monitors

Disposal Site Monitors will be located at TDSR 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 above.

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.

The Disposal Site Monitor will estimate the quantity (in cubic yards) of debris in each truck/trailer entering the contractor's selected temporary TDSR site and will record the estimated quantity on pre-numbered debris load tickets. The contractor will only be paid based on the number of cubic yards of material deposited at the disposal site as recorded on debris load tickets. This is to be completed for all types of debris removal contracts and force account vehicles.

Disposal Site Monitors will be staffed by Public Works personnel, or a contractor, depending on the magnitude of the debris-generating event. The Disposal Site Monitors will be stationed at all TDSR 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.

## **2. Franchise Garbage Contractors**

Currently, the city provides their own refuse collection. If at any time a debris-generating event occurs and any franchised garbage contractors are in use by the city, the contractors will continue to pickup refuse in accordance with current procedures, routes, and removal schedules. They will not haul disaster debris unless expressly authorized by the DRC.

### **3. Household Hazardous Waste and White Goods Drop-Off Locations.**

The County of Fairfax Household Hazardous Waste Collection Facility at 4618 West Ox Road, Fairfax, VA, phone 703-631-0495 will be the Household Hazardous Waste (HHW) drop-off location for the city. Residents will be required to separate and transport HHW to the pre-identified drop-off point. The City DM will coordinate with County officials and local Environmental Protection Agency (USEPA) 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.

### **4. Utility Company Property**

Dominion Virginia Power Company and other utility crews will remove and dispose of all utility related debris such as, power transformers, utility poles, cable, and other utility company material.

### **5. Equipment Assets**

A table summarizing the equipment that details the equipment that Public Works, Parks and Recreation, and Utilities currently has in inventory that could be used to assist with debris removal is updated and maintained in the City DMC.

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

The City recognizes that disasters may generate debris of types and quantities that exceed the City's capabilities. Thus, the City will implement a pre-positioned contracting process to have contractors on stand-by to respond within a pre-determined time period to assist in requested aspects of the debris operation. (Appendix B, Approved Contractor List)

The City DM or his or her authorized representative 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-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 City DM and DRC.

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 DRC. Schedules will be provided to the City PIO for publication and notification to 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's capability and its contractors. The USACE will be tasked by FEMA through the mission assignment process to provide the necessary support to the City.

The USACE will respond by providing trained and experienced Debris PRTs 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.

## **7. Temporary TDSR Sites and Landfills**

The City recognizes the economic benefits of debris volume reduction, and will realize this benefit through the use of local TDSR sites for processing of clean woody debris. A listing of TDSR sites and landfills is located in Appendix F.

Contractors will operate the TDSR sites made available by the City. 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 TDSR 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 DRC 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 TDSR sites for temporary sorting and storage until final disposal arrangements are made.

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

## **8. Load Ticket Disposition**

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



At initiation of each load, the Load Site Monitor 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 representative 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 force account vehicles as a primary mechanism for tracking debris quantities deposited at TDSR sites.

## **9. Temporary TDSR Site Setup and Closeout Procedures**

The contractor will be responsible for preparing and closing out a TDSR site in accordance with specification in the Debris Removal and Disposal Contract and guidance contained in Appendix H.

## **10. 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 properly identifies structures listed for demolition.

The City DM will coordinate with the County and State and FEMA Public Assistance Officers regarding:

- Demolition of private structures.
- Removing debris from private property.
- Local law and/or code enforcement requirement.
- Historic and archaeological site restrictions.
- Qualified environmental contractors to remove hazardous materials such as asbestos and lead-based paint.
- Execution of Right-of Entry/Hold Harmless agreements with landowners. A sample Right-of-Entry/Hold Harmless agreement is shown in Appendix F.

## 11. 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 be directed to DEP permitted C/D recycling facilities, if financially feasible and if volumes do not exceed the 60,000 CY.

## 12. 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:

- Waste processing and recycling operations permit
- Temporary land-use variances or permits
- Traffic or entrance permits
- Air quality permits
- Water quality permits
- Coastal commission land-use permits
- HHW permits
- Fire department permits
- Freon removal from white goods
- Erosion and sediment control

## 13. 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 coordinate with Federal, State, and local agencies, including but not limited to EPA and the Historic Preservation Office to ensure compliance with environmental and historic preservation laws/regulations/policies and determining environmental monitoring and reporting requirements for TDSR's,

The agency shall also maintain records for historical purposes.

See Appendix I "Debris Clearing, Removal, and Disposal Guidelines"

## 14. Health and Safety

All debris related activities shall be done in compliance with the health and safety requirements found in the City of Fairfax Administrative Regulation 7.10 found in the Personnel Office of City Hall in room 331 and VOSHA rules & regulations..

This administrative regulation 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.

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 contains 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.

## 15. Contracting / Procurement

Any procurement of additional debris services will be conducted in accordance with the City of Fairfax procurement Regulations and the VA Procurement Act.

## V. 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 and will require immediate Federal assistance.

Normally, a WMD or terrorism event will, by its very nature, require 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:

- Much of the affected area will likely be a crime scene. Therefore, debris may be directed to a controlled TDSR site by State and/or Federal law enforcement officials for further analysis.
- 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.
- The type of contaminant will dictate the required capabilities of the personnel working with the debris. Certain contaminants may preclude deployment of resources that are not properly trained or equipped.

The City DM will continue to be the single point of contact for all debris removal and disposal issues within the City. Coordination will be exercised through the Emergency Support Function (ESF) #3 liaison located at the designated FEMA Joint Field Office.

In this type of event, the City will become a supporting element to the U.S. Army Corps of Engineers, and will operate as defined in the USACE WMD Emergency Response Plan (to be published).

## **VI. ADMINISTRATION AND LOGISTICS**

All City 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.

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

All City departments are responsible for the annual review of this plan in conjunction with the annual update to the City 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:

- Changes in Mission
- Changes in Concept of Operations
- Changes in Organization
- Changes in Responsibility
- Changes in desired contracts
- Changes in pre-positioned contracts
- 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's plan and other emergency plans. This coordination is especially important with respect to allocation of resources such as temporary staging areas and disposal facilities.

## **APPENDIX A      ACRONYMS AND DEFINITIONS**

**LIST OF ACRONYMS**

AC	Acre
ACI	Advance Contracting Initiative (USACE)
C&D	Construction and Demolition
CY	Cubic Yard
DAC	Damage Assessment Coordinator
DAT	Damage Assessment Team
DCOT	Debris Contractor Oversight Team
DM	Debris Manager (or City Debris Manager)
DMC	Debris Management Center
DOC	Disaster Operations Center
DOT	Department of Transportation
DPW	Department of Public Works
DRC	Debris Removal Coordinator
EMA	Emergency Management Agency
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ERT-A	Emergency Response Team A
ES	Emergency Services
ESF	Emergency Support Function
FBI	Federal Bureau of Investigations
FEMA	Federal Emergency Management Agency
GSA	General Services Administration
HHW	Household Hazardous Waste
NRP	National Response Plan

P&R	Department of Parks and Recreation
PIO	Public Information Officer
PRT	Planning and Response Team
PW	Public Works Department
TDSR	Temporary Debris Staging and Reduction
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VDEM	Virginia Department of Emergency Management
WMD	Weapons of Mass Destruction

## DEFINITIONS

**Burning** – Reduction of woody debris by controlled burning. Woody debris can be reduced in volume by approximately 95% through burning. Air curtain burners are recommended because they can be operated in a manner to comply with clean-air standards.

**Chipping or Mulching** – Reducing wood related material by mechanical means into small pieces to be used as mulch or fuel. Woody debris can be reduced in volume by approximately 75%, based on data obtained during reduction operations. The terms “chipping” and “mulching” are often used interchangeably.

**Construction, Demolition and Land-Clearing Wastes** – Any type of solid waste resulting from land-clearing operations, the construction of new buildings or remodeling structures, or the demolition of any building or structure.

**Debris** - Scattered items and materials that were broken, destroyed, or displaced by a natural disaster. Examples: trees, construction and demolition material, personal property.

**Debris Clearance** – Clearing the major road arteries by pushing debris to the roadside to accommodate emergency traffic.

**Debris Removal** – Picking up debris and taking it to a temporary storage site or permanent landfill.

**Department of Public Works (DPW)** – Department typically responsible for clearing debris from the roads and rights-of-way.

**Department of Solid Waste** – Department typically responsible for managing and overseeing the collection and disposal of garbage, trash, construction debris, and disaster related debris.

**Department of Environmental Services** – Department typically responsible for managing and overseeing the collection of municipal solid waste, construction debris, recyclables, and disaster-related debris and also for operating local public landfills and composting sites.

**Final Debris Disposal** – Placing mixed debris and/or residue from volume reduction operations into an approved landfill.



**Force Account Labor** – In this context, State, tribal or local government employees engaged in debris removal activities within their own jurisdiction.

**Garbage** – Waste that is normally picked up by a designated department (such as the Department of Solid Waste Management, or a Contractor). Examples: food, plastics, wrapping, papers.

**Hazardous Waste** – Any waste or combination of wastes of a solid, liquid, contained gaseous or semisolid form which because of its quantity, concentration, or physical, chemical, or infectious characteristics may:

- Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Also includes material and products from institutional, commercial, recreational, industrial and agricultural sources that contain certain chemicals with one or more of the following characteristics, as defined by the Environmental Protection Agency: 1) Toxic, 2) Flammable, 3) Corrosive; and/or 4) Reactive. Such wastes may include, but are not limited to, those that are persistent in nature, assimilated, or concentrated in tissue or which generate pressure through decomposition, heat, or other means. The term does not include solid or dissolved materials in domestic sewage or solid dissolved materials in irrigation return flows, or industrial discharges, which are point sources subject to state or federal permits.

**Household Hazardous Waste (HHW)** – Used or leftover contents of consumer products that contain chemicals with one or more of the following characteristics, as defined by the Environmental Protection Agency: 1) Toxic, 2) Flammable, 3) Corrosive and/or 4) Reactive. Examples of household hazardous waste include small quantities of normal household cleaning and maintenance products, latex and oil based paint, cleaning solvents, gasoline, oils, swimming pool chemicals, pesticides, and propane gas cylinders.

**Hot Spots** – Illegal dumpsites that may pose health and safety threats.

**Illegal Dumping** – Dumping garbage and rubbish, etc., on open lots is prohibited. No garbage, refuse, abandoned junk, solid waste or other offensive material shall be dumped, thrown onto, or allowed to remain on any lot or space within the District.

**Industrial Waste** – Any liquid, gaseous, solid, or other waste substance, or a combination thereof resulting from any process of industry, manufacturing, trade, or business or from the development of any natural resources.

**Monitoring** – Actions taken to ensure that a Contractor complies with the contract scope of work.

**Mutual Aid Agreement** – A written understanding between communities, states, or other government entities delineating the process of providing assistance during a disaster or emergency. (See FEMA Response and Recovery Directorate Policy Number 9523.6, “Mutual Aid Agreements for Public Assistance,” dated August 17, 1999.)

**National Response Plan** – A plan that describes the mechanism and structure by which the Federal government mobilizes resources and conducts activities to address the consequences of any major disaster or emergency that overwhelms the capabilities of State and local governments.

**Recycling** – The recovery and reuse of metals, soils, and construction materials that may have a residual monetary value: The City of Fairfax encourages the voluntary participation of all of its residents to reduce the waste stream through recycling. Residents are strongly encouraged to recycle all items that are recyclable and throw away for ultimate landfill disposal only those items, which cannot be recycled. Special containers are provided at numerous manned recycling and solid waste centers for the storage and collection of:

- Newspapers
- Green glass
- Brown glass
- Clear glass
- Aluminum and bi-metal beverage cans
- PET plastic milk jugs
- HDPE plastic drink bottles
- Used motor oil
- Lead acid batteries
- Scrap metals and appliances including refrigerators, stoves, water heaters, etc.
- Composts including leaves, limbs, brush, and yard wastes

**Rights-of-Way** – The portions of land over which facilities, such as highways, railroads, or power lines are built. Includes land on both sides of the highway up to the private property line.

**Scale/Weigh Station** – A scale used to weigh trucks as they enter and leave a landfill. The difference in weight determines the tonnage dumped and a tipping fee may be charged accordingly. Also may be used to determine the quantity of debris picked-up and hauled.

**Sweeps** – The number of times a Contractor passes through a community to collect all disaster-related debris from the rights-of-way. Usually limited to three passes through the community.

**Temporary Debris Staging and Reduction (TDSR) Site** – A location where debris is temporarily staged until it is sorted, processed, and reduced in volume and/or taken to a permanent landfill.

**Tipping Fee** – A fee based on weight or volume of debris dumped that is charged by landfills or other waste management facilities to cover their operating and maintenance costs. The fee also may include amounts to cover the cost of closing the current facility and/or opening a new facility.

**Trash** – Non-disaster related yard waste, white metals, or household furnishings placed on the curbside for pickup by local solid waste management personnel. Not synonymous with garbage.

**United States Army Corps of Engineers (USACE)** – The primary missions of the USACE are the design and management of construction projects for the Army and Air Force, and to oversee various flood control and navigation projects. The USACE may be tasked by FEMA to direct various aspects of debris operations when direct Federal assistance, issued through a mission assignment, is needed.

**Volume Reduction Operations** – Any of several processes used to reduce the volume of debris brought to a temporary debris storage and reduction site. It includes chipping and mulching of woody debris, shredding and baling of metals, air curtain burning, etc.

**White Metals** – Household appliances such as refrigerators, washers, dryers, and freezers.



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**APPENDIX B            DEBRIS REMOVAL AND MONITORING  
PRE-APPROVED CONTRACTORS**

**Table B-1  
Debris Monitoring Firms**

<b>Company</b>	<b>Contact Information</b>
<b>Witt O'Briens</b>	<b>1882 Capital Circle, NE, Unit 205 Tallahassee, FL 32308 850-877-6700</b>
<b>BDR</b>	<b>2301 Lucien Way, Suite 120 Maitland, FL 32751 321-441-8500</b>

**Table B-2  
Pre-Qualified Debris Removal Contractors**

<b>Company</b>	<b>Contact Information</b>
<b>AshBritt</b>	<b>480 South Andrews Avenue Suite 103 Pompano Beach, FL 33069 954-545-3535</b>
<b>CrowderGulf</b>	<b>5453 Business Parkway Theodore, AL 36582 800-992-6207</b>

CITY OF FAIRFAX, VA DEBRIS MANAGEMENT PLAN



**CITY OF FAIRFAX**

10455 Armstrong Street  
 Fairfax, Virginia 22030  
 PH: 703-385-7875 FAX: 703-383-1929

MAIL INVOICES TO THIS ADDRESS  
 ATTN: ACCOUNTS PAYABLE

**PURCHASE ORDER NO. 111592**

P.O.# MUST APPEAR ON ALL PAPERS AND  
 PACKAGES RELATIVE TO THIS ORDER

PAGE NO. 1

V  
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 24781  
 O'BRIEN'S RESPONSE MANAGEMENT  
 555 WINDERLEY PLACE SUITE 220  
 FORT LAUDERDALE FL 33316

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 FIRE STATION #3  
 CITY OF FAIRFAX  
 4081 UNIVERSITY DRIVE  
 FAIRFAX, VA 22030  
 T  
O  
 ATTN: WALTER ENGLISH

ORDER DATE: 05/11/11		BUYER: CH		REQ. NO.: 0	REQ. DATE: 05/11/11
TERMS: NET 30 DAYS		F.O.B.: DESTINATION		DESC.:	
ITEM#	QUANTITY	UOM	DESCRIPTION	UNIT PRICE	EXTENSION
01	1.00		DISASTER DEBRIS MONITORING, PER RESPONSE TO RFP 11002 AS PRIMARY CONTRACTOR	.0000	.00
				PAGE TOTAL \$	.00
				<b>TOTAL \$</b>	<b>.00</b>
ITEM#	ACCOUNT		AMOUNT	PROJECT CODE	
01	422140	550776	.00		
					VA. TAX EXEMPT #A-212973 SEE CITY PURCHASE TERMS AND CONDITIONS ON REVERSE
					_____ PURCHASING AGENT

**VENDOR**

CITY OF FAIRFAX, VA DEBRIS MANAGEMENT PLAN



**CITY OF FAIRFAX**  
 10455 Armstrong Street  
 Fairfax, Virginia 22030  
 PH: 703-385-7875 FAX: 703-383-1929

**PURCHASE ORDER NO. 150065**  
 P.O.# MUST APPEAR ON ALL PAPERS AND  
 PACKAGES RELATIVE TO THIS ORDER

PAGE NO. 1

MAIL INVOICES TO THIS ADDRESS  
 ATTN: ACCOUNTS PAYABLE

VENDOR 24631  
 ASHBRIIT, INC.  
 480 SOUTH ANDREWS AVE, SUITE 10  
 POMPANO BEACH FL 33069

SHIP VARIOUS OR N/A  
 VARIOUS OR N/A

TO ATTN: KEN RUDNICKI

ORDER DATE: 06/20/14		BUYER: KCYPRESS		REQ. NO.: 0	REQ. DATE: 07/01/14
TERMS: NET 30 DAYS		F.O.B.: DESTINATION		DESC.: ANNUAL PO	
ITEM#	QUANTITY	UOM	DESCRIPTION	UNIT PRICE	EXTENSION
			**PER RFP# 11001 **TECHNICAL POINT OF CONTACT FOR THIS ORDER IS KEN RUDNICKI ***** *****		
01	1.00	SVCS	DISASTER DEBRIS CLEARING, REMOVAL AND DISPOSAL OPERATIONS (AS PRIMARY CONTRACTOR AS NEEDED)	.0000	.00
				PAGE TOTAL \$	.00
				TOTAL \$	.00
ITEM#	ACCOUNT	AMOUNT	PROJECT CODE		
01	422140 550776	.00			

VA. TAX EXEMPT #A-212973  
 SEE CITY PURCHASE TERMS  
 AND CONDITIONS ON REVERSE

*Katrina Kypress*  
 PURCHASING AGENT

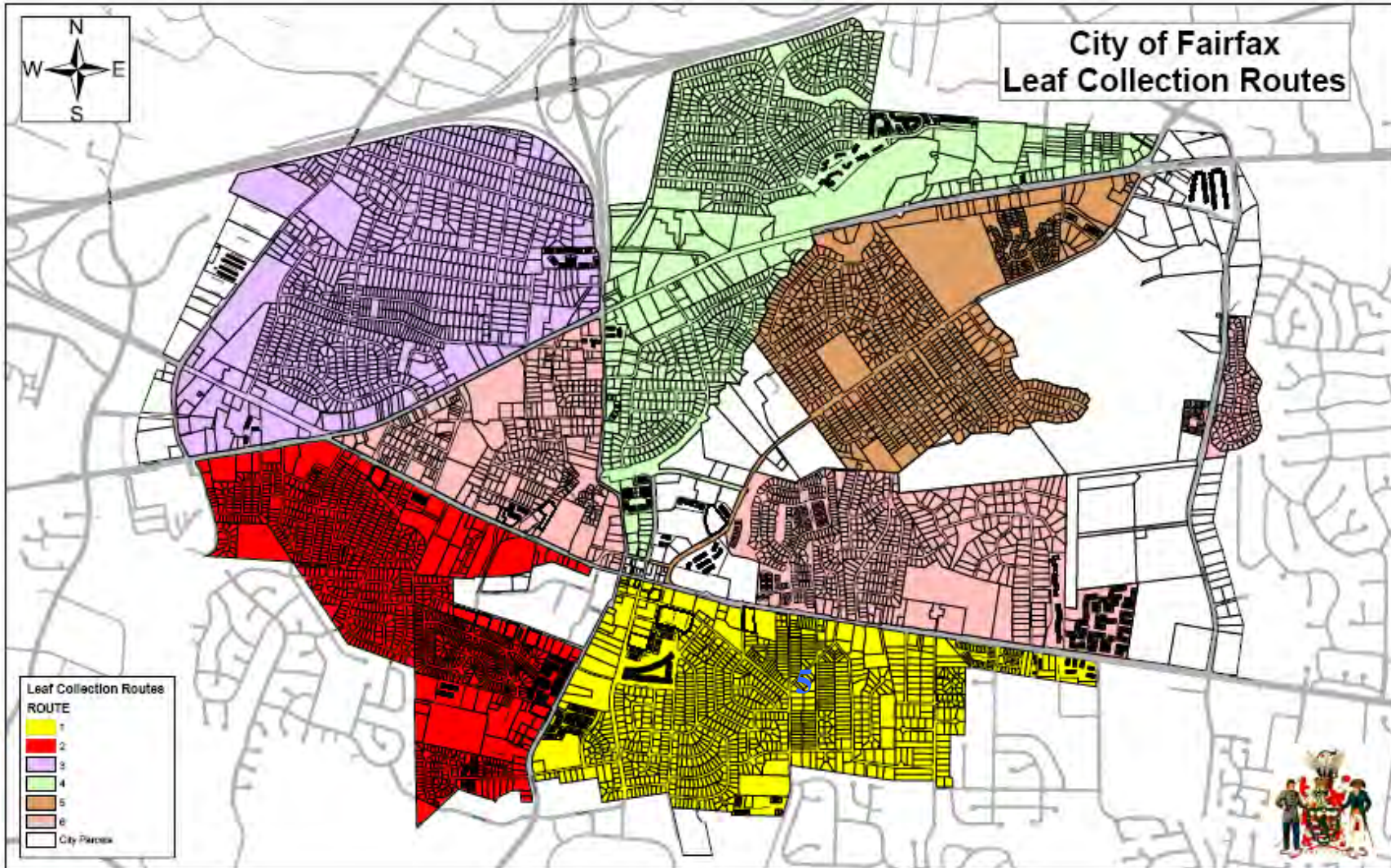
VENDOR



**APPENDIX C      DEBRIS CONTROL ZONE INDEX MAP**



Debris Control Zone Map\*



\*The City of Fairfax will use the Leaf Collection Zones as the Debris Control Zones.

## **APPENDIX D      CRITICAL FACILITIES**

In accordance with the Emergency Operations, the City Critical Facilities are as follows:

**Fire Stations**

- Fire Station 403 – 4081 University Drive Fairfax, VA 22030 (Zone 1)
- Fire Station 433- 10101 Fairfax Blvd Fairfax, VA 22030 (Zone 4)

**Police Stations**

- Police Headquarters- 3730 Old Lee Highway Fairfax, VA 22030 (Zone 5)

**Emergency Operations Center**

- 3730 Old Lee Highway Fairfax VA, 22030 (Zone 5)

**Hospitals/Medical Facilities**

- Inova Emergency Care center 4215 Chain Bridge Road Fairfax, VA 22030 (Zone 1)
- Fairfax Surgical center 10730 Main Street Fairfax VA, 22030 (Zone 6)

**Staging Areas**

- Thaiss Park – 3401 Pickett Road Fairfax VA, 22031 (Zone 6)
- Kutner Park- 3901 Jermantown Road 22030 (Zone 3)
- Draper Drive Park – 9858 Fairfax Blvd Fairfax VA, 22030 (Zone 4)



**APPENDIX E      PRIMARY ROAD CLEARANCE LIST**

In accordance with the Emergency Operations the highest priority for debris removal will be to open emergency routes and exits and entrances to the City Critical Facilities such as but not limited to, fire stations, police stations, Emergency Operations Center, and hospitals/medical facilities.

The top priority routes will be cleared first then we will follow the snow emergency route clearing procedures. All roads shown in red below are priority roads and will be cleared first. All secondary roads will be cleared via the zone system as the numbers indicate on the map.



**Priority ROUTE SYSTEM**

- Lee Highway (Routes 29 & 50)
- Chain Bridge Road (Route 123)
- Old Lee Highway
- Main Street (Route 236)
- Pickett Road (Route 237)
- Jermantown Road (Route 655)

**APPENDIX F            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:

### Thaiss Memorial Park TDSR

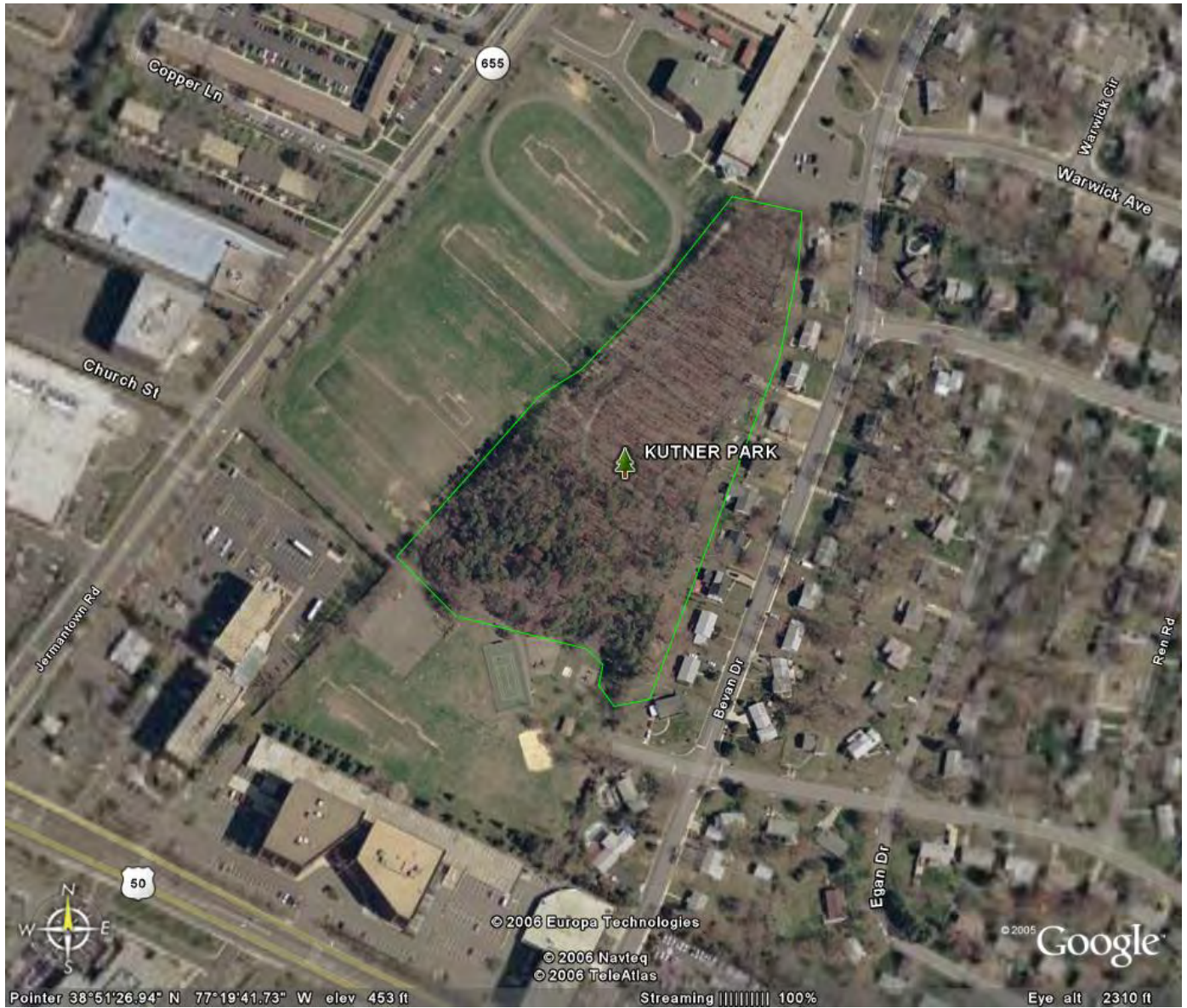


Draper Drive Park TDSR





### Kutner Park TDSR



**COMMONWEALTH OF VIRGINIA**  
**TEMPORARY DEBRIS STAGING AND REDUCTION SITE**  
**SELECTION AND OPERATING GUIDELINES**

## SELECTING TEMPORARY DEBRIS STAGING AND REDUCTION SITES



### General

All activities associated with large-scale debris removal and ultimate disposal operations depend upon the availability of suitable temporary debris staging and reduction (TDSR) sites. Identifying these potential sites before a major natural disaster will expedite debris removal actions. Local debris managers and staff should be involved with identifying and maintaining current listings of potential TDSR sites in areas prone to natural disasters. Pre-disaster site selection teams should include local officials who are familiar with the area and represent multiple professional disciplines, if possible, to help identify potential problems

The preparation and operation of a TDSR site(s) are usually left to the debris disposal contractor. However, debris managers and staff should understand how a TDSR site is set up and operated. This information is extremely valuable in developing ultimate disposal plans, keeping local government officials and the public informed on debris removal and disposal operations, and ensuring compliance with environmental regulations. Section 1 of this document provides guidance on how to identify and select TDSR sites. See section 5 for a listing of reproducible forms. See section 6 for Debris Management Environmental Considerations.

### Responsibilities

Pre-disaster site selection teams should:

- Include local officials who are familiar with the area.
- Be interdisciplinary to help identify potential problems.
- Investigate and evaluate potential sites before a major natural disaster.
- Develop and maintain current listings of potential debris storage sites in areas prone to natural disasters.

Consult and coordinate with:

- Local residents.
- Conservation agencies.
- Environmental groups and agencies.
- State Historical Preservation Office.

### **Site Ownership**

- Use public lands first to avoid costly leases.
- Use private lands only if public sites are unavailable.
- Have attorneys review leases to avoid extensive damage claims upon site closeout.

### **Site Location**

- Consider the locations with respect to noise, traffic, and the environment.
- When selecting public or private sites consider pre-existing conditions that may hinder or help the operation.
- Avoid environmentally sensitive areas such as:
  - Wetlands.
  - Rare and critical habitats of animal and plant species.
  - Well fields and surface water supplies.
- Historic/archaeological sites should be avoided as well.
- Develop procedures for temporary waivers.
- Look for sites with good ingress/egress to accommodate heavy truck traffic.
- Consider adjusting traffic signals to accommodate projected truck traffic on critical haul routes.

### **Site Size**

- Pre-designated sites should be on public property and consist of between 50 and 200 acres.
- The required size of the site will depend on:
  - Expected volume of debris to be collected.
  - Planned volume reduction methods.
- Identifying large sites mean fewer sites and easier site closeout.

### **Site Neighbors**

- Notify citizens early about the planned activities and possible ramifications from:
  - Dust and smoke from burning.
  - Around-the-clock light and noise from equipment operation.
  - Traffic.
- Avoid locating near:
  - Residential areas.
  - Schools.
  - Churches.
  - Hospitals.
  - Other sensitive areas.

### **Existing Landfills**

- Identify locations of existing landfills.
- Determine their present debris capacity and logistical capabilities.
- Review any State-to-State or county-to-county landfill agreements.

## Recycling

Recycling success will depend on the types of debris and the local recycling environment. Identify recycling possibilities, such as:

- Timber agreements.
- Mulch and chip disposal in the agriculture community.
- Fuel sources for incinerators or heating.

## Temporary Debris Staging and Reduction (TDSR) Site Investigation Form

The TDSR Site Investigation form in section 5 should be used to evaluate potential TDSR sites.

## Temporary Debris Staging and Reduction (TDSR) Site Setup and operations

### TDSR Site Setup

Site 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 checklist below is a TDSR baseline data checklist that should be used to evaluate a site before a contractor begins operations, and used during and after operations to ensure that site conditions are properly documented. See section 5 for a reproducible TDSR Site Baseline Data Checklist.

### TDSR Site Baseline Data Checklist

#### 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.

\*Follow all local, State, and Federal requirements for environmental testing.

#### After Activities Begin

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

#### Progressive Updates

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

### **TDSR Site Operations**

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

The contractor hired to operate a TDSR site must establish lined temporary staging areas for household hazardous waste (HHW), fuels, ash (if air curtain burning will be done on site), and other materials that may contaminate soils and groundwater. Plastic liners should be placed under stationary equipment such as generators 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 staging area, fueling and equipment repair should be monitored to prevent and mitigate spills of petroleum products and hydraulic fluids.

The contractor must establish a buffer zone to abate concerns over smoke, dust, noise, and traffic in neighboring areas. Traffic patterns must be designed to accommodate on-site operations as well as neighborhood traffic patterns. Materials should be segregated based on planned volume reduction methods. Operations that modify the site, such as substrate compaction and over excavation of soils when loading debris for final disposal, will adversely affect site restoration.



### **TEMPORARY DEBRIS STAGING AND REDUCTION (TDSR) SITE CLOSEOUT**

#### **TDSR Site Closeout Inspection**

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 local 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 county, state and federal environmental requirements due to the nature of the TDSR site operation.

### **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.

### **TDSR Site Closeout Steps**

1. The contractor is responsible for removing all debris from the site.
2. The contractor conducts an environmental assessment with Debris Manager and landowner (if site is leased).
3. The contractor should develop a remediation plan.
4. Remediation plan should be reviewed by the Debris Manager, landowner, and appropriate environmental agency.
5. The remediation plan should be approved by the appropriate environmental agency.
6. Contractor executes the plan.
7. The contractor obtains acceptance from the Debris Manager, appropriate environmental agency, and the landowner.

### **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.
- **Ground Water.** 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.

### **TDSR Site Closeout Coordination**

The contractor will coordinate the following closeout requirements through the Debris Management Center staff:

- 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.
- 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.
- Reference appropriate and applicable environmental regulations.

- Prioritize site closures.
- Schedule closeout activities.
- Determine separate protocols for ash, soil and water testing.
- Develop decision criteria for certifying satisfactory closure based on limited baseline information.
- Develop administrative procedures and contractual arrangements for closure phase.
- Inform local and State environmental agencies regarding acceptability of program and established requirements.
- Designate approving authority to review and evaluate contractor closure activities and progress.
- Retain staff during closure phase to develop site-specific remediation for sites, as needed, based on information obtained from the closure checklist shown below.

**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.
- Appendices.
  - Closure documents.
  - Contracting status reports.
  - Contract.
  - Testing results.
  - Correspondence.
  - Narrative responses.

See Section 5 for a reproducible TDSR Site Closeout Checklist.





### **TDSR Site Final Closeout**

Once a TDSR site is no longer needed, it should be closed in accordance with the following guidelines. Closeout or re-approval of a TDSR site should be accomplished within 30 days of receiving the last load of debris

Closeout is not considered complete until the following occurs:

- All processed and unprocessed vegetative material and inert debris shall be removed to a properly approved solid waste management site.
- Tires must be disposed of at a scrap tire collection/processing facility; white goods and other metal scrap should be separated for recycling.
- Burn residues shall be removed to a properly approved solid waste management site or land applied in accordance with these guidelines.
- All other materials, unrecoverable metals, insulation, wall board, plastics, roofing material, painted wood, and other material from demolished buildings that is not inert debris as well as inert 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.

### **TDSR Site Re-approval**

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

## **EMERGENCY DEBRIS WASTEPILE PERMITTING CRITERIA**

### **General**

This is an application for an emergency permit to dispose of waste generated as the result of natural or manmade disasters. The emergency permit request may be oral or written. If oral, it shall be followed within five days by a written emergency permit application. Oral responses can only be given if the applicant is fully aware of the site requirements outlined in this application,

otherwise a written request must be provided using this application. Mail or fax the written request to the Department.

*Emergency Permits are valid for 90 days from the time they are issued. All associated waste activities must be inclusive in the 90-day period.*

**Department of Environmental Quality (DEQ) Contact:**

Recommend that the following DEQ contact be consulted prior to submitting the following forms to obtain current requirements.

***DEQ Central Office  
629 East Main Street  
Richmond, VA 23240  
Attn: Mr. Paul Ferrel  
Phone: (804) 698-4214 or (804) 698-4000***

See Website for complete Land Management Permits  
Guidance: <http://www.mde.state.md.us/Permits/WasteManagementPermits/index.asp#waste>

**Instructions**

Read all sections carefully. Fill in all of the information on DEQ Form EDWP-01 and all applicable information on DEQ Form EDWP-02. See Paragraph 5 for a reproducible copy of the form. Public notice information required by the applicant is found on EDWP-03 and a certification signature is required on EDWP-04. See Paragraph 5 below for a reproducible copy of the forms. Note that a site map, flood map, US Fish and Wildlife Service National Wetlands Inventory Map and a list of wastes to be received, and the manner and location of their treatment, storage and disposal must accompany this application. The site may either be selected prior to the emergency or immediately after the emergency. The Department encourages pre-selection. Follow the applicable guidelines below.

**Pre-Selected Sites**

If the site is pre-selected, public participation must be held in accordance with the Virginia Solid Waste Management Regulations (**VSWMR**) **regulations 9 VAC 20-80-485.A.5 and 9 VAC 20-80-485.B.4**. The Department will not consider approval of a pre-selected site without public participation. Pre-selected sites, if approved, will be granted an emergency permit upon request at the time of the emergency.

The applicant needs only to contact the Department, either orally or in writing, and provide a notice that a pre-selected site will be used for the present emergency. The notice shall include, as a minimum, the applicants name and contact information, the nature of the emergency, and the location of the site and owners name. Oral requests shall be followed with a written request within five days. DEQ Form EDWP-01 and DEQ Form EDWP-02 must be on file with the Department prior to the emergency for all pre-selected sites. The public notice form is found on form EDWP-03. See Paragraph 5 below for a reproducible copy of the forms.

**Post Emergency Sites**

In the case of selecting a site immediately after an emergency, the Department may grant a temporary emergency permit through oral or written requests. The applicant may verbally relate the information requested on DEQ Form EDWP-01 and DEQ Form EDWP-02 but must provide written copies within five days or as soon as the infrastructure support will allow. See Paragraph 5 below for a reproducible copy of the forms. In addition, a public notice as per **9 VAC 20-80-485.B.4** shall be published, by the applicant, within five days of the request, or as

soon as practicable, in order for the emergency permit to become effective. A copy of the advertisement shall be faxed to the Department once it is published. Disposal of waste may commence upon verbal approval but all waste activities must cease after 90 days.

## **FORMS**

The following forms may be reproduced:

- Temporary Debris Staging and Reduction (TDSR) Site Investigation Form
- Temporary Debris Staging and Reduction (TDSR) Site Base Line Data Checklist
- Temporary Debris Staging and Reduction (TDSR) Site Closure Checklist
- DEQ FORM EDWP-01 - Emergency Debris Wastepile Permit Information
- DEQ FORM EDWP-02 - Emergency Debris Wastepile Siting Criteria
- DEQ FORM EDWP-03 - Public Notice for Emergency Permits
- DEQ FORM EDWP-04 - Certification
- DEQ FORM EDWP-05 - Attachment A thru Attachment D
- DEQ FORM EDWP-06 - Attachment D (Continued) thru Attachment F



**TEMPORARY DEBRIS STAGING AND REDUCTION (TDSR) SITE INVESTIGATION FORM**

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

SITE NAME: \_\_\_\_\_

SITE ADDRESS: \_\_\_\_\_

SITE COORDINATES: \_\_\_\_\_

SITE DESCRIPTION: \_\_\_\_\_

SITE RECOMMENDED FOR USE: YES \_\_\_\_\_ NO \_\_\_\_\_

CHARACTERISTIC	YES	NO	CHARACTERISTIC	GOOD	FAIR	POOR
Public Property			Surface Drainage			
In 100 Year Floodplain			Noise Acceptability			
>200 Acres			Smoke Acceptability			
>100 Acres			Suitable Ingress/Egress			
>50 Acres			Suitable in Wet Weather			
<50 Acres			Site Lends Itself to Easy Preparation			
			<b>EXPLAIN "YES" RESPONSES</b>			
Close to Schools, Hospitals, Residential, Churches						
Obvious Environmental Concerns						
Mostly Open/Clear						
Wetlands/Creeks/Ponds						
Developed						
Brownfield						
Paved Surfaces						
Already Fenced						
Adjacent to Airfield						
On-site Utilities						
Requires Access Roads/Internal Roads						
Capable of Handling Large No. of Vehicles						
Proximity to Major Roadway						

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

VEGETATIVE COVER: NONE \_\_\_\_\_ LIGHT \_\_\_\_\_ MEDIUM \_\_\_\_\_ DENSE \_\_\_\_\_

CLOSEST LANDFILL AND APPROX. DISTANCE: \_\_\_\_\_

PROPOSED SITE OWNER: \_\_\_\_\_

OWNER'S PHONE NUMBER AND ADDRESS: \_\_\_\_\_  
 \_\_\_\_\_

PHOTOGRAPHS WERE TAKEN: YES \_\_\_\_\_ NO \_\_\_\_\_

PHOTOGRAPH NUMBERS: \_\_\_\_\_

SKETCH ON BACK

## **TEMPORARY DEBRIS STAGING AND REDUCTION SITE BASELINE DATA CHECKLIST**

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

### **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.

### **After Activities Begin**

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

### **Progressive Updates**

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

**TEMPORARY DEBRIS STAGING AND REDUCTION SITE  
CLOSURE CHECKLIST**



The private sector debris removal contractors must assure the County Deputy 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.

- Contractor responsible for removing all debris from the site.
- Contractor conducts an environmental assessment with Debris Management Center staff and landowner.
- Contractor develops a remediation plan.
- Remediation plan reviewed by Debris Management Center staff, landowner, and appropriate environmental agency.
- Remediation plan approved by the appropriate environmental agency.
- Contractor executes the plan.
- Contractor obtains acceptance from County Deputy Debris Manager, appropriate environmental agency, and the landowner.

The following checklist should be used to document site closure activities

- 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.
- Appendices.

- Closure documents.
- Contracting status reports.
- Contract.
- Testing results.
- Correspondence.
- Narrative responses.

**DEQ Contact Information**

Department of Environmental Quality  
*Regional Office Address*  
*Regional Office Address, ZIP*  
Attention: Solid Waste Permitting

Phone: (XXX) XXX-XXXX  
FAX: (804) 698-4383 .  
Please call prior to faxing to inform staff

**EMERGENCY DEBRIS WASTEPILE PERMIT INFORMATION**

If information is not known, use NA. Please type or print information. **Signature required under certification on form DEQ EDWP-04 when completed.**

Expected or current emergency	
Authority or Agency	
Primary Contact=s Name	
Address	
City, State, Zip	
Phone Number / Fax Number	
Secondary Contact=s Name	
Address	
City, State, Zip	
Phone Number / Fax Number	
Site Location (latitude/longitude or directions from major roads)	
Site Name	
City, State, Zip	
Owner of Site	
Owner=s Address	
City, State, Zip	
Phone Number / Fax Number	
Approximate size (acres)	
List expected types of waste See Attachment D for typical waste types. Additional sheets may be used	
Typical treatment, storage and disposal options Additional sheets may be used	



**EMERGENCY DEBRIS WASTEPILE SITING CRITERIA**

Put a T or X in the Yes / No Columns as necessary. Additional information is provided as attachments A-F. Please read each criterion carefully. **Sign the certification on DEQ FORM EDWP-04.**

	<b>SITING CRITERIA</b>	<b>YES</b>	<b>NO</b>
1	Site Location Map Attached		
2	Not prone to base floods [100 year flood plain, coastal flooding] or inundation. ➤ <i>Copy of FEMA Map or Equivalent is attached</i>		
3	Site is geologically stable. (see Attachment A)		
4	Site has adequate berm area and terrain to manage leachate release.		
5	Not closer than: ➤ 100 feet from any regularly flowing surface water body or river. ➤ 200 feet from any well, spring, or other groundwater source of drinking water		
6	WETLANDS SHALL NOT BE IMPACTED. (see Attachment B) ➤ <i>US Fish and Wildlife Service National Wetlands Inventory Map is attached.</i>		
7	Site characteristics: ➤ Slopes less than 33% ➤ No springs seeps or other groundwater intrusions ➤ No gas, water, sewage, or electrical or other transmission lines under the site ➤ No existing open dump, unpermitted landfill, lagoon, or similar facility on site. ➤ Specific site conditions which may be considered for exemption (applies only to site characteristics)  SPECIFY:		
8	No strip mines, exposed bedrock or quarries present. (See Attachment C) If No, does the site have a liner as per Attachment C?		
9	Fifty-foot firebreak around disposal areas and from all treelines		
10	Does not impact cemeteries (public, private, pet) or culturally sensitive areas.		
11	Has ample access for delivery vehicles.		
12	Is anticipated waste acceptable for disposal? (See Attachment D) <b>(90 day permit, all activities inclusive)</b>		
13	Can the waste be segregated for disposal? (See Attachment D)		
14	Public notice form with required information attached. (See Attachment F. Form should be faxed with other required forms. May be verbal over phone, if necessary.)		
15	For pre-selected sites, was a public meeting held? Public Meeting Location: Date:        /        /        (mm/dd/yyyy)		
16	Can the site be closed in accordance with Department standards? (See Attachment E)		

<b>Public Notice for Emergency Permits</b>	
Type of media (e.g. newspaper or radio)	
Name of media (e.g. newspaper)	
Contact Name	
Phone Number	
Fax Number	
Publication Cycle	



**NEWSPAPER ADVERTISEMENT**

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF WASTE PERMITTING  
PUBLIC NOTICE FOR A TEMPORARY EMERGENCY PERMIT  
TO TREAT AND STORE SOLID WASTE

DUE TO \_\_\_\_\_,  
(emergency)  
FOR \_\_\_\_\_, VA  
(city, town, county)

Due to the recent emergency from \_\_\_\_\_, and pursuant to the requirements of 9 VAC 20-80-485 .B.4 of the Virginia Solid Waste Management Regulations (VSWMR), Permitting of Solid Waste Management Facilities, The Virginia Department of Environmental Quality (*Regional Office Address & ZIP*, hereby authorizes \_\_\_\_\_ to operate a temporary emergency debris site located at \_\_\_\_\_.

The site will receive the following solid wastes:

\_\_\_\_\_

Typical treatment, storage, and disposal options will include:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The site meets the minimum siting requirements deemed necessary for environmental protection and public safety. Groundwater monitoring is not required but leachate management and run-off control are required. The permit will expire 90 days from the date of verbal or written authorization given on \_\_\_\_\_. Closure shall include the removal of wastes, waste constituents, and all temporary features used in support of the waste activities associated with deposit, environmental protection, maintenance, and operation. Final closure should return the site to as near as natural condition as possible prior to the disposal of waste. If there are any questions or concerns regarding the issuance of the temporary emergency permit, please contact the Department at (XXX) XXXXXXXX or at the above address.



ALL APPLICATIONS MUST BE SIGNED

CERTIFICATION:

I hereby affirm that the information provided on this application is accurate and complete to the best of my knowledge. I fully understand the requirements of the siting criteria and that an emergency permit is valid for 90 days from the time of issuance. All activities must be inclusive in the 90-day period. Failure to provide accurate and complete information or follow the requirements and conditions of this application may result in permit denial or revocation. I have enclosed a copy of the advertisement that was published in the local newspaper.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
(Type or Print dd/mm/yyyy)

Title or Authority by \_\_\_\_\_  
(Type or Print)

The following items must be returned to the Department:

- \_\_\_\_\_ Contact Information (EDWP-01)
- \_\_\_\_\_ Siting Checklist (EDWP-02)
- \_\_\_\_\_ Copy of Advertised Public Notice
- \_\_\_\_\_ Certification (EDWP-04)

**ATTACHMENT A: GEOLOGY**

Emergency debris (ED) wastepiles shall not be sited in geologically unstable areas where inadequate foundation support for the structural components of the wastepile exists. Factors to be considered when determining unstable areas shall include:

- a. Soil conditions that may result in differential settling and subsequent failure of containment berms;

**EXAMPLES**

highly compressible clays,	liquefiable soil	expansive soils	peat
collapsible soils	frost-susceptible soil	soils susceptible to hydrocompaction	
other conditions not explicitly listed			

- b. Geologic or geomorphologic features that may result in sudden or non-sudden events and subsequent failure of containment berms;

**EXAMPLES**

Landslide prone areas	Abandoned river channels and lakes	highly erosion-prone areas	over sole source aquifer
other conditions not explicitly listed	highly karstic areas	groundwater seeps	
structural discontinuities such as extreme folding, faulting, fracturing and jointing			

- c. Man-made features or events (both surface and subsurface) that may result in sudden or non-sudden events and subsequent failure of containment berms;

**EXAMPLES**

Emergency routes	unpermitted landfills	sludge lagoons	unsuitable fill
adjacent to highly explosive products such as chemical, petroleum or fertilizer storage bins			
downstream of weakened or damaged dams or other water retention structures			
over underground excavations such as storage tanks, sewer and traffic tunnels, mine shafts			
other conditions not explicitly listed			

- d. Presence of sink holes within the disposal area.

**ATTACHMENT B: WETLANDS**

Wetlands shall be avoided at all times. Existing wetland delineation maps prepared the US Fish and Wildlife Service shall be used to determine prohibited areas. *Attach an applicable Wetlands Inventory Map with this application.* Wetlands that are encountered on the site yet are not covered by the map shall not be used unless the U.S. Army Corps of Engineers provides an approval letter and it is attached to this application.

**ATTACHMENT C: STRIP MINES, EXPOSED BEDROCK AND QUARRIES**

In strip mine pits, all coal seams and coal outcrops shall be isolated from solid waste materials by a minimum of five feet of natural or compacted soils with a hydraulic conductivity less 1x10<sup>-7</sup>cm/sec. Exposed bedrock and quarry faces shall also be lined with five feet of natural or compacted soil with a hydraulic conductivity # 1x10<sup>-7</sup>cm/sec.

**ATTACHMENT D: WASTE**

Acceptable Waste

Demolition waste, construction waste, debris waste, land clearing debris, discarded tires, and white goods, free of chloroflourocarbons and PCBs. No other wastes are authorized for the ED

wastepile. Liquid waste, sludge waste, radioactive waste, friable asbestos, medical waste and other similar waste shall be prohibited.

Hazardous waste shall be prohibited from the emergency wastepile except when a separate, distinct area can be lined with concrete, collection berms and ditches are erected, and containment booms, in conjunction with other containment strategies, are used.

#### Segregation

1. The limits of the wastepile shall be large enough to allow segregation of waste with 50-foot firebreak between each segregated area and any adjacent wastepiles or treelines.
- 2 Each segregated area shall be large enough to accommodate expected volume of waste type.
3. The following wastes require separate disposal areas within the limits of the emergency wastepile.
  - A. Yard Waste and Woody Products such as trees, stumps, untreated wood and timber, paper products, and untreated wooden household furnishings.
  - B. Treated and Painted Wood Products.
  - C. White Goods.
  - D. Tires.
  - E. Concrete, Asphalt and Building Material (friable asbestos is prohibited).
  - F. Hazardous Waste (if allowed).

#### **ATTACHMENT E: CLOSURE**

Closure shall include the removal of wastes, waste constituents and all temporary features used in support of the waste activities associated with deposit, environmental protection, maintenance and operation. Final closure should return the site to as near as natural condition as possible prior to the disposal of waste.

#### **ATTACHMENT F: PUBLIC NOTICE.**

VSWMR 9 VAC 20-80-485.B.4 requires a public notice to be accompanied with the written permit. The Applicant will fill out DEQ FORM EDWP-03 and fax that to a newspaper in the largest circulation for that municipality. The generic form contains the required information. The form is self-explanatory and may be filled in by hand. PRINT, do not use cursive. It must be legible. A copy of the advertisement from the newspaper must be submitted to the Department within 24 hours after submitting the contact information and siting checklist. Once the Department receives the required permit application and a copy of the advertisement from the applicant the permit will be signed and issued. The actual publication date of the advertisement should be the soonest date possible depending on the soonest newspaper publication date.

## ACRONYMS

ACM	Asbestos Containing Material
DEQ	Department of Environmental Quality
FEMA	Federal Emergency Management Agency
HHW	Household Hazardous Waste
TDSR	Temporary Debris Staging and Reduction
USACE	U.S. Army Corp of Engineers
UST	Underground Storage Tank
VSWMR	Virginia Solid Waste Management Regulations

## LANDFILLS

### Permitted and final disposal

Name	Address
1. Fairfax County Landfill North	4618 West Ox Road Fairfax, VA 22030
2. Fairfax County Landfill South	9850 Furnace Rd, Lorton, VA 22079



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**APPENDIX G**

**DEBRIS CONTRACT OVERSIGHT TEAM  
STANDARD OPERATING GUIDELINES**



## **DEBRIS CONTRACT OVERSIGHT TEAM STANDARD OPERATING GUIDELINES**

### **DEBRIS REMOVAL AND DISPOSAL OPERATIONS**

#### **General**

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 Public Works, Parks and Recreation, and Utilities. While City agencies will provide oversight of their own removal operations, contractor operations will be overseen by the Debris Contractor Oversight Team (DCOT).

Mixed debris will be collected and hauled from assigned Debris Control Zones to designated temporary TDSR sites or to designated landfill locations. Clean woody debris will be hauled to the nearest designated vegetative TDSR site for eventual burning or 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 pickup refuse in accordance with current procedures, routes, and removal schedules. They will haul disaster debris as requested by the contracting authority.

### **DEBRIS CONTRACTOR OVERSIGHT TEAM**

#### **General**

The Debris Contractor Oversight Team (DCOT) is responsible for the coordination, oversight, and monitoring of all debris removal and disposal operations performed by City debris removal and disposal Contractors.

The DCOT supervisor and team members will be detailed from Public Works, or a contractor. The DCOT team may also be supplemented with contracted inspectors and other personnel as needed.

The DCOT team supervisor will be located at the Debris Management Center (DMC) and will provide overall supervision of the two field-based monitoring elements as described below. The DMC is located at the City of Fairfax Property Yard, 3410 Pickett Road, Fairfax, VA 22031. Specific DCOT Supervisor responsibilities include the following:

1. Planning, TDSR site inspection, quality control, and other contractor oversight functions.
2. Receiving and reviewing all debris load tickets that have been verified by a Disposal Site Monitor (see description below).
3. Making recommendations to the DRC regarding distribution of in-house and contractor work assignments and priorities.

4. Reporting on progress and preparation of status briefings.
5. Providing input to the City PIO on debris removal and disposal activities and pickup schedules.

The DCOT Supervisor will oversee the activities of two types of field-based inspection teams. The functions and responsibilities of the field inspectors are described in the following sections.

### **Roving Monitors**

Teams of Roving Monitors will be assigned to a specific Debris Control Zones or to a specific Contractor depending upon the distribution of work assignments. Their 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 Public Works, or a contractor. Roving Monitors will have the authority to monitor contractor operations and to report 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:

1. The Debris Manager will establish two-person roving monitor teams with their own transportation and communications.
2. Roving Monitor teams will be assigned to each contractor’s debris removal and disposal zone.

Once assigned, 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 are responsible to do the following:

1. Obtain and become familiar with all debris removal and disposal contracts for which they are providing oversight.
2. Observe all phases of debris management operation, to include loading sites, TDSR sites.
3. Complete a Debris Loading Site Monitoring Checklist (Attachment 2) for every site visited.
4. Complete a Debris Disposal Site Monitoring Checklist (Attachment 3) 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.
5. Complete the Stockpiled Debris Field Survey Form (Attachment 4) at least weekly at all temporary TDSR sites to determine estimated quantities of debris stockpiled.
6. Periodically measure curbside debris using the estimating formulas shown in Attachment 5.
7. Prepare a daily written report of all contractor activities observed to include photographs and the aforementioned checklists.

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

1. Is the contractor using the site properly with respect to layout and environmental considerations?
2. 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?
3. Are plastic liners in place under stationary equipment such as generators and mobile lighting plants?
4. Has the contractor established appropriate rodent control measures?
5. Has the contractor established procedures to mitigate:
  - a. Dust – Are water trucks employed to keep the dust down?
  - b. Noise – Have berms or other noise abatement procedures been employed?
  - c. Traffic – Does the TDSR site have a suitable layout for ingress and egress to help traffic flow?

Roving Monitor's reports will also include observations at loading sites, disposal sites, and the locations of any illegal dumping sites.

### **Load Site Monitors**

Load Site Monitors will be stationed at designated contractor loading sites.

Load Site Monitor positions will be staffed from Public Works, or a contractor.

Load Site Monitors will be assigned to each contractor loading site within designated Debris Control Zones. The Load Site Monitors' primary function is to verify that debris being picked up is eligible under the terms of the contract. They will initiate and sign load tickets (see Figure 1 in main text) 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 District and contracted haulers.

### **Disposal Site Monitors**

Disposal Site Monitors will be staffed by Public Works, or a contractor. The Disposal Site Monitors will be stationed at all temporary TDSR sites for the purpose of verifying the quantity of material being hauled by the contractor.

The Disposal Site Monitor will estimate the cubic yards of debris in each truck entering the temporary TDSR site and will record the estimated quantity on pre-numbered debris load

tickets. The contractor will only be paid based on the number of cubic yards of material deposited at the disposal site as recorded on the debris load tickets.

The Disposal Site Monitor will be responsible for completing and signing each load ticket and returning DCOT copies to the DCOT Supervisor. In addition, Disposal Site Monitors will maintain a daily Debris Disposal Site Load Tracking Log (Attachment 6), which will also be returned to the DCOT at the end of each day.

At each temporary 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.

### **Annual Training Workshop**

The DCOT Supervisor 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:

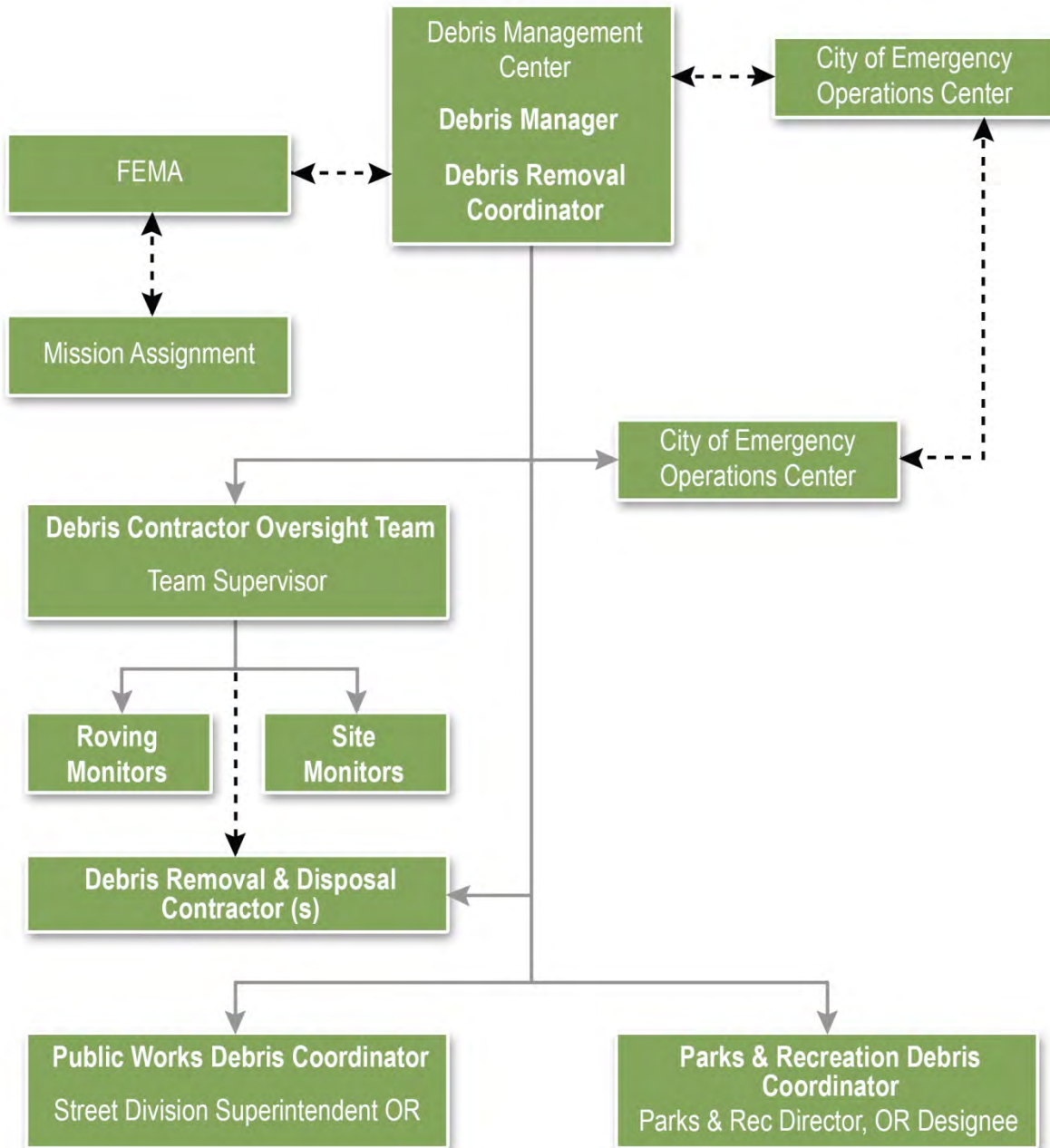
1. Contractor responsibility
2. Mobilization sites
3. Logistical support
4. Pre-storm mobilization
5. Procedures for call-up of Contractor personnel and equipment
6. Haul routing
7. Contractor vehicle identification and registration
8. Debris hauling load ticket administration
9. Mobilization and operation of the TDSR sites
10. Contractor payment request submission, review, and verification
11. Special procedures for Household Hazardous Waste
12. TDSR site closure requirements

This training will be scheduled annually in May, prior to the start of the Hurricane Season.

ATTACHMENT 1

City of Fairfax Debris Management Center Organization

Debris Contractor Oversight Team



ATTACHMENT 2

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? Y N
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? Y N
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)
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (U  
se reverse side if necessary)

ATTACHMENT 3

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)

**ATTACHMENT 4**

**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

Length \_\_\_\_\_ Feet

$\frac{L' \times W' \times H'}{27} = \text{CY}$

Height \_\_\_\_\_ Feet

Height \_\_\_\_\_ Feet

Height \_\_\_\_\_ Feet

Length \_\_\_\_\_ Feet

Remarks: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Width \_\_\_\_\_ Feet



**ATTACHMENT 5**

**Debris Estimating Formulas**

**Estimating Rule of Thumb:**

- 15 trees, 8 inches in diameter = 40 CY
- Single wide mobile home = 290 CY
- Double wide mobile home = 415 CY
- Root system (8'-10' dia.) = One flat bed trailer to move
- Treat debris piles as a cube, not a cone, when performing estimates.
- Average pace = 2' 6"

**Formulas**

Conversions:

- 27 cubic feet=1 cubic yard
- One mile=5280 feet or 1760 yards

Building formula:

$L' \times W'$  (building footprint) x No. of Stories x 0.2 = \_\_\_\_\_ Cubic Yards of debris

Debris pile formula:

$\frac{L' \times W' \times H'}{27}$  = \_\_\_\_\_ Cubic Yards of debris.

27

**Conversion Factors from Cubic Yards to Tons**

- Mixed Construction & Demolition Debris = 500 LBS/CY or CY x 0.25 = Tons
- Yard Vegetation = 300 LBS/CY or CY x 0.15 = Tons
- Mulch = 500 LBS/CY or CY x 0.25 = Tons
- Regular Trash = 300 LBS/CY or CY x 0.15 = Tons
- Concrete = 2000 LBS/CY or CY x 1.0 = Tons
- Sand = 2600 LBS/CY or CY x 1.3 = Tons
- Land Clearing (Root balls with dirt) 1500 LBS/CY or CY x 0.75 = Tons

**ATTACHMENT 6**

**Debris Disposal Site Load Tracking Log**

<b>Debris Disposal Site Load Tracking Log</b>							
<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>

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**APPENDIX H**

**SAMPLE DEBRIS REMOVAL AND  
DISPOSAL MONITORING PLAN**

## DEBRIS REMOVAL AND DISPOSAL MONITORING PLAN SAMPLE

### GENERAL

The **Insert name of contracting agency and jurisdiction** has entered into a contract with **Insert name of Contractor** for the purposes of:

- Removing debris from city rights-of-way to temporary debris staging sites, and hauling vegetative and recyclable C&D and mixed debris to a debris volume reduction site.
- Setting up and operating **Insert appropriate number of TDSR sites** debris volume reduction site(s) located at **Insert address(es) of TDSR site(s)**.
- Hauling chips/mulch from the debris volume reduction site to **Insert name of landfill** Landfill or a location of the Debris Manager's choosing.
- Hauling recycled concrete, metal and other recycle C&D and mixed debris to **Insert name of approved C&D landfill** Landfill or a location of the Debris Manager's choosing or, if permitted under the terms of the contract, to a location of the Contractor's choosing for profit.

**Insert name of agency, department, or division responsible for monitoring Contractor activities** will be responsible for monitoring the Contractor's debris removal and disposal activities using **Insert appropriate agency, department, or division** personnel to prepare Debris Load Tickets and contract oversight.

### PURPOSE

The purpose of this plan is to outline the monitoring responsibilities of the **Insert jurisdiction name**'s Contract Oversight Team personnel. This plan is subject to revision based on changing conditions.

### MONITORING OPERATIONS

**Insert jurisdiction name** has been divided into **Insert number of debris management zones** primary debris management zones **Add verbage here if debris zones are modeled after snow zones, etc.**. The Contractor will be responsible for removing all eligible vegetative, C&D and mixed debris from city street rights-of-way and hauling limbs, branches, and yard wastes to designated TDSR sites at **Insert locations of debris management sites**.

Tree trunks greater than 2 feet in diameter and root balls will be hauled directly to the **Insert names of TDSR sites as appropriate** TDSR site.

Monitoring activities will be controlled by the Debris Manager from the DMC located at **Insert address of DMC**. Phone number for the Debris Manager is **Insert Debris Manager's phone number**. Day to day operations and contracting problems/questions should be directed to **Insert name, title and phone number of appropriate person**.

Debris Contract Oversight Team monitor's work day is expected to be from **\_\_\_\_\_** a.m. until **\_\_\_\_\_** p.m. with **\_\_\_\_\_** hour for lunch or maximum of **\_\_\_\_\_** hours/day **\_\_\_\_\_** days per week.

Monitors will be responsible for initiating Debris Load Tickets at Contractor debris loading sites and estimating and recording the type and quantity of debris, in cubic yards, of Contractor vehicles entering the temporary TDSR sites on Debris Load Tickets.

### **DEBRIS LOADING SITES MONITORS**

The debris loading site monitors will complete Section 1 of the load ticket. The monitor will keep one copy and give the remaining copies to the truck driver. The monitor's copy will be turned into the Debris Manager or designated representative on a daily basis. Load ticket information will be entered into a database by **Insert appropriate agency, department, or division** personnel.

Transportation will be provided by **Insert appropriate agency, department, or division** from **Insert appropriate location address** and returning to **Insert appropriate location address** or to/from a mutual meeting point.

### **TDSR SITE MONITORS**

The temporary TDSR site monitors will record the estimated quantity, in cubic yards, on Section 2 of the load ticket. The monitor will keep one copy and give the remaining copies to the truck driver. The monitor's copy will be turned into the Debris Manager or designated representative on a daily basis. Load ticket information will be entered into a database by **Insert appropriate agency, department, or division** personnel.

Monitors will be located at the entrance to the TDSR site where the inspection tower is located. They will be responsible for estimating and recording the cubic yards of debris in Section 2 of the Load Ticket for all incoming Contractor's debris hauling vehicles. A copy of the Debris Load Ticket is shown on the following page.

Transportation will be provided by **Insert appropriate agency, department, or division** from **Insert appropriate location address** and returning to **Insert appropriate location address** or to/from a mutual meeting point.

<b>CITY OF FAIRFAX 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: 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: 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		

**COMPLETING THE LOAD TICKET**

- The disposal site monitor will be stationed in the inspection tower and make an estimate of the quantity of debris contained in the truck or trailer in cubic yards. Each truck or trailer will have the measured hauling capacity in cubic yards recorded on the side of the truck or trailer. That number should be validated with the quantity stated in Section 1.
- The disposal site monitor will indicate the name and the arrival time of the truck and indicate the type of debris in the truck.
- The disposal site monitor will record the estimated volume, in cubic yards, on the load ticket in the Estimated Debris Quantity block of material contained within the bed of the truck or trailer.
- Examples of a Truck / Trailer Estimating Table and Truck Capacity Table are shown on the following page.

- The monitor will print and sign his/her name in the designated block.
- The disposal site monitor will retain one copy of the load ticket and give the remaining copies to the truck driver. The disposal site monitor's copy will be turned into the District Debris Manager or his representative at the end of each day. These are controlled forms and cannot be lost since they will be used to verify the amount of money paid to the Debris reduction site Contractor and to the debris hauling Contractor.

**EXAMPLE TRUCK / TRAILER ESTIMATING TABLE**

Truck/Trailer Size - CY	100% CY	90% CY	85% CY	80% CY	75% CY
32	32	29	27	25	24
46	46	41	39	37	35
47	47	42	40	38	35
Note: Truck/Trailer without tailgate is rated at 85% of capacity					

**EXAMPLE TRUCK CAPACITY TABLE**

Truck Number	Driver	Model	License #	Capacity in CY
101	Joe Blow	Self Loader	39X2520 GA	32 CY
102	Kim Driver	Self Loader	39X2522 TX	32 CY
103	Steve Loader	Trailer	63XN362 MD	47 CY
104	David Dump	Self Loader	63X5542 LA	46 CY
105	Chip Grinder	Trailer	W5008 FL	47 CY

List Vehicle Numbers, Drivers Name, Model, License Number and Measured Capacity of Truck / Trailer Bed In Cubic Yards.

NOTE: Debris Contract Oversight Team members must measure and photograph every truck and trailer used by the contractor to move debris. This should be done jointly with the contractor's representative before debris removal operations begin.

**MONITORING STAFF ASSIGNMENTS**

Monitoring assignments and personnel names should be recorded in a table similar to the following:

**Example Monitoring Staff Tracking Table**

Date	Monitor's Name	Monitor's Title	Disposal Site Name	Disposal Site Address	Hours Worked
10/1/03	Betty Rubble	Inspector	Mulching Park	123 Main St.	7 a.m. – 6 p.m.
10/1/03	Joe Blades	Tow Truck Operator	Redux Central	5000 South St.	7 a.m. – 7 p.m.

**TRAINING**

All assigned monitors will attend a [ ] hour training session starting at [ ] a.m. [ ] p.m. on [ ] date [ ] at [ ] location. Alternate training date is [ ] date, same time and location.



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**APPENDIX I            DEBRIS CLEARING, REMOVAL, &  
DISPOSAL GUIDELINES**



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Right of Entry / Hold Harmless Agreement.....

TDSR Site Setup and Closeout Guidelines .....

Temporary Construction and Demolition Staging / Transfer Site Guidelines .....

Temporary Vegetative TDSR Site Guidelines .....

Air Curtain Burner Site Location and Operations.....

Environmental Checklist for Air Curtain Pit Burners .....

Land Application of Wood Ash from Storm Debris Burn Sites Guidelines.....

Reducing the Potential for Spontaneous Combustion in Compost or Mulch Piles Guidelines

**Right of Entry / Hold Harmless Agreement**

*(Right of Entry / Hold Harmless Agreement is strictly a sample and must be reviewed by local legal staff before use)*

I/We **Insert Owners' Legal Names**, the owner(s) of the property commonly identified as **Insert Street Address**, City of Fairfax, County of Fairfax, State of Virginia, do hereby grant and give freely and without coercion, the right of access and entry to City of Fairfax, its agencies, contractors, and subcontractors, for the purpose of removing and clearing any or all storm-generated debris of whatever nature from the above described property.

It is fully understood that this permit is not an obligation to perform debris clearance. The undersigned agrees and warrants to hold harmless the City of Fairfax, State of Virginia, its agencies, contractors, and subcontractors, for damage of any type whatsoever either to the above described property or persons situated thereon and hereby release, discharge, and waive any action, either legal or equitable, that might arise out of any activities on the above described property. The property owner(s) will mark any storm damaged sewer lines, water lines, and other utility lines located on the described property.

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. I will report for this property any insurance settlements to me or my family for debris removal that has been performed at government expense. For the considerations and purposes set forth herein, I set my hand this **Insert Numerical Day** day of **Insert Month**, 20**Insert last two digits of year**.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Telephone Number and Address

## **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**

#### **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.

#### **After Activities Begin**

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

#### **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 generators 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 a 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 *Insert Jurisdiction* 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).

## **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 temporary TDSR site should be accomplished within 30 days of receiving the last load of debris.

## **TDSR Site Closeout Steps**

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

### **TDSR Site Closeout Coordination**

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

- 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.
- 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.
- Refer to appropriate and applicable environmental regulations.
- Prioritize site closures.
- Schedule closeout activities.
- Determine separate protocols for ash, soil and water testing.
- Develop decision criteria for certifying satisfactory closure based on limited baseline information.
- Develop administrative procedures and contractual arrangements for closure phase.
- Inform local and State environmental agencies regarding acceptability of program and established requirements.
- Designate approving authority to review and evaluate Contractor closure activities and progress.
- Retain staff during closure phase to develop site-specific remediation for sites, as needed, based on information obtained from the closure checklist shown below.

### **Material Removal**

- All processed and unprocessed vegetative material and inter debris shall be removed to a properly approved solid waste management site.
- Tires must be disposed of at a scrap tire collection/processing facility; white goods and other scrap metal should be separated for recycling.
- Burn residues shall be removed to a properly approved solid waste management site or land applied in accordance with these guidelines.
- 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.

### **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.

**Ground Water.** 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.

#### **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

#### **Site Re-approval**

Sites that were approved as temporary 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.

#### **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:

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 county to verify these areas. Due



to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

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.

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.

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.

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.

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. 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.

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.

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 afterhours emergency.

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 temporary 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:

Contact the City Health Department for information on managing asbestos containing materials (ACM's) or materials that are considered regulated asbestos containing materials.

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 county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

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.

Storage areas for incoming debris shall be located at least 100 feet from property boundaries and on-site buildings/structures.

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 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.

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.

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.

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.

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.

Final written approval is required to consider any TDSR site to be closed. Closeout of processing / recycling sites shall be within six months 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.

### **Temporary Vegetative TDSR Site Guidelines**

#### **General**

When preparing temporary facilities for handling debris resulting from the cleanup 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:

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 county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

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.

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.

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.

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.

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.

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.

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 adequate access that prohibits traffic from backing onto public rights-of-way or blocking primary and/or secondary roads to the site.

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 afterhours emergency.

Grinding of clean wood waste such as pallets and segregated non-painted/non-treated dimensional lumber is allowed.

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 temporary TDSR sites.

### **Air Curtain Burner Site Location and Operations**

Locating sites that are intended for air curtain burning (ACB) operations is a coordinated effort between **Insert Appropriate Local Authority** and **Insert Appropriate State Agency** 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:

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 fire fighting 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.

The requirements for ACB device(s), in accordance with Air Quality rules require the following buffers: a minimum of 500 feet from the ACB device to homes, dwellings and other structures and 250 feet from roadways. Contact **Insert Appropriate Local and/or State Agency** for updates or changes to their requirements.

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 county 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 larger buffer to the seasonal high water table may be necessary due to on-site soil conditions and topography.

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.

Storage areas for incoming debris shall be located at least 100 feet from property boundaries and on-site buildings/structures.

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.

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.

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.

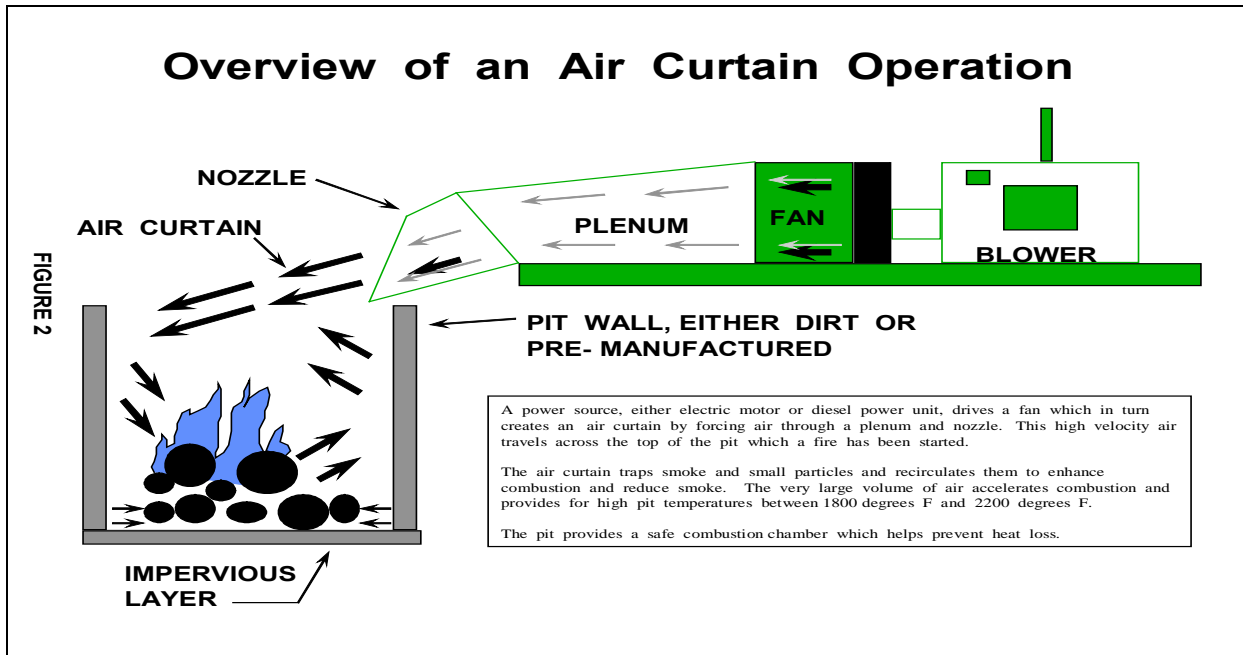
Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged, and a 100-foot buffer shall be maintained for all activities on-going at the site.

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 identified prior to digging pits for using the ACB device.

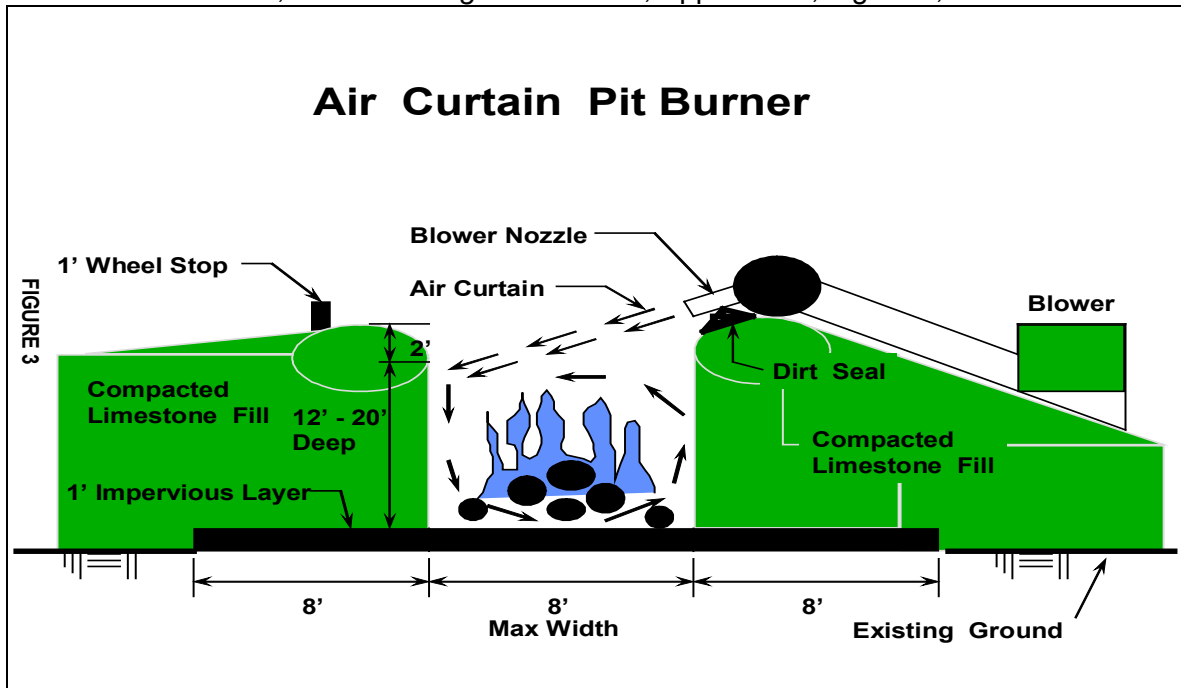
Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or other equipment when the facilities are closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.

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.

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. TDSR sites



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



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

#### 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 anticipated 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 aboveground 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 seal 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 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.

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

Whenever possible, soil test data and waste analysis of the ash should be available to determine appropriate application rate.

In the absence of test data to indicate agronomic rates, application should be limited to 2 to 4 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.

Ash should be land applied in a similar manner as agricultural limestone.

Ash should not be land applied during periods of high wind to avoid the ash blowing off the application sites.

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.

Records should be maintained to indicate where ash is applied and the approximate quantities of ash applied.

As an option to land application, ash may be managed at a permitted municipal solid waste landfill after cooling to prevent possible fire.

Assistance in obtaining soil test data and waste analysis of ash should be available through **Insert Appropriate Local or State Agency**.

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

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.

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.

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.

Large piles should be kept away from wooded areas and structures and should be accessible to fire fighting equipment, if 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.





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**APPENDIX J      Health and Safety Strategy**

## **Purpose**

The purpose of this health and safety strategy is to supplement existing City of Fairfax safety guidelines with regard to debris removal activities. These are recommended baseline safety provisions. Ultimately, health and safety is the responsibility of the contracted parties involved in debris removal activities. This document will outline some of the general steps necessary to provide a safe work environment for the employees of the monitoring firm and debris removal contractors. In addition, this document will identify some representative work hazards as well as appropriate measures to reduce risk of injury.

### **1. Dissemination of Information**

The monitoring firm and debris removal contractors' project managers will be provided with this document and will be expected to disseminate the information and guidelines to their respective personnel. A copy of the document should be available for consultation. In addition, elements of the document will be reviewed periodically throughout the project to increase worker awareness.

### **2. Compliance**

The monitoring firm and debris removal contractors' project managers are responsible for the health and safety compliance of their respective personnel and subcontractors. Any crews or individuals that are not compliant shall be suspended from debris removal activities until the situation is remedied. Frequent offenders of safety policies and procedures will be dismissed from the project entirely.

### **3. Job Hazard Assessment**

Though debris removal activities are fairly similar among events, assessing the particular hazards of each disaster is an important part of maintaining health and safety for the debris removal workers. At a minimum, the following areas of focus should be considered as part of a job hazard assessment:

- **Disaster Debris** – Disasters that result in property damage typically generate large quantities of debris which must be collected and transported for disposal. The type of debris varies depending on the characteristics of the region (e.g., terrain, climate, dwelling and building types, population) and the debris generating event (e.g. type, event strength, duration). In addition, the disaster debris produces a host of uneven surfaces which must be carefully negotiated.
- **Debris Removal** – Often the removal of disaster debris involves working with splintered or sharp edges of vegetative or construction material debris. Many disasters involve heavy rains or flooding. Consequently, disaster debris is damp and heavier than usual. As weights increase, so does the risk of injury.

- **Removal Equipment** – In most disasters, debris must be removed from the public right-of-way (ROW) to provide access for emergency vehicles and subsequent recovery efforts. Debris collection and removal requires the use of heavy equipment and power tools to trim, separate and clear disaster debris.
- **Traffic Safety** – The ROW is located primarily on publicly maintained roads. As a result, much of the debris removal process takes place in traffic of varying levels of congestion. In addition, disasters often damage road signs, challenging safety on the road.
- **Wildlife Awareness** – Disasters are traumatic events for people as well as wildlife. Displaced animals, reptiles and insects pose a hazard to debris removal workers.
- **Debris Disposal** – After disaster debris is collected it is often transported to a Debris Management Site (DMS). Upon entry to a DMS, the monitoring firm will assess the volume of disaster debris being transported. The collection vehicle will then dispose of the disaster debris, at which time the debris will be reduced either through a grinding operation or incineration. The DMS is a common area for injury. Response and recovery workers in this environment are more likely to be exposed to falling debris, heavy construction traffic, noise levels, dust and airborne particles from the reduction process.
- **Climate** – Debris-generating disasters often occur in areas or seasons with extreme weather conditions. The effects of temperature and humidity on physical labor must be monitored, and proper work-rest intervals must be assessed.

#### 4. Administrative and Engineering Controls

The use of administrative and engineering controls can greatly reduce the threats to public health and safety in debris removal activities. The following are some of the common administrative and engineering controls used in the debris removal process:

##### **Collection Operations**

- Conduct debris removal operations during daylight hours only.
- Limit cleanup operations to one side of the road at a time.
- Limit collection work under overhead lines.
- Inspect piles before using heavy equipment to remove them in order to ensure that there are no hazardous obstructions.
- Make sure that all collection vehicles have properly functioning lights, horns and backup alarms.
- Load collection vehicles properly to guard against overloading or unbalancing.
- Cover and secure loads, if necessary.

- When monitoring the collection process, stay alert in traffic and use safe driving techniques.

### **Power Tools**

- Inspect all power tools before use.
- Do not use damaged or defective equipment.
- Use power tools for their intended purpose.
- Avoid using power tools in wet areas.

### **Debris Reducing Machinery (e.g., Grinders/Wood Chippers)**

- Do not wear loose-fitting clothing.
- Follow the manufacturer's guidelines and safety instructions.
- Guard the feed and discharge ports.
- Do not open access doors while equipment is running.
- Always chock the trailer wheels to restrict rolling.
- Maintain safe distances.
- Never reach into operating equipment.
- Use lock out/tag out protocol when maintaining equipment.

### **Debris Management Site/Disposal Operations**

- Use jersey barriers and cones to properly mark traffic patterns.
- Use proper flagging techniques for directing traffic.
- Monitor towers must not exit into traffic and should have hand and guard rails to reduce trips and falls.
- Monitor towers must have properly constructed access stairways with proper treads and risers and proper ascent angle (4:1 height/width ratio).
- Monitor towers must be surrounded by jersey barriers which protect the tower and monitors from being struck by inbound or outbound collection vehicles.
- Monitor towers should be located upwind from dust- and particulate-generating activities.
- A water truck should spray the site daily to control airborne dust and debris.

## **5. Personal Protective Equipment**

Personal Protective Equipment (PPE) is the last resort in providing a safe working environment for employees. PPE does not eliminate or even reduce hazards as administrative and engineering controls do. PPE works to reduce the risk of injury by creating a protective barrier between individuals and workplace hazards.

PPE should only be used for its intended purpose. For example, using the wrong type of respirator might expose the worker to carcinogenic particulates. Properly fitting the equipment to the user may require examination by a medical

professional. PPE that does not fit well will not provide maximum protection and will decrease the likelihood of the individual continuing to use the equipment. Furthermore, improper use may result in serious injury or death. The proper use of the equipment is outlined in detail in the manufacturer's instructions.

The following PPE may be applicable in standard ROW, right-of-entry, and vegetative, and construction and demolition debris removal activities:

- **Head Protection** – This includes equipment designed to provide protection for an individual's head against hazards such as falling objects or the possibility of striking one's head against low hanging objects. PPE used to protect the head must comply with ANSI Z89.1-1986, "American National Standard for Personnel Protection – Protective Headwear for Industrial Workers – Requirements."
- **Foot Protection** – This includes equipment designed to provide protection for an individual's feet and toes against hazards such as falling or rolling objects, objects that may pierce the sole or upper section of the foot, etc. PPE used to protect the feet and toes must comply with ANSI Z-41-1991, "American National Standard for Personal Protection – Protective Footwear."
- **Hand Protection** – This includes equipment designed to provide protection for an individual's hands against hazards such as sharp or abrasive surfaces. The proper hand protection necessary is dependent upon the situation and characteristics of the gloves. For instance, specific gloves would be used for protection against electrical hazards, while the same gloves may not be appropriate in dealing with sharp or abrasive surfaces.
- **Vision/Face Protection** – This includes equipment designed to provide protection for an individual's eyes or face against hazards such as flying objects. PPE used to protect eyes and face must comply with ANSI Z87.1-1989, "American National Standard Practice for Occupational and Educational Eye and Face Protection." Again, the type of eye/face protection necessary is dependent upon the situation and characteristics of the equipment. For instance, eye and face protection used by individuals who are welding may not be appropriate for individuals operating a wood chipper.
- **Hearing Protection** – This includes equipment designed to provide protection for an individual's hearing against prolonged exposure to high noise levels. According to the Occupational Safety and Health Administration (OSHA), the permissible level of sound is an average of 90 decibels over the course of an eight hour work day. For anything above the permissible sound exposure level, hearing protection is required. PPE used to protect hearing must comply with ANSI S3.19-1974, "American National Standard Practice for Personal Protection – Hearing Protection."
- **Respiratory Protection** – This includes equipment designed to provide protection for an individual's respiratory system against breathing air contaminated with hazardous gases, vapors, airborne particles, etc. PPE used to protect the respiratory system must comply with ANSI Z88.2-1992. In

addition, the use of respiratory protection requires a qualitative fit test and in some cases a pulmonary fit test by a licensed medical professional.

## **6. Personal Protective Equipment Debris Removal Activity**

PPE requirements are made based upon the results of the job hazards assessment. The following list of PPE is organized by debris removal activity and is meant to be a representative list. Specific PPE requirements vary from location to location. In general, individuals involved in the debris removal process should personally monitor water consumption to avoid dehydration and use appropriate skin protection (e.g., breathable clothes, light colors, sunscreen). Ultimately, the selection of PPE is the responsibility of the monitoring firm and debris removal contractors' project managers.

### **Debris Collection Monitoring**

The hazards of disaster debris collection monitoring include, but are not limited to, being struck by vehicles; falls or trips on uneven surfaces; cuts, abrasions or punctures from vegetative or C&D sharps. PPE requirements include the following:

- Reflective vest
- Foot protection (e.g., rugged shoes or boots; steel toe and shank, if required)
- Long pants

### **Debris Disposal Monitoring**

The hazards of disaster debris disposal monitoring include, but are not limited to, being struck by or caught in/between vehicles; falls or trips on stairs or uneven surfaces; cuts, abrasions or punctures from vegetative or C&D sharps; and being struck by falling disaster debris. Monitor towers must be equipped with a first aid kit. PPE requirements include the following:

- Reflective vest
- Foot protection (e.g., rugged shoes or boots; steel toe, if required)
- Long pants
- Hard hat

### **Debris Removal**

The hazards of disaster debris removal include, but are not limited to, being struck by vehicles; falls or trips on uneven surfaces; cuts, abrasions or punctures from vegetative or C&D sharps; and airborne debris. In addition, PPE requirements include the following:

- Reflective vest
- Vision and hearing protection
- Foot protection (e.g., rugged shoes or boots; steel toe and shank, if required)
- Long pants

- Hand protection (Note: Leather gloves required for persons handling debris)

### **Debris Disposal and Reduction**

The hazards of disaster debris disposal and reduction include, but are not limited to, being struck by or caught in between vehicles; falls or trips on uneven surfaces; cuts, abrasions or punctures from vegetative or C&D sharps; being struck by falling disaster debris; and airborne particles. PPE requirements include the following:

- Reflective vest
- Foot protection (e.g., rugged shoes or boots; steel toe, if required)
- Vision and hearing protection
- Long pants
- Hard hat

### **Debris Cutting and Trim Work**

The hazards of disaster debris cutting and trimming work include, but are not limited to being struck by or caught in between vehicles; falls or trips on uneven surfaces; cuts, abrasions or punctures from power tools, vegetative or C&D sharps; being struck by falling disaster debris; and airborne particles. PPE requirements include the following:

- Reflective vest
- Hand and foot protection (e.g., rugged shoes or boots; steel toe, if required)
- Vision and hearing protection
- Long pants
- Gloves
- Hard hat

For additional information regarding health and safety requirements, please contact OSHA.

### **Health and Safety Contact Information**

Occupational Safety and Health Administration

1-800-321-6742