



Multnomah County

Disaster Debris Management Plan

September 2016



APPROVAL AND IMPLEMENTATION PAGE

By signing the Disaster Debris Management Plan on October 1 2016, Multnomah County commits to:

- Implement the Disaster Debris Management Plan when needed after a disaster, follow the concept of operations and carry out assigned functional roles and responsibilities to ensure the effective, orderly, cost-effective, and timely removal and disposal of disaster debris;
- Continue to develop, refine, and implement debris management planning and training activities to maintain and build the County's ability to respond to a disaster-debris generating incident;
- After implementation of the plan conduct an after action report and incorporate lessons learned in future iterations of the Disaster Debris Management Plan.

Director
*Multnomah County Department of Community
Services*

Director
Multnomah County Emergency Management

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ACRONYMS

ACM	Asbestos-Containing Materials
C&D	Construction and Demolition
CDBG	Community Development Block Grant
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPG	Comprehensive Planning Guide
CWA	Clean Water Act
CY	Cubic Yard
DAP	Disaster Assistance Period
DCA	Department of Community Assets
DCM	Department of County Management
DCS	Department of Community Services
DDMP	Disaster Debris Management Plan
DDPT	Disaster Debris Planning Team
DEQ	Department of Environmental Quality
DMS	Debris Management Site
DSG	Disaster-Specific Guidance
DUA	Disaster Unemployment Assistance
EFRP	Emergency Forest Restoration Program
EIDL	Economic Injury Disaster Loans
EM	Emergency Management
EMAC	Emergency Management Assistance Compact
EMMIE	Emergency Management Mission Integrated Environment
EOC	Emergency Operations Center
ER	Emergency Relief
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESF	Emergency Support Function

FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMA	Flood Mitigation Assistance
FMAGP	Fire Management Assistance Grant Program
FPM	Facilities and Property Management
FSA	Farm Service Agency
GIS	Geographic Information System
GPS	Global Positioning System
HHW	Household Hazardous Waste
HUD	United States Department of Housing and Urban Development
ICS	Incident Command System
LFP	Livestock Forage Disaster Program
LIP	Livestock Indemnity Program
MREIDL	Military Reservist Economic Injury Disaster Loans
MCEM	Multnomah County Emergency Management
NEG	National Emergency Grants
NEPA	National Environmental Policy Act
NFIF	National Flood Insurance Fund
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NIMS	National Incident Management System
NRCS	Natural Resources Conservation Service
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
ODOT	Oregon Department of Transportation
OFCCP	Office of Federal Contract Compliance Programs
OMB	Office of Management and Budget
ORS	Oregon Revised Statutes

OSHA	Occupational Health and Safety Administration
PA	Public Assistance
PAC	Public Assistance Coordinator
PAO	Public Assistance Officer
PDA	Preliminary Damage Assessment
PIO	Public Information Officer
PNP	Private Nonprofit
PPE	Personal Protective Equipment
PWs	Project Worksheets
RCRA	Resource Conservation and Recovery Act
RFP	Request for Proposal
RFQ	Request for Qualifications
ROW	Right-of-Way
SAM	System for Award Management
SARA	Superfund Amendments and Reauthorization Act
SBA	Small Business Administration
SHPO	State Historic Preservation Office
SRIA	Sandy Recovery Improvement Act
SWLA	Solid Waste Letter of Authorization
TDMS	Temporary Debris Management Site
US	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WIA	Workforce Investment Act

DEFINITIONS

Applicant – State agency, local government, or eligible private nonprofit organization that intends on applying for Federal Emergency Management Agency (FEMA) Public Assistance (PA) grants.

Code of Federal Regulations: Title 44 – Emergency Management and Assistance – The Code of Federal Regulations – Title 44 Emergency Management and Assistance (44 CFR) provide procedural requirements for the PA Program operations. These regulations are designed to implement a statute based upon FEMA’s interpretation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). They govern the PA Program and outline program procedures, eligibility, and funding

Construction and Demolition (C&D) Debris – FEMA Publication 104-009-2 defines C&D debris as damaged components of buildings and structures such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting and floor coverings, window coverings, plastic pipe, concrete, fully cured asphalt, heating, ventilation and air conditioning systems and their components, light fixtures, small consumer appliances, equipment, furnishings, and fixtures. Current eligibility criteria include:

- Debris must be located within a designated disaster area and be removed from an eligible Applicant’s improved property or right-of-way (ROW);
- Debris removal must be the legal responsibility of the Applicant; and
- Debris must be a result of the major disaster incident.

Debris – For the purposes of this plan, debris shall refer to disaster-generated debris. FEMA defines disaster-generated debris as any material, including trees, branches, personal property and building material, that is directly deposited by the disaster. Debris includes but is not limited to vegetative debris, C&D debris, sand, mud, silt, gravel, rocks, boulders, and vehicle and vessel wreckage. Municipal solid waste is generally not a result of the disaster and is therefore not considered debris. Municipal solid waste collection should be handled separately from disaster debris removal.

Debris Removal Contractor – The debris removal contractor is contracted by the local jurisdiction to remove and dispose of debris that is a result of a severe debris-generating incident.

Disaster-Specific Guidance – Disaster-Specific Guidance (DSG) is a policy statement issued by FEMA in response to a specific post-event situation or need in a state or region. Each DSG is issued a number and is generally referred to along with their numerical identification.

FEMA Publication FP 104-009-2 – Public Assistance (PA) Program and Policy Guide – Combines all Public Assistance policy into a single volume and provides an overview of the PA Program implementation process with links to other publications and documents that provide additional process details. It provides a general overview of the FEMA PA Program protocol immediately following a disaster. The PA Program provides the basis for the federal/local cost-sharing program. This document specifically describes the entities eligible for reimbursement under the PA Program, the documentation necessary to ensure reimbursement and any special considerations that local governments should be aware of to maximize eligible activities.

Force Account Labor – The use of the County’s own personnel and equipment.

Hazardous Limb – A tree limb is hazardous if it poses a significant threat to the public. The current eligibility requirements for hazardous tree limbs according to FEMA Publication FP 104-009-2 are:

- The tree limb is greater than 2 inches in diameter;
- The tree limb is still hanging in a tree and threatening a public use area; and
- The tree limb is located on improved public property.

Hazardous Stump – A stump is defined as hazardous and eligible for reimbursement if all of the following criteria are met:

- The stump has 50 percent or more of the root-ball exposed;
- The stump is greater than 2 feet in diameter when measured 2 feet from the ground;
- The stump is located on a public ROW; and
- The stump poses an immediate threat to public health and safety.

Hazardous Tree – A tree is considered hazardous when the tree's present state is caused by a disaster, the tree poses a significant threat to the public and the tree is 6 inches in diameter or greater, measured 4.5 feet from the ground. The current eligibility requirements for leaning trees according to FEMA Publication 104-009-2 are:

- The tree has a broken canopy;
- The tree has a split trunk;
- The tree is leaning at an angle greater than 30 degrees.

Household Hazardous Waste (HHW) – The federal Resource Conservation and Recovery Act (RCRA) defines hazardous wastes as materials that are ignitable, reactive, toxic, or corrosive. Examples of HHW include items such as paints, cleaners, pesticides, etc. Due to the nature of hazardous waste, certified technicians must be used to handle, capture, recycle, reuse, and dispose of hazardous waste. The eligibility criteria for HHW are as follows:

- HHW must be located within a designated disaster area and be removed from an eligible Applicant's improved property or ROW;
- HHW removal must be the legal responsibility of the Applicant; and
- HHW must be a result of the major disaster incident.

Monitoring Firm – The monitoring firm is an organization under contract with the County to monitor debris removal operations. The monitoring firm ensures the debris removal contractor is working within the scope of work contracted by the County and documents debris removal operations.

Robert T. Stafford Disaster Relief and Emergency Assistance Act – Provides the authorization of the PA Program. The fundamental provisions of this federal Act are as follows:

- Assigns FEMA the authority to administer federal disaster assistance;
- Defines the extent of coverage and eligibility criteria of the major disaster assistance programs;
- Authorizes grants to the states; and
- Defines the minimum federal cost-sharing levels.

Sandy Recovery Improvement Act (SRIA) of 2013 – The law authorizes changes to the way FEMA may deliver federal disaster assistance to survivors. Key provisions of the Act are as follows:

- Provides substantially greater flexibility in use of federal funds and less administration burden if applicants accept grants based on fixed capped estimates, which may be provided by applicants' licensed engineer and validated by independent expert panel;
- Offers a package of cost share adjustments, reimbursement for force account, and retention of program from recycling to speed debris removal and encourage pre-disaster debris planning; and

- Allows PA applicants for all disasters declared on or after October 30, 2012 an option to request binding arbitration for certain projects with an amount in dispute of over \$1 million after first appeal, instead of pursuing a second appeal under the FEMA PA Program.

Vegetative Debris – As outlined in FEMA Publication 104-009-2, vegetative debris consists of whole trees, tree stumps, tree branches, tree trunks, and other leafy material. Vegetative debris will largely consist of mounds of tree limbs and branches piled along the public ROW by residents and volunteers. Current eligibility criteria include:

- Debris must be located within a designated disaster area and be removed from an eligible Applicant's improved property or ROW;
- Debris removal must be the legal responsibility of the Applicant; and
- Debris must be a result of a presidentially declared major disaster incident.

White Goods – As outlined in FEMA Publication 104-009-2, white goods are defined as discarded household appliances such as refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, and water heaters. White goods can may contain ozone-depleting refrigerants, mercury, or compressor oils that the federal Clean Air Act prohibits from being released into the atmosphere. The Clean Air Act specifies that only certified technicians can may extract refrigerants from white goods before they can be recycled. The eligibility criteria for white goods are as follows:

- White goods must be located within a designated disaster area and be removed from an eligible Applicant's improved property or ROW;
- White goods removal must be the legal responsibility of the Applicant; and
- White goods must be a result of the major disaster incident.

1.0 INTRODUCTION

1.1 Overview

For the protection of the public health, safety, and welfare of residents and visitors, Multnomah County recognizes the responsibility to be prepared for a debris-generating incident.

Disasters can produce substantial volumes of debris, creating hazardous conditions that endanger the public and disrupt the essential daily lifestyle and economy of the community.

Disasters will result in large expenditures of labor, equipment, materials, and supplies at substantial cost. It is imperative that Multnomah County is prepared to provide an early, safe, and quick response to restoring environmentally safe and economically viable conditions to the disaster-affected areas. It is to this end that Multnomah County developed this Disaster Debris Management Plan (DDMP).

The DDMP addresses how response to a debris-generating incident will be executed within unincorporated Multnomah County and coordinated countywide and, to a certain extent, at the regional level. The operational concepts reflected in this plan focus on potential large-scale disasters that can generate significant volumes of debris requiring an unusual or extraordinary response.

1.1.1 Purpose

The purpose of this plan is to provide a framework for how disaster debris operations will be managed by the County. The intent of this plan is to:

- Establish coordinated debris management operations, including debris removal, reduction, recycling, haul-out, final disposal, and documentation.
- Provide a debris management organization for the County.
- Identify the roles and responsibilities of departments and agencies with a role in response.
- Describe the resource management strategy for debris operations.

1.1.2 Debris Planning Process

Multnomah County initiated the disaster debris planning project by forming the Disaster Debris Planning Team (DDPT). A DDMP was developed using the planning process outlined in the FEMA Comprehensive Planning Guide (CPG) 101 Version 2.

The DDPT included Multnomah County representatives from Department of Community Services (DCS), Department of Community Assets (DCA), Emergency Management (EM), Facilities and Property Management (FPM), Health Department, County Attorney's Office, Department of County Management (DCM), and project team members from Tetra Tech, the consulting firm contracted to work with the DDPT. In addition, external stakeholders from Metro, City of Portland, City of Gresham, United States Army Corps of Engineers (USACE), Oregon Department of Transportation (ODOT), and Oregon Department of Environmental Quality (ODEQ) participated in the planning process.

The DDPT conducted the following planning meetings to engage stakeholders and gain feedback for the development of the plan:

Project Kickoff Meeting

The purpose of the project kickoff meeting was for DDPT members to gain an understanding regarding disaster debris management processes, identify key objectives in planning, discuss the process and

timeline for developing the plan, identify roles and responsibilities among member agencies for disaster debris management, and discuss resources that are available to member agencies in response to a debris-generating incident.

Stakeholder Meetings

The purpose of the stakeholder meetings was to meet with the DDPT and stakeholders to collect information needed for plan development. During these meetings, planners discussed responsibilities, resources, authorities for plan development, as well as environmental and regulatory issues related to disaster debris management operations. Each of the three stakeholder meetings contained a specific focus.

- **Stakeholder Meeting 1: Debris Management Operations** – This meeting focused on general debris operations and included lessons learned from recent debris-generating events. This stakeholder meeting provided stakeholders new to debris management with an overview of debris operations through a time-delineated process from debris planning through final project closeout. Topics focused on in this meeting included debris management basics from preparedness through project closeout and pre-event debris preparedness strategies to maximize efficiency.

In the kickoff meeting, an initial list of hazards was developed and stakeholder meeting one focused specifically on the debris types associated with the most likely hazards. The primary outcome of this meeting was to begin the development of the collection strategy that fits the needs of the County and expedites recovery efforts. The debris collection strategy discussed standard debris collection activities such as vegetative and C&D debris removal as well as specialized debris removal programs such as hazardous trees, HHW, white goods, and electronic waste (e-waste). The primary focus of this stakeholder meeting was on the operational processes associated with debris removal and how those will play out among Multnomah County and additional stakeholders.

- **Stakeholder Meeting 2: Roles and Responsibilities** – Having provided a background for debris management operations and begun to discuss specifics in stakeholder meeting one, this meeting goal was for stakeholders to come to consensus on the overall purpose of the plan that sets the foundation and describes general intent. This meeting also confirmed plan scope and any assumptions that would be used in the development of the plan. An additional goal of this meeting was to establish plan objectives – specific goals and identifiable actions that must be conducted for debris operations to be successful.

Finally, this meeting was a deep dive into roles and responsibilities of involved stakeholders. The DDPT and other involved stakeholders looked at the specific tasks and actions for each entity, agency, or department involved in debris operations.

- **Stakeholder Meeting 3: Documentation for a Successful Financial Recovery** – Proper data management and reporting is necessary for County management and key stakeholders to make informed decisions regarding recovery efforts. Additionally, data management processes and protocols are necessary to verify the correct documentation is captured and saved to support future closeout and audit requirements. Reporting requirements for internal force account labor and equipment as well as contracted resources are necessary to monitor project costs and overall assessment of debris removal activities within the County.

Determining eligibility for federal assistance for disaster-related debris can be a complicated process and having a working knowledge of the documentation necessary before a disaster strikes is invaluable. This stakeholder meeting highlighted opportunities for receiving the maximum benefits from the FEMA PA Program while minimizing the out-of-pocket cost.

Plan Review Meeting

The purpose of conducting the Plan Review Meeting was to review the draft plan with the DDPT. Input from the DDPT was used to revise and finalize the DDMP.

1.1.3 Plan Scope

The scope of this plan pertains to disaster debris operations for an incident that causes widespread damage in Multnomah County. This scope includes an operational plan for the unincorporated areas of Multnomah County as well as a coordination plan for the County as a whole including all municipalities. There may be opportunities in the future for increased operational overlap countywide, but this will be addressed in future iterations and updates to the DDMP.

This plan complies with the principles and requirements found in federal and state laws, regulations, and guidelines. This plan also complies with the National Incident Management System (NIMS), National Response Framework, and National Disaster Recovery Framework.

1.2 Events and Assumptions

To plan for and respond to large-scale debris-generating events, the County must identify the potential disaster events and resulting quantities of debris that may be generated. The County is susceptible to a variety of natural hazards such as earthquakes, floods, fires, severe weather, and landslides. Table 1.1 provides a summary of the relative risks to the County from natural hazards and the potential debris streams that may be generated.

Table 1.1: Potential Natural Hazards and Debris Streams

Hazard	Relative Risk to County	Frequency	Potential Debris Streams
Earthquakes	High	Low	C&D, Concrete, Ash, Vegetative, E-waste, White Goods, and HHW
Floods	Moderate–High	Moderate–High	C&D, E-waste, White Goods, and HHW; Possible Vegetative, Soil, Rock
Landslides/Mudslides	Low–Moderate	High	Vegetative, soil, rock, C&D, E-waste, White Goods, and HHW
Volcanic Hazards	Moderate–High	Low	C&D, Ash, E-waste, White Goods, and HHW
Wildland/Urban Fires	Moderate	Low–Moderate	C&D, Concrete, Ash, Vegetative, E-waste, White Goods, and HHW
Severe Weather	Low–Moderate	High	Vegetative

For planning purposes, the County has selected earthquake and flood events as the disaster assumptions to develop preliminary debris estimates. Earthquakes are considered a major threat to the County due to the proximity to the Portland Hills and Mt. Angel fault lines as well as the Cascadia Subduction Zone. A significant earthquake along one of the major faults or subduction zone could cause substantial casualties and extensive damage to buildings, residential structures, roads, and bridges. Flood events are also a major threat to the County. Typically, areas within floodplains or low areas of the County may be impacted by a flood incident and result in damage to buildings, residential structures, and roads.

The County has selected three disaster scenarios to develop debris estimates for the purposes of planning. The three scenarios are as follows:

- Earthquake incident – Cascadia Subduction Zone: Large-scale and widespread regional disaster that impacts the County and surrounding counties.

- Earthquake incident – Portland Hills Fault: Large-scale disaster that impacts the County primarily
- Flood incident – 100 year storm: Mid-scale disaster with impacts across the County

The following sections provide debris estimates for the three scenarios, which are intended to establish a baseline for planning purposes. During a real disaster, many factors impact the actual amount of debris that is generated. The information in this section is intended for the purposes of planning only and will likely be different from an actual incident.

1.2.1.1 Cascadia Subduction Zone Earthquake Event

The Cascadia Subduction Zone is located off the Pacific Northwest coast. The area of concern spans from Northern California to British Columbia. Within this area of concern are several pieces of oceanic crust that are being pushed under the crust of North America through the process of subduction. The activity from the oceanic crust being pushed under the crust of North America can result in earthquakes in the Pacific Northwest. For the purposes of this plan, the impact of a magnitude 9.0 earthquake caused by the Cascadia Subduction Zone has been used to develop debris estimates in the County. The County’s Natural Hazard Mitigation Plan uses FEMA’s HAZUS loss estimation model software to estimate the category and number of building losses as a result of a 9.0 earthquake caused by the Cascadia Subduction Zone. The category and number of building losses from the County’s Natural Hazard Mitigation Plan are provided in Table 1.2.

Table 1.2: County Earthquake Risk Assessment Building Loss Estimate* from Cascadia M 9.0 Event

Building Damage Category	Number of Damaged Buildings
Slight Damage	126,601
Moderate Damage	54,450
Extensive Damage	20,714
Complete Damage	1,751
Total	203,516

*HAZUS produces lower bound loss estimates. Model outputs should be used only to understand relative risk. Actual damage could be higher.

For the purposes of planning, assumptions must be applied to the number of damaged buildings and damage category to develop cubic yardage debris estimates. The following assumptions have been applied to the HAZUS model for a Cascadia 9.0 earthquake:

- Slight building damage: 10%
- Moderate building damage: 20%
- Extensive building damage: 50%
- Complete building damage: 100%
- Average structure height in feet: 10
- FEMA general building debris formula:

$$(ASF)(AH)(.33) / 27 \text{ FT} = \text{Cubic Yards of Debris from a Totally Destroyed Structure}$$

Where:

ASF = Average square footage of 1,846 feet (residential structures)¹

AH = Average height of residential structures in DMA

(.33) = Constant to account for empty space in a structure

Applying the aforementioned assumptions, a Cascadia 9.0 magnitude earthquake could result in as much as 8 million cubic yards of debris within the County and incorporated cities.

Table 1.3: Estimated* Cubic Yards of Debris from a Cascadia M 9.0 Event

Building Damage Category	Number of Damaged Buildings	Assumed Damage Percentage	Average CYD from Total Loss	Estimated CYD of Debris
Slight Damage	126,601	10%	225	2,848,522.50
Moderate Damage	54,450	20%	225	2,450,250.00
Extensive Damage	20,714	50%	225	2,330,325.00
Complete Damage	1,751	100%	225	393,975.00
Total	203,516			8,023,072.50

**HAZUS produces lower bound loss estimates. Model outputs should be used only to understand relative risk. Actual damage could be higher. In addition, HAZUS uses an assumption of one minute of shaking but a CSZ incident could last 3-5 minutes, resulting in greater damage than the HAZUS estimates show.*

In addition, the debris estimates are only a piece of the challenge with a Cascadia Subduction Zone Earthquake. Because a CSZ incident will have a more regional than localized impact the County will need to plan on limited resources and transportation disruptions that could impact debris removal operations.

1.2.1.2 Portland Hills Fault Earthquake Event

The Portland Hills Fault line is a 30-mile-long fault that runs in a northwest to southwest direction through the City of Portland. According to the County's Natural Hazard Mitigation Plan, a magnitude 7.05 earthquake from the Portland Hills Fault could result in more damage to the County than a magnitude 9.0 on the Cascadia Subduction Zone.

The category and number of building losses from the County's Earthquake Risk Assessment Plan for a Portland Hills M 7.05 incident are provided in Table 1.4.

Table 1.4: County Earthquake Risk Assessment Building Loss Estimate* from Portland Hills M 7.05 Event

Building Damage Category	Number of Damaged Buildings
Slight Damage	198,628
Moderate Damage	149,973
Extensive Damage	62,256
Complete Damage	43,308

¹ Average square footage of County structures was obtained from the County Tax Lots GIS data which has building footprint square footage.

Building Damage Category	Number of Damaged Buildings
Total	456,165

**HAZUS produces lower bound loss estimates. Model outputs should be used only to understand relative risk. Actual damage could be higher.*

Applying the assumptions for building height, square footage, and building damage percentage from the Cascadia 9.0 scenario, a M 7.05 earthquake from the Portland Hills Fault could result in as much as 27.9 million cubic yards of debris within the County and incorporated cities.

Table 1.5: Estimated* Cubic Yards of Debris from a Portland Hills M 7.05 Event

Building Damage Category	Number of Damaged Buildings	Assumed Damage Percentage	Average CYD from Total Loss	Estimated CYD of Debris
Slight Damage	198,628	10%	225	4,469,130.00
Moderate Damage	149,973	30%	225	6,748,785.00
Extensive Damage	62,256	50%	225	7,003,800.00
Complete Damage	43,308	100%	225	9,744,300.00
Total	456,165			27,966,015.00

**HAZUS produces lower bound loss estimates. Model outputs should be used only to understand relative risk. Actual damage could be higher.*

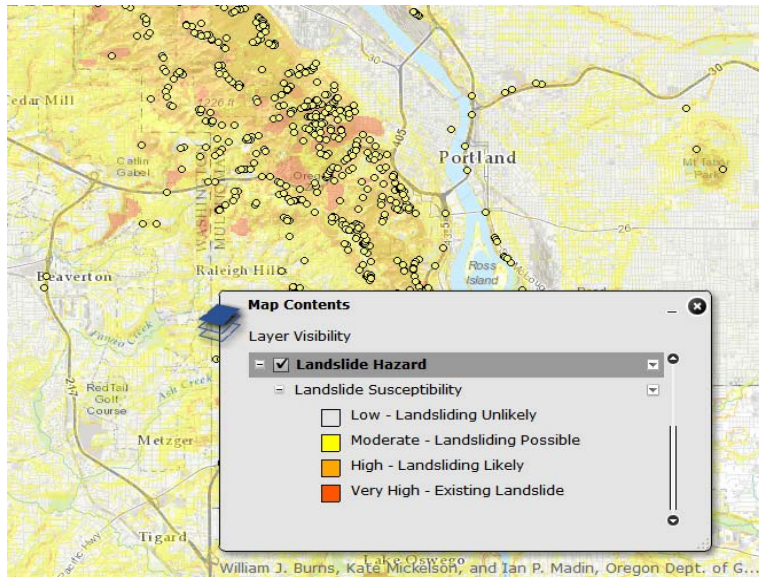
1.2.1.3 Flooding from a 100-Year Storm

The third scenario for the purposes of planning was flooding from a 100-year storm incident. To develop debris estimates for a flood scenario, the planning team analyzed the 100-year floodplain GIS data against the residential parcel data for County. Parcels with data types of commercial, vacant, industrial, and rural were filtered out of the results as well as parcels with building footprints larger than 5,000 square feet.

A review was conducted of the last comparable 100-year flooding incident from the 1996 storm, which resulted in numerous landslides, 75% of which occurred in the County². The review focused on the unincorporated areas of the County specifically in areas where the frequency and magnitude were the greatest. Of the landslides that occurred, a median debris total of 414 CY per landslide was generated. Due to the high frequency of these landslides, landslide related debris generated should be accounted for in debris totals. Figure 1.1 below shows a close up of the most active region, the West Hills Silt Soil Province.

² Portland State University, Dept. of Geology. "Landslides in the Portland, Oregon Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation." August 1998.

Figure 1.1: Active Landslide Locations and Landslide Risk³



Based on this analysis, if a 100-year storm incident were to impact the County, an estimated 429 residential parcels could be impacted by flooding. FEMA 329 – Debris Estimating Field Guide, estimates that 45-50 cubic yards of personal property debris will be generated from the average flooded home. As a result, an estimated 21,450 CY of debris could be generated within the unincorporated area of the County from a 100-year storm incident. This estimate does not take into consideration other residential or public property debris that could be generated as a result of the severe storms and wind that would be associated with a 100-year storm incident.

Table 1.6: Estimated Debris Volumes from a 100 Year Storm Event

Estimated Number of Residential Parcels Impacted (Unincorporated County)	Estimated CYD Generated per Parcel	Debris Estimate
429	50	21,450

In addition to debris generated by residential parcels, a flooding incident may cause landslides that generate additional debris. Based on a study completed by the Portland State University, the median volume of debris generated from landslides during the storm of February 1996 was 414 CYs of debris. Using this figure, an estimated 31,050 CY of debris may also be generated from landslides following a 100-year storm incident.

Table 1.7: Estimated Landslide Debris Volumes from a 100 Year Storm Event

Estimated Number of Landslides	Estimated CYD Generated per Landslide	Debris Estimate
75	414	31,050

³ Image credit to oregongeology.org (SLIDO Map)

1.3 Plan Goal and Objectives

This plan provides a concept of operations to conduct debris operations in Multnomah County with the following priorities:

- Protect human life, safety, and health.
- Protect property and the environment.
- Restore utilities and essential government functions.
- Support regional coordination among all levels of government.

The plan objectives describe the outcomes that this plan must achieve to enable successful debris operations within the County. These are the broad concepts that must be achieved in order to meet the purpose of this plan. The objectives for the County are as follows:

- Conduct pre-disaster preparedness.
- Facilitate debris removal operations to ensure public health and safety.
- Consider the whole community to ensure lawful and equitable integration of people with access and functional needs, and under-represented and under-served communities throughout debris operations.
- Maximize diversion to the greatest extent possible to preserve remaining landfill capacity.
- Establish mechanisms to coordinate with stakeholders to manage debris operations.
- Coordinate public information regarding debris with other affected jurisdictions and the State of Oregon.
- Utilize internal and private sector networks to manage debris operations.
- Request additional resources if necessary through established channels.
- Comply with applicable local, state, and federal requirements throughout debris operations.
- Document debris operations in order to maximize the County's ability to receive reimbursement under the FEMA PA Program.
- Enable reliable debris forecasts and identification of resource requirements.

The specific activities required to achieve these objectives are included in Section 2: Disaster Debris Management Strategy.

1.4 Authorities and References

1.4.1 Authorities

Local

- Multnomah County Code Chapter 21 Health, 21.700 Refuse
- Multnomah County Code Chapter 25.400 Emergency Management
- Multnomah County Code Chapter 27 Community Services, 27.766 and 27.790

State

- Oregon Revised Statutes (ORS) Chapter 401, Emergency Management and Services.
- ORS. 2011 Edition. Chapter 459, Solid Waste Management; Chapter 466, Hazardous Waste and Hazardous Materials II; Chapter 468, Environmental Quality Generally.

- Oregon Administrative Rules (OAR) Chapter 340, Divisions 093-097
- OAR Chapter 437, Division 2 General occupational safety and health
- OAR Chapter 737, Division 10 Vehicle Equipment and Safety Standards

Federal

- SRIA included as Division B of the Disaster Relief Appropriations Act, PL 113-2, signed into law January 29, 2013
- Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988; amended the Disaster Relief Act of 1974, PL 93-288
- U.S. Code, Title 23 Highways, Part 125 Emergency Relief Section 1107 Public Law 112-141 Moving Ahead for Progress in the 21st Century Act (MAP-21), July 2012
- Title 2 Code of Federal Regulations, Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 CFR 200)
- US Code, Title 42, Chapter 103, Comprehensive Environmental Response, Compensation, and Liability (CERCLA) and Title III of Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §9601, et seq.
- Resource Conservation and Recovery Act, 42 U.S.C. §69012, et seq.
- Federal Clean Water Act, 33 U.S.C. §1251, et seq.
- Toxic Substances Control Act, 15 U.S.C. §1601, et seq.
- Occupational Safety and Health Act, 29 U.S.C. §651, et seq.
- Hazardous Materials Transportation Act, 49 U.S.C. §1802, et seq.

1.4.2 References

Local

- Multnomah County Comprehensive Emergency Management Plan, Volume 3: Emergency Operations Plan, June 2015
- Portland Urban Area 2015 Threat and Hazard Identification and Risk Assessment
- Metro 2008-2018 Regional Solid Waste Management Plan
- Portland Metropolitan Region Disaster Debris Management Planning Project Disaster Debris Management Framework: Recommendations for Regional Coordination During a Large-Scale Debris-Generating Event
- Portland Metropolitan Region Disaster Debris Management Planning Project Disaster Debris Management Jurisdictional Authority Report: A Survey of Disaster Debris Management Authorities
- Multnomah County Natural Hazards Mitigation Plan, February 2012

State

- Oregon Emergency Management, Oregon Department of Transportation, and Oregon Department of Environmental Quality. State of Oregon Debris Management Plan: Annex to the State Emergency Operations Plan. April 2011.

- Oregon Emergency Management. Emergency Operations Plan. Revised January 2013.

Federal

- FEMA Comprehensive Planning Guide 102 Version 2
- FEMA Publication FP 104-009-2 – Public Assistance Program and Policy Guide 2016
- FEMA 329 Debris Estimating Field Guide, September 2010
- FEMA Public Assistance Alternative Procedures Debris Management Plan Job Aid
- FEMA Public Assistance Alternative Procedures EMMIE Cost Codes for Debris Removal
- FEMA Public Assistance Alternative Procedures FAQ for Debris Removal
- National Response Framework, Department of Homeland Security, March, 2008
- National Disaster Recovery Framework, Department of Homeland Security, September 2011

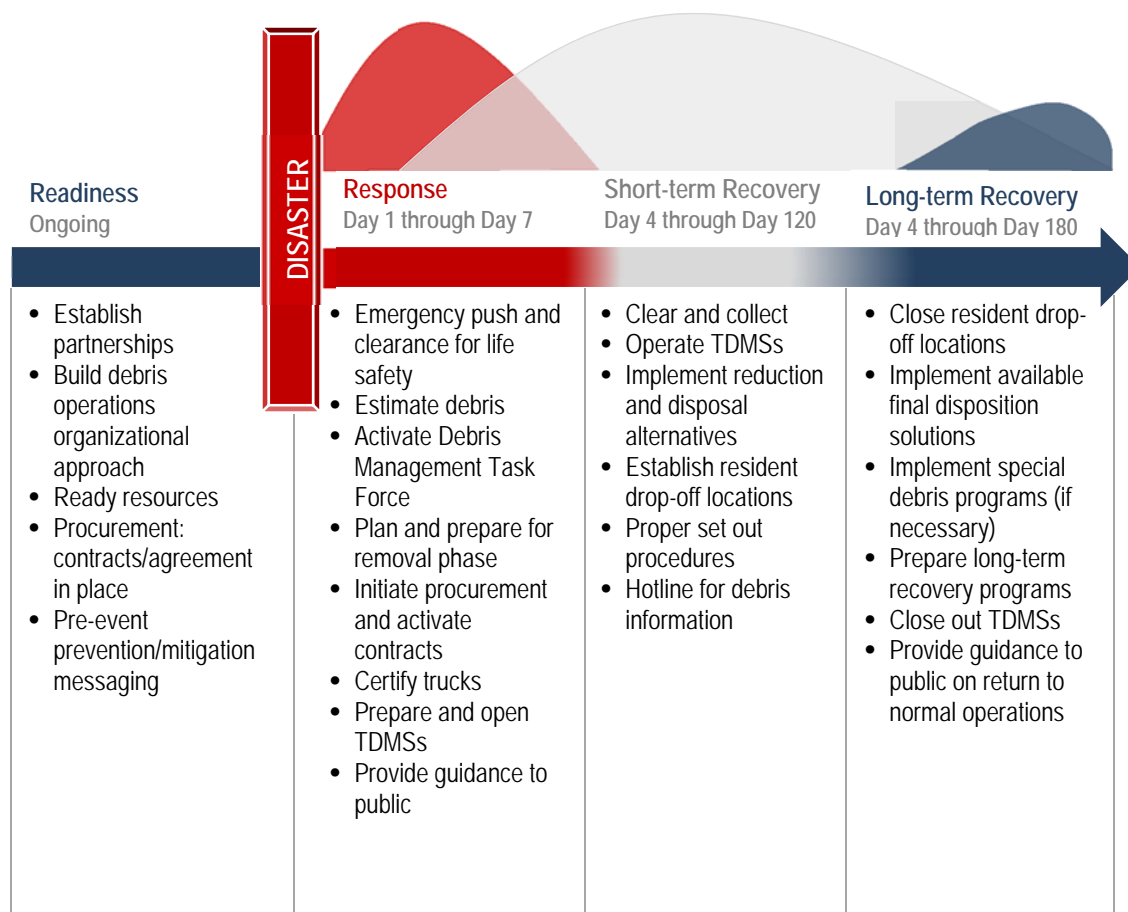
2.0 DISASTER DEBRIS MANAGEMENT STRATEGY

2.1 Overview

The National Preparedness Goal is “A secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.” The National Preparedness System enables the Nation to meet the National Preparedness Goal. The National Response Framework is an essential component of the National Preparedness System and establishes a set of core capabilities that must be achieved during disasters to save lives, protect property and the environment, and preserve the social, economic, cultural, and political structure. Debris management operations support several core capabilities, including Critical Transportation, Environmental Response/Health and Safety, Infrastructure Systems, and Logistics and Supply Chain Management. Depending on the size, scope, and magnitude of the disaster, local jurisdictions will be required to conduct debris operations.

2.2 Concept of Operations

The concept of operations describes the processes for how to achieve the objectives of the plan. This section is organized chronologically to demonstrate the activities that will take place during each phase of debris operations.



2.2.1 Readiness

Establish Partnerships

Debris management requires collaboration across many departments, sectors, and levels of government. Building partnerships and collaboration during normal operations promotes more successful debris operations during an actual disaster to ensure all state and federal regulations and best management practices are implemented. This plan establishes coordinated debris management operations through emergency push road clearance, debris removal, reduction, recycling, haul-out, final disposal, and documentation.

Section 3 of this plan provides a list of the organizations involved in debris operations. Multnomah County must continue to build relationships and establish partnerships during the readiness phase to foster coordination and collaboration during debris response operations.

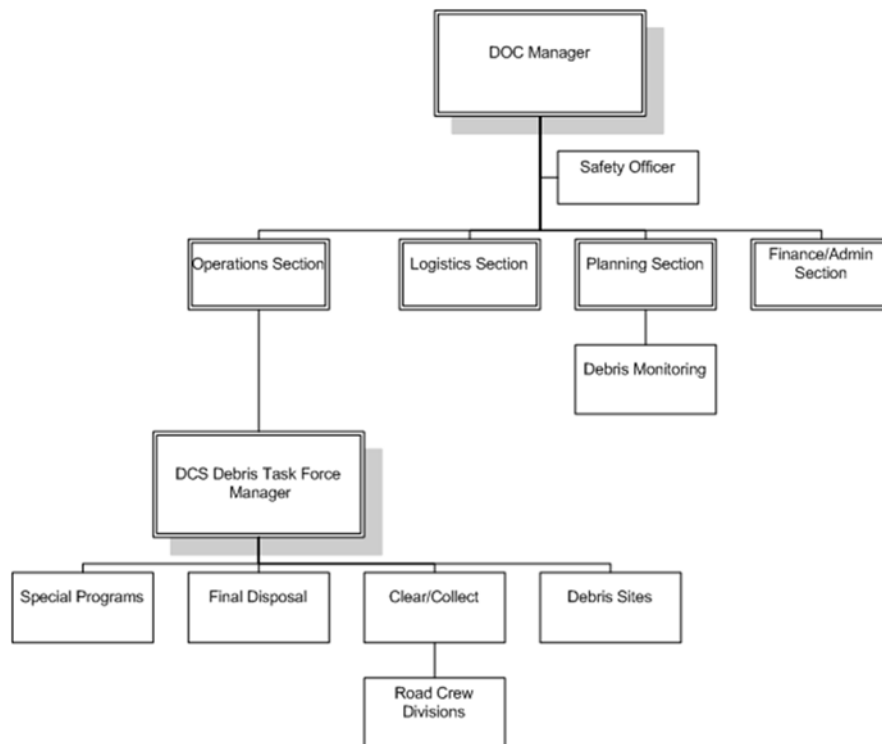
Debris Operations Organizational Structure

The County has identified a debris operations organizational structure that includes a department operations center under ESF #3. This organizational structure will be led by the DCS, which has been identified as the County Debris Lead for all clearance and removal activities in the unincorporated County and on County-maintained roadways.

The debris management organizational structure will have the capability to expand and contract as necessary, depending on the situation. Maintaining a cohesive and flexible organizational structure with a clear leader will ensure a coordinated and comprehensive response strategy.

Figure 2.1 below shows how debris management operations could be organized under the Incident Command System (ICS) for Multnomah County in response to a debris-generating incident.

Figure 2.1: Debris Management Organization Chart



Multnomah County's first responsibility is to the operations in the unincorporated County and on County-maintained roadways; however, in a large, widespread, or regional incident, certain operations and support activities could be more advantageously performed in a cooperative setting. Certain challenges such as catastrophic impact to lifelines and ground transportation, disrupted communication, energy shortages, and resource limitations are likely to impact the entire County; therefore, a countywide solution for operations including debris removal is prudent.

During the planning process, the idea of a countywide Disaster Debris Task Force was presented as an option to better manage a countywide disaster where increased cooperation and coordination would be beneficial. Some of those operational and support activities that a countywide Disaster Debris Task Force may decide to undertake include temporary debris management site (TDMS) establishment and management, coordinated public information, integration of Metro assistance, cooperation in identifying final disposal alternatives, joint contracting, and integration of volunteer resources. Attachment V: Debris Management Task Force includes a draft organizational chart for a countywide Disaster Debris Management Task Force and describes the roles and responsibilities that may be required in a countywide operation.

Ready Resources

Force Account Resources are the County-owned resources, including equipment and labor, which Multnomah County can use to respond to a debris-generating incident. For relatively minor incidents, the County can rely on its own resources to respond. For larger scale incidents and disasters, the demand for resources may quickly overwhelm the County resources that the County might have available. In that case, the County may look to mutual aid resources through pre-existing regional agreements or the State of Oregon Office of Emergency Management or may rely upon contracted services to provide the needed staffing, equipment, and expertise to help manage the debris. In the event of a large-scale disaster, DCS must assess the force account labor and determine the resources that might be needed to respond.

Multnomah County will use internal and contract resources during debris operations. In response to a disaster, the County will identify the personnel, equipment, and systems that can be used to conduct debris operations.

Force account resources must be accurately documented during the response and recovery operations. Often, using force account labor and equipment can apply to the public entity's share for disaster-related costs. Labor and equipment expenses may be eligible for federal reimbursement if documented properly. The FEMA Force Account Labor Summary Record and Force Account Equipment Summary Record are located in Attachment F: FEMA Force Account Equipment and Labor Summary Records.

In the event the County does not have sufficient force account labor and equipment available to use for debris operations, the County will seek external support from the State of Oregon, mutual aid or contracted resources.

Procurement and Contracted Services

If contracted services are to be used for debris management including removal and monitoring, these contracts must meet state and federal procurement requirements to be eligible for potential state and/or federal disaster assistance. Guidance for using contracted services can be found in Attachment D: Disaster Debris Contract Guide. A contracting checklist can be found in Attachment E: Disaster Debris Contract Checklist. For additional information, see *FEMA Publication FP 104-009-2 – Public Assistance Program and Policy Guide 2016*.

In recent years, millions of dollars in disaster assistance has been de-obligated to grant applicants following audits because their procurement procedures did not meet federal contracting requirements. De-obligation of disaster assistance funding has caused economic hardships for many jurisdictions. To remedy this

situation, FEMA has established a Procurement Disaster Assistance Team to provide assistance to applicants before they award contracts. This is an effort to reduce procurement violations and help ensure applicants spend federal funds efficiently, effectively, and in compliance with applicable federal procurement standards.⁴

Multnomah County is working on a scope of work in order to issue a Request for Qualifications (RFQ) and pre-qualify debris removal contractors. A draft scope of work has been included in Attachment U: Draft Scope of Work.

2.2.2 Response

2.2.2.1 Emergency Roadway Clearance Priorities

Emergency roadway clearance is the process of clearing priority roadways of scattered debris, leaning trees, and other obstructions in order to allow emergency access and transportation. Road clearance priorities are pre-established to allow access to critical public facilities such as fire stations, police stations, hospitals, shelters, and emergency supply centers. Priority roads are divided into Emergency Transportation Routes and Secondary Emergency Transportation Routes. A list of all priority roads for clearance can be found in Attachment A: Emergency Transportation Routes.

Multnomah County DCS will coordinate resources to conduct emergency roadway clearance through internal sources, mutual aid, or contracted services. If necessary, the County may use contractors or request additional resources for emergency road clearance from the State of Oregon.

Emergency roadway clearance will be coordinated with utility crews to ensure safety while conducting debris operations near damaged infrastructure.

Emergency roadway clearance is often referred to as the emergency push. During this time period, it is critical that all types of equipment and the amount of time the equipment is used are documented with detail and accuracy.

2.2.2.2 Debris Damage Assessment

Damage assessments are necessary to determine the extent and the location of the debris. The County will utilize windshield surveys, damage assessments, and information from the public to help determine the extent of damage. DCS crews performing the initial roadway clearance will be a critical resource in providing information to the County Emergency Operations Center (EOC) regarding preliminary damage.

For Multnomah County DCS, initial damage assessment of critical transportation infrastructure takes place simultaneously with emergency roadway clearance. When feasible, Multnomah County DCS resources will conduct emergency push operations at the same time that they conduct rapid damage assessments. If clearing debris requires additional resources, this will be communicated to the DCS Department Operations Center (DOC) to coordinate follow-on clearance. This initial damage assessment of the impacted area is crucial in order to identify critically damaged areas and to assist in prioritizing emergency roadway clearance. During this initial damage assessment, debris estimates will be forwarded to the DCS DOC.

Damage assessments will be conducted with consistency throughout all affected jurisdictions to the greatest extent possible. Each jurisdiction, including unincorporated Multnomah County via the DCS DOC, will provide emergency roadway clearance status and debris estimates to the County EOC. The total

⁴ Department of Homeland Security Office of Inspector General Capping Report: FY 2013 FEMA Public Assistance and Hazard Mitigation Grant and Subgrant Audits

disaster debris situation will be compiled and integrated into the overall damage assessment for submittal to the State of Oregon.

Depending on the extent of damage, damage assessment teams may be deployed by each jurisdiction in accordance with Multnomah County's Damage Assessment Plan and Individual Jurisdiction Damage Assessment Plans.

The FEMA 329 Debris Estimating Guide found in Attachment C: FEMA 329 Debris Estimating Guide provides specific guidance on how to conduct damage assessments and estimate debris volumes.

2.2.2.3 Temporary Debris Management Site Identification and Preparation

Concurrent to emergency roadway clearance and damage assessments, the County will select and prepare TDMS locations. The County will submit their pre-identified TDMS locations for activation approval with ODEQ in accordance with state guidelines.

The purpose of the TDMS is to temporarily store and reduce debris volume before the debris is transported to a final disposal facility. There are three such sites that have been pre-identified and could be utilized for TDMS locations. They include:

- Quarry Road Site
- Yeon/Vance Site
- Gresham Sports Complex Site

Site visits were completed for the three pre-identified potential TDMS locations. A map of pre-identified sites and a copy of the site reports can be found in Attachment G: Temporary Debris Management Site Assessment Form.

This plan acknowledges that even with the pre-identification of some candidate sites, the amount of debris needing to be handled will require the identification and operation of other sites. The remainder of this subsection describes the criteria and process that will be followed for establishment of additional sites.

The size of the site is dependent on the quantity of debris that needs to be stored and processed. The site should be large enough to safely accommodate processing of various debris materials, storing heavy equipment, and maneuvering trucks and large processing equipment.

General public drop-off areas for recycling, reduction, and C&D debris may be included within a TDMS or at an alternate location. These public use areas should be carefully designed for passenger vehicle traffic and public safety.

The TDMS will be established in an area that does not impede the flow of traffic along major transportation corridors, disrupt local business operations, or cause dangerous conditions in residential neighborhoods or schools. Whenever possible, TDMS near residential areas, schools, churches, hospitals, and other such sensitive areas, including near environmentally sensitive areas such as water bodies, will be avoided.

The following factors will be considered when identifying a TDMS:

- Current availability and site ownership
- Duration of availability
- Site ingress/egress
- Geographic location within the jurisdiction
- A minimum of 10 acres of usable land
- Well-drained site with soils suitable for supporting heavy vehicles and equipment

- Located an appropriate distance from water sources and not located in a floodplain or wetland
- Easy access to transportation routes
- Strategic placement to minimize debris transportation requirements and travel time to and from loading points; the TDMS should be located as close as possible to the concentrations of disaster debris
- Access to electrical and water utilities for site operations
- Minimum potential for disruption of critical services

The County must also consider community short-term and long-term impact when selecting a potential TDMS. The community's impact from the TDMS location depends on a variety of factors, including reduction methods that will be conducted at the site, around-the-clock light and noise from equipment operation, dust, and traffic that may be disruptive to communities where TDMS are located. Other factors to consider are the social and economic effects, perceived or real, that could negatively impact the community. There is further discussion of these factors in Section 2.5: Equity Considerations.

Potential locations for a TDMS may include the following:

- Recycling facility
- Landfill
- Transfer station
- Vacant lot
- Corporation yard
- Parks
- Large parking lot
- ROW
- Jurisdiction owned property
- Private property

ODEQ may issue a solid waste letter of authorization (SWLA) for a TDMS if DEQ determines the site is not likely to create a public nuisance, health hazard, air or water pollution, or other environmental problem. Pre-identified sites will be submitted to Oregon DEQ in advance and a pre-permit may be obtained, but emergency issuance of SWLAs may need to be sought if additional sites are needed for use after a disaster.

Generally, an application for a SWLA should include the following information as soon as possible for DEQ Solid Waste staff to approve temporary use of a site:

- The need and justification for the proposed site
- The quantity, types, and nature of material to be stored, processed, or disposed
- The location and size of the proposed area to be utilized
- Written statement of permission from the land-owner that addresses who will be responsible for the closure of the site, and if releases or impacts to the site or adjacent properties occur, who will be responsible for needed clean-up actions (land-owner, site operator, or local government)
- Temporary disposal site schedule, projected starting and end dates
- The proposed site operational plan, including:
 - A description of the methods for handling, processing, and disposing of debris that will ensure safe and proper disposal

- Specific information that describes the project and how it will be conducted
- A description of activities during the duration of the time the temporary disposal site will be operating
- Information on how the site will be operated, who is operating it, hours of operation, fees that may be charged if any, security, signage, and emergency/spill response
- Identifying actions that will be taken to prevent contaminant release to surface and ground water, to prevent offsite dust and litter, and to ensure waste is segregated appropriately to contain hazards or toxicity
- Identifying actions that will be taken in the event of accidental discharge, spill, or release of hazardous substances or other emergency situations that may arise, including notifications and steps to contain or stabilize the release
- Identifying where the Site Health and Safety Plan will be located at the site to guide safe operations and provide availability during facility inspections
- Materials that will not be accepted for temporary storage at the site
- Steps taken to minimize contamination of runoff and storm water and other environmental concerns
- Attachments of the following:
 - Map or drawing of the site showing
 - Location and configuration of the property, disposal area, protections constructed to prevent water and other types of pollution
 - Roads and road condition leading to and from the site
 - Distance to surface water including wetlands
 - Approximate elevations
 - Paved/non-paved areas
 - Proximity to drains or streams
 - Locations of equipment and separations of debris
 - Structures, roads, material stockpiles, sorting areas, etc.
 - Photos of the site, if available
 - Recommendation from the local solid waste planning authority (Metro) that the proposal is compatible with the local solid waste management plan (DEQ staff may consider waiving this requirement for a temporary site)
 - Land Use Compatibility Statement from the local government (unless the Governor waives this permit requirement through executive order)
 - Completed Application For a New Solid Waste Disposal Site Permit form
 - Application processing fee - \$500 (unless the Governor waives this permit requirement through executive order)
 - Further information as needed or requested.

After receiving the application, DEQ Solid Waste Program Staff will decide whether to approve or deny the SWLA. If the site location is sensitive and the site cannot be operated in a way that protects the environment, DEQ Solid Waste staff will not approve the site. If DEQ Solid Waste staff find that the site is

not likely to cause a public nuisance, safety or health hazard, air or water pollution, or other environmental problem, the SWLA will be approved.

Once debris is transported to a TDMS, it will be segregated and, if applicable, reduced using the following reduction methods:

Chipping and Grinding – Using this method, vegetative debris is chipped or ground and typically results in a reduction ratio of up to 4:1. Factors such as debris composition, weather, site conditions, and other factors may impact the reduction ratio. The leftover mulch is either hauled to a final disposal facility or recycled.

Incineration – Although incineration is rarely authorized, there are circumstances where a public entity can request to reduce debris through burning. The burning of vegetative debris typically results in a reduction ratio of up to 20:1. Factors such as debris composition, weather, site conditions, and other factors may impact the reduction ratio. The leftover ash may be hauled to a final disposal facility or be incorporated in a land application.

Crushing – The crushing of vegetative debris is the least effective reduction method and results in a reduction ratio of up to 2:1. Crushing is an appropriate reduction method for C&D debris that cannot be recycled. However, if crushing is used to reduce C&D debris, the residual debris must show a reduction in volume.

2.2.2.4 Truck Certification

Truck certification is a critical component of debris management operations. Truck certification is the process to document the capacity of debris removal trucks. All debris removal trucks hauling debris on a volumetric basis will have their capacity and dimensions measured, sketched, photographed, and documented on a truck certification form. Each debris removal truck will be assigned a unique number for debris tracking and invoice reconciliation purposes. Truck certifications can be completed by the County or their designee. Truck certifications should contain:

- Unique truck number
- Driver name
- Driver phone number
- License number, state issued, and expiration date
- Tag number, state issued, and expiration date
- Vehicle measurements
- Sketch of the vehicle

A sample truck certification and instructions in measuring trucks can be found in Attachment K: Truck Certification Forms and Instructions.

2.2.2.5 Public Information

Public information following a disaster will be a coordinated effort in accordance with the principles of the NIMS. The designated Public Information Officer (PIO) will coordinate public information messages. The PIO will serve as the primary point of contact between the EOC, the media, and the public. The PIO will coordinate public information messages within the County departments as well as with other affected jurisdictions to ensure an accurate, consistent, and timely message is communicated to target populations. This collaborative effort could involve the establishment of a Joint Information Center. The PIO will lead efforts to verify information and monitor media reports as well as social media posts in regard to debris management operations. The PIO will also coordinate the development and dissemination of messages with the Debris Manager for the County. This section describes the type of information that needs to be

communicated to the public related to debris operations including information on resident health and safety, environmental considerations and debris segregation and set-out procedures. A template providing sample messages for each phase of debris management operations can be found in Attachment B: Sample Press Releases.

Resident Safety

Disaster-related accidents and deaths are frequently caused by mishandling of debris and debris equipment by residents. It is critical that PIOs provide consistent messaging on health and safety when handling debris.

Lead in Damaged Materials or Debris

Homes built before 1978 are likely to contain lead-based paint, which may flake after being soaked by floodwater. Lead is a toxic metal that causes many negative health effects, especially in children. Disturbing materials containing lead-based paint may release lead dust into the air. The public will be encouraged to seek help from public health authorities or specially trained contractors if they suspect that debris in their home is contaminated with such paint.

Contaminant Sediment

The sediment left behind by receding floodwater often contains a wide variety of pollutants. They can include fuel oils, gasoline, human and animal waste, metals, and other material. Individuals will be encouraged to avoid contact with sediment. The public will be advised to wash any exposed skin with soap and water and change into clean clothing if they do come in contact with contaminated sediment.

Asbestos in Debris

Pipes, insulation, ceiling tiles, exterior siding, roof shingles, and sprayed-on soundproofing in older structures may contain asbestos. The public should be advised to contact health authorities if they suspect their home contains asbestos or asbestos-containing materials will be disturbed during clean-up.

Household Hazardous Waste

The public will be encouraged to be alert for leaking containers and household chemicals, such as caustic drain cleaners and chlorine bleach when returning to flood-damaged homes and buildings. The public will also be warned to keep children and pets away from leaking or spilled chemicals; not to combine chemicals to avoid dangerous or violent reactions; and to mark and set aside unbroken containers until they can be properly disposed of.

Use of Chainsaw to Clear Debris

Over 35,000 people are injured by chainsaws yearly in the United States. The public should be cautioned to understand how to use the equipment and follow the instructions while using these tools for debris operations.

- Read your owner's manual.
- Wear proper safety gear, including eye and hearing protection, heavy work gloves, and work boots.
- Check controls, chain tension, and all bolts and handles to ensure they are functioning properly.
- Fuel your saw at least 10 feet from sources of ignition.
- Clear debris that may interfere with cutting.
- Keep hands on the handles, and secure footing.
- Do not cut directly overhead or overreach with the saw.

- Be prepared for kickback.

The public will be encouraged to make sure someone is nearby to help in case of an emergency and to understand that emergency responders are addressing issues related to the disaster so response times might be delayed.

Debris Segregation and Set-Out Procedures

Residents will want to remove debris quickly, and they will use their normal municipal solid waste procedures for debris handling unless directed otherwise. Communication with the public early and often on proper set-out procedures is critical. These procedures might be different for different jurisdictions depending on the type of equipment used for ROW collection. Every effort will be made to ensure residents and municipal solid waste contractors understand the procedures in their area to avoid having to duplicate segregation and removal efforts.

2.2.3 Recovery: Short-term

For debris operations, the recovery phase begins with debris removal from the public ROW and ends when debris operations are complete and all documentation is closed out.

During short-term recovery, the County will use the completed debris estimates to determine the best method to conduct debris removal operations. This may include conducting debris operations internally using force account equipment and labor, requesting assistance from the State of Oregon, using mutual aid, using contracted services, or any combination of these methods.

Once the emergency roadway clearance has been completed, the County will begin debris collection and removal operations. This includes the following tasks.

- Prioritize roads/areas.
- Issue press release regarding segregation of debris.
- Begin ROW debris removal.
- Open community collection centers at the discretion of the County.
- Begin environmental monitoring program of TDMS.
- Establish resident hotline for debris removal questions and concerns.
- Coordinate with external agencies.
- Initiate discussions with the State of Oregon and/or FEMA.
- Obtain FEMA guidance for procurement and special debris programs.

During this phase, the County will coordinate with the State of Oregon and provide guidance to local jurisdictions on any DSG from state and federal agencies. The County will collaborate with agencies at the regional and state level for direction on policies and regulations.

Ongoing operations within the short-term recovery phase include:

- Open additional TDMSs as necessary.
- Conduct daily meetings with the State of Oregon and/or FEMA.
- Begin special debris programs.

2.2.3.1 Right-of-Way Collection

The County will use previously established maintenance districts to conduct an organized and efficient ROW debris collection program. Having a debris zone system in place will make it easier to organize and monitor the progress of ROW collection activities. During debris operations, the affected area of the County will be divided by the existing maintenance districts to aid in coordination of debris operations.

ROW collection entails residents piling their disaster-related debris along the curbside. It is critical that residents segregate their debris in categories such as vegetative, C&D, HHW, and white goods. This will help prevent the contamination of debris loads and expedite the clean-up process. An effective public information campaign is essential to getting the message out to residents regarding the importance of segregating their debris. In addition to the County PIO, it will be important to coordinate with the regional public information group as well as FEMA community outreach teams. Sample public information message templates for informing the public regarding disaster debris clean-up procedures can be found in Attachment B: Sample Press Releases of this plan.

2.2.3.2 Construction & Demolition Debris

C&D debris consists of damaged components of buildings and structures such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting and floor coverings, window coverings, pipe, concrete, fully cured asphalt, equipment, furnishings, and fixtures.

Certain types of C&D debris are reusable or recyclable. To conserve landfill space and meet County environmental sustainability principles, it is prudent to separate materials for reuse or recycling.

Some C&D debris may be hazardous, such as asbestos roofing and floor tile and lead pipes. Documentation of the debris origin, any processing (reduction or recycling), and the final disposition is required for state and/or federal funding.

Typically, removal of construction by-products generated by repairs or rebuilding is covered by insurance policies or included in the overall cost for reconstruction projects; therefore, is not considered disaster-related debris.

2.2.3.3 Vegetative Debris

Vegetative debris consists of whole trees, tree stumps, tree branches, tree trunks, and other leafy material. Depending on the size of the debris, the collection of vegetative debris may require the use of flatbed trucks, dump trucks, and grapple loaders.

Most vegetative debris consists of large piles of tree limbs and branches that are piled on the public ROW by the residents and may also include debris in maintained public areas including in parks and along trails. The County will determine the number of times debris is collected before normal collection activities are resumed.

Vegetative debris is bulky and consumes a significant volume of landfill space if buried. To minimize the use of landfill space, it is prudent to reduce the volume of vegetative debris before burying. Vegetative debris may be reduced by as much as 75 percent of its volume by mulching or grinding and as much as 90 percent of its volume through burning. The County will also make an effort to look for alternative uses for clean vegetative debris; for example, it may be beneficial to use whole conifers and root wads for instream fish habitat restoration.

2.2.3.4 Household Hazardous Waste Debris Removal

HHW includes gasoline cans, aerosol spray cans, paint, lawn chemicals, batteries, fire extinguishers, fluorescent lamps, household electronics, etc.

HHW should be collected separately and disposed of or recycled at a properly permitted facility. Collection of HHW may be conducted internally or contracted using a unit rate basis. The following action items will be taken when conducting HHW removal:

- Communicate to residents the procedures for HHW following a debris-generating incident. It is important that residents separate debris to ensure that HHW does not enter the debris stream at TDMSs.
- Metro has existing HHW collection programs and the County plans to utilize Metro to assist with the collection of HHW after a disaster debris-generating incident.

2.2.3.5 Electronic Waste

Electronic waste, or e-waste, refers to electronics that contain hazardous materials. Examples include computer monitors and televisions.

- Communicate to residents the procedures for e-waste following a debris-generating incident. It is important that residents separate debris to ensure that e-waste does not enter the general debris stream at TDMSs.

2.2.3.6 White Goods Debris Removal

White goods include refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, etc.

White goods debris that contains ozone-depleting refrigerants, mercury, or compressor oils need to have such materials removed by a certified technician before recycling. All state and federal laws will be followed regarding the final disposal of removed refrigerants, mercury, or compressor oils. Collection of white goods can be conducted internally or using contracted services on a unit rate basis. It is important to communicate the procedures for white goods to residents in affected areas. It is important that residents separate white goods from other debris to ensure white goods are not mixed with other debris during collection.

2.2.4 Monitoring of Debris Operations⁵

Monitoring debris removal operations entails observing and documenting debris removal work performed from the point of debris collection to final disposal. It involves constant observation of crews to ensure that workers are performing eligible work in accordance with state and/or federal guidelines and all applicable federal, state, and local regulations. Failure to properly monitor debris removal operations may jeopardize federal disaster assistance.

Accurate documentation of debris removal and disposal operations and eligible associated costs is the outcome of a good debris monitoring program. This documentation serves as the basis for FEMA PA Project Worksheets (PWs), which are the documents that authorize grant reimbursements from FEMA. Debris monitoring documentation is critical to verify that debris operations are eligible for reimbursement, costs are reasonable, contract and procurement processes are appropriate, quantification of the debris is accurate, and the tracking of the debris to its final disposition is recorded and in compliance with all regulatory requirements.

⁵ FEMA Publication FP 104-009-2 – Public Assistance Program and Policy Guide 2016

2.2.4.1 Loading Site Monitoring

The loading site monitors will perform on-site, street-level debris monitoring at all loading sites to verify debris eligibility based on contract requirements, and initiate debris removal documentation using load tickets. Loading site debris monitors' primary job is to maintain documentation of work performed at the point of debris collection.

2.2.4.2 Disposal Monitoring

The primary function of disposal monitoring is to document the disposal of disaster debris at approved TDMSs and final disposal or end use locations. Monitors perform quality assurance/quality control checks on all load documentation and haul-out documentation to ensure that information captured by loading site monitors is complete. This process includes the following tasks:

- Inspection of truck placards for authenticity and signs of tampering.
- Verification that placard information is documented properly.
- Verification that all required fields on the load ticket have been completed.

The disposal monitor will document the amount of debris collected by making a judgment call on vehicle fullness (typically on a percentage basis). The percentage documented for each debris removal vehicle is later applied to the calculated capacity of the vehicle to determine the amount of debris collected. The disposal monitor's responsibilities include the following:

- Completing and physically controlling load tickets.
- Ensuring debris removal trucks are accurately credited for their loads.
- Ensuring trucks are not artificially loaded.
- Ensuring hazardous waste is not mixed in with loads.
- Ensuring all debris is removed from the debris removal trucks before exiting the TDMS or final disposal site.
- Ensuring only debris specified within the scope of work is collected.

In addition to the responsibilities listed above, final disposal site monitors are also tasked with the following:

- Ensuring all debris is disposed at a properly permitted landfill.
- Matching landfill receipts and/or scale house records to haul-out documentation.

2.2.5 Recovery: Long-Term

Long-term recovery includes activities to close-out debris programs and reconcile documentation. Long-term recovery can begin as early as it is possible to move debris to its final disposition and can take several years depending on the severity of the disaster and the audit processes from regulatory agencies. Long-term activities include:

- Transport debris to its final disposition including recycle or reuse.
- Communicate ROW debris removal program closeout to residents via press release.
- Complete all debris recovery activities.
- Identify ineligible debris on ROW.
- Complete the disposal of reduced debris.

- Close out and remediate TDMSs.
- Conduct project closeout meetings with FEMA and external agencies.

2.3 Environmental Considerations and Other Regulatory Requirements

Post-event recovery operations may have environmental considerations that affect operations. Environmental considerations typically correlate to the type of disaster debris and activity needed to address the debris.

2.3.1 National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires applicants to have considered the environmental consequences of a federally funded action. The review process required by NEPA is usually the vehicle through which FEMA addresses other environmental laws and regulations; however, FEMA is provided with statutory exclusions under Section 316 of the Stafford Act. These exclusions exempt certain actions from the NEPA review process and generally include debris removal, clearance of roads, and demolition of unsafe structures. If an action is not statutorily excluded, the appropriate level of NEPA review must be determined. FEMA makes the statutory exclusion determinations.

It should be noted that compliance with other individual laws such as the Endangered Species Act, the National Historic Preservation Act, the Clean Air Act, and the Clean Water Act is still required, even when a project is statutorily excluded from NEPA review. Environmental laws and regulations that may impact debris operations are briefly described in the following sections.

2.3.2 Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States. It makes it unlawful for any person to discharge any pollutant from a specific source into navigable waters, unless a permit was obtained under its provisions.

Debris removal projects such as dredging, demolition, and construction and operation of sites used for debris management must comply with the requirements of CWA as administered by the federal, state, or local regulatory agency.

2.3.3 Clean Air Act

The Clean Air Act was established to protect the nation's air through the reduction of smog and atmospheric pollution. Projects that are funded under the PA Program such as debris clearance, removal, disposal, recycling, reduction, and demolition, must comply with the air quality standards required by the federal, state, or local regulatory agencies.

2.3.4 Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act RCRA governs the disposal of solid waste and hazardous waste. The act also provides planners with greater awareness of environmental considerations and regulations when it comes to dealing with disaster debris.

2.3.5 Endangered Species Act

The Endangered Species Act (ESA) prohibits federal actions that cause unnecessary harm to species listed as threatened or endangered, or the destruction or adverse modification of the habitat for these species. If

a project involves the known habitat of a threatened or endangered species, FEMA must consult with the United States Fish and Wildlife Service and the National Marine Fisheries Service before approving funding for that project.

2.3.6 National Historic Preservation Act

The National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties. FEMA complies with NHPA and its implementing regulations in 36 CFR Part 800, either by executing statewide programmatic agreements or by following standard regulatory procedures, commonly referred to as the Section 106 Process. Through the use of programmatic agreements, FEMA has delegated the identification and evaluation tasks to State Historic Preservation Officers (SHPO) in many states.

2.3.7 United States Environmental Protection Agency Publication EPA A530-K-08-001, Planning for Natural Disaster Debris

The Planning for Natural Disaster Debris publication discusses the management of debris from natural disasters, such as hurricanes, earthquakes, tornadoes, floods, wildfires, and winter storms. The document is designed to assist planners in the beginning stages of the planning process or to assist a planner in revising an existing DDMP. It provides planners with more awareness for environmental protectiveness when it comes to dealing with disaster debris.

Upon request, FEMA may advise Multnomah County on issues related to compliance with federal environmental and historical preservation laws, regulations and executive orders, especially when work is in waterways or when dealing with hazardous materials. Reimbursement requested by a local government for any project that does not comply with environmental/historical preservation laws will not be eligible for reimbursement.

Oregon DEQ also offers a list of best practices for disaster debris. DEQ recommendations include the following:

- The first priority is health and safety. Approach buildings and other debris areas only if safe to do so.
- Remove waste that will rot first. This includes all food wastes, dead animals, and household garbage.
- Sort as much debris on-site as possible.
- If safe to do so, secure containers of liquids to prevent spills.
- Contact Oregon Emergency Response System, also known as OERS, if there are containers that may have breached and contents are unknown. Secure the spill area.
- Take caution in disturbing asbestos-containing material. Keep this material damp, covered, and isolated to prevent release of hazardous asbestos fibers.
- The property owner may be able to provide information on the presence of asbestos-containing material.
- Use respiratory protection if handling suspected asbestos-containing material.

The table below provides a summary of debris-related activities and the regulatory agency such activities will fall under for guidance and regulation.

Table 2.1: Environmental Considerations

Debris-Related Activity	Regulatory Agency
Temporary Debris Management Site (TDMS)	<ul style="list-style-type: none"> • Oregon DEQ – SWLA Permit Process for TDMS • Oregon Department of Forestry – Open burning permit • Oregon SHPO – If items of historic significance are found at a TDMS • Oregon DEQ Air Quality Division – Air quality at TDMS reducing debris through burning • Oregon Health Authority and Multnomah County Health Department – Air Quality as it relates to public health
Widespread Hazardous Materials Contamination	<ul style="list-style-type: none"> • EPA – Determines the specific activities that may be funded under the PA Program versus those that are under the authority of the EPA • DEQ Emergency Response and Clean-up Program – handles materials that have been spilled or released
Debris Removal Activities That Impact Endangered Species	<ul style="list-style-type: none"> • U.S. Fish and Wildlife Service • Oregon Department of Fish and Wildlife
Waterways Debris Removal	<ul style="list-style-type: none"> • USACE – Primary responsibility for debris removal from federally maintained navigable channels and waterways • EPA – Responsible for the emergency removal of oil, pollutants, hazardous materials, and their containers from inland zones • United States Coast Guard (USCG) – Responsible for the removal of oil discharges and hazardous substances releases that occur in the coastal zone
Demolition	<ul style="list-style-type: none"> • Oregon SHPO – State historic review of the property • Oregon DEQ – Environmental review of the property (ACM) • City of Portland building official

2.4 Operations Health and Safety

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 will be considered as part of 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, etc.) and the debris-generating incident (e.g. type, incident strength, duration, etc.). In addition, the disaster debris produces a host of uneven surfaces, which must be negotiated.
- **Debris Removal** – Often the removal of disaster debris involves working with splintered, 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 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 TDMS. Upon entry to a TDMS, the monitoring firm will assess the volume of disaster debris being transported. The collection vehicle will then dispose of the disaster debris and the debris will be reduced through either a grinding operation or incineration. The TDMS 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, and 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.

Additional information on the health and safety strategy for debris removal can be found in Attachment J: Health and Safety Plan.

2.5 Equity Considerations

2.5.1 Description

Multnomah County is committed to serving everyone, everywhere, particularly those who may require additional support to access or utilize emergency services and programs. Meeting the needs of the whole community requires equal access to activities and programs without discrimination and meeting the equal access and functional needs of all individuals. Multnomah County recognizes that not everyone needs the same thing to meet life safety or other basic needs before, during, or after an emergency or disaster. There is no “one size fits all.”

Disabilities and Access and Functional Needs

The term “individuals with disabilities and access and functional needs” is defined as populations whose members may have additional needs before, during, and after an incident to have equal access to programs and services. Many individuals with equal access and functional needs, including those with and without disabilities, can be accommodated with actions, services, equipment, and modifications, including physical/architectural, programmatic, and communications modifications.

Under-served^{6]}

Under-served means people and places that historically and currently do not have equitable resources, access to infrastructure, healthy environments, housing choice, etc. Due to historical inequitable policies and practices, disparities may be recognized in both access to services and in outcomes.

Under-represented⁷

Under-represented recognizes that some communities have historically and currently not had equal voice in institutions and policy-making and have not been served equitably by programs and services.

Equity

Equity involves trying to understand and give people what they need to prevent disparate impact across our communities. Limited resources may need to be distributed differently in order to create equitable outcomes for everyone. Some, but not all, of the reasons a person may need additional considerations include *(listed alphabetically and in no order of priority)*:

⁶ This definition of *under-served community* comes from the City of Portland’s Climate Action Plan, and can be found on website: <https://www.portlandoregon.gov/bps/article/531984>

⁷ This definition of *under-represented community* comes from the City of Portland’s Climate Action Plan, and can be found on website: <https://www.portlandoregon.gov/bps/article/531984>

- Behavioral health
- Caregiver
- Cultural sensitivity
- Disability
- Elderly
- Ethnicity
- Health condition
- Homelessness
- Illiterate
- Limited English proficiency
- Poverty
- Race
- Refugee
- Reliance on public transportation
- Religion/spirituality
- Single parent/guardian
- Substance abuse disorder
- Supervision needed

Considerations for additional support are critical during planning and are mandated by the federal government. Debris management strategies will include actions that meet the needs of individuals with additional access and functional needs. In addition, our strategies will strive to minimize the burden from debris operations for all communities, especially for those who have been traditionally under-served and under-represented. Some examples include coordinating with organizations to assist with sorting and moving debris to the ROW; ensuring public information messages can be received and understood; including “Help Your Neighbor” in public information messaging, and making sure individuals with disabilities and others with access and functional needs can access sidewalks and public transportation resources.

2.5.2 Debris Planning Considerations

Disasters create new physical barriers and eliminate and/or lessen services available to everyone. For people with access and functional needs, a disaster may take away their ability to perform certain functions that were previously possible, and/or their capacity to live independently, and/or navigate the available response and recovery systems effectively. To the greatest extent possible, populations with disabilities and functional and access needs must be identified and prioritized during debris operations.

Public Information

Information before, during, and after an emergency allows individuals with disabilities and access and functional needs to better respond to disasters. Ensuring that preparedness and emergency information is accessible and available in multiple formats and provides content that addresses access and functional needs is critical.

Emergency Roadway Clearance

Emergency roadway clearance creates challenges for individuals with limited mobility. During the emergency roadway clearance, debris is pushed out of the road onto the ROW. This allows emergency response vehicles to pass but it obstructs sidewalks. Public entities can coordinate with volunteer organizations to identify vulnerable populations and prioritize those areas for ROW debris removal. This will expedite removal from sidewalks and other critical pathways for individuals with mobility challenges.

ROW Collection

ROW collection can create challenges for individuals with disabilities and access and functional needs. Bringing debris to the ROW will be difficult for individuals with mobility challenges. Jurisdictions can coordinate with volunteer organizations active in disasters to identify potential vulnerable populations and coordinate services to assist with debris removal services.

Debris Reduction by Incineration

In rare cases, debris may be reduced at TDMSs by open burning or using an air curtain incinerator. In these cases, debris managers need to be cognizant of nearby residents and mitigate situations for individuals with health and respiratory challenges that might be exacerbated by this reduction process.

2.6 Special Debris Programs⁸

2.6.1 Private Property Debris Removal

Debris on private property does not typically present an immediate health and safety threat to the general public. In addition, debris removal from private property is generally the responsibility of individual private property owners, and other sources of funding, such as insurance, are commonly available to property owners to cover the cost of work.

When large-scale disaster events cause mass destruction and generate large quantities of debris over vast areas, debris on private property may sometimes pose health and safety threats to the public-at-large. If private property owners are not available because they have evacuated, the County may need to enter private property to remove debris considered to be an immediate threat to the lives, health, and safety of its residents. In some cases, the costs of performing demolition of private structures may be eligible for PA grant funding. In such situations, FEMA is authorized to approve the provision of PA for the removal of debris from private property or demolition of private structures when it is considered to be in the public interest.

The County must get prior approval from FEMA to determine eligibility for reimbursement. The following procedures are required for potential federal assistance and are best practices for conducting debris removal from private property regardless of potential reimbursement.

- The public entity must obtain documentation from the public health authority stating that disaster-generated debris on private property in the designated area constitutes an immediate threat to life, public health, and safety.
- The County may obtain documentation stating that the debris poses an immediate threat to improved property and that its removal is cost-effective. The cost to remove the debris should be less than the cost of the potential damage to the improved property.
- The County must demonstrate its authority and legal responsibility to enter private property to remove debris. The legal basis for this responsibility must be established by law, ordinance, or code at the time of the disaster and must be relevant to the post-disaster condition representing an immediate threat to life, public health, and safety, and not merely define the public entity's uniform level of services. Typically, solid waste disposal ordinances are considered part of an Applicant's uniform level of services.

2.6.2 Hazardous Trees

Determining removal of hazardous trees and stumps is challenging. FEMA has established criteria to assist in making these determinations, using objective information that can be collected in the field. The following procedures align with the FEMA PA Program eligibility requirements for potential federal reimbursement.

⁸ FEMA Public Assistance Program and Policy Guide, FP 104-009-2, January 2016, Chapter 2, Section VI, A

Hazardous Trees

Removing a hazardous tree may be eligible for PA grant funding. A tree is considered hazardous if its condition was caused by the disaster; it is an immediate threat to lives, public health and safety, or improved property; it has a diameter breast height of 6 inches or greater; and one or more of the following criteria are met:

- Has a split trunk;
- Has a broken canopy; or
- Is leaning at an angle greater than 30 degrees.

Trees determined to be hazardous and that have less than 50 percent of the root-ball exposed should be cut flush at the ground level. Grinding of the resulting stump after the tree has been cut flush at the ground level is not eligible work. The cut portion of the tree is included with regular vegetative debris. The County should make an effort to cut the tree trunk as close to the ground as possible.

The eligible scope of work for a hazardous tree may include removing the leaning portion and cutting the stump at ground level. An example of an ineligible costing method for such work would be removing the tree and stump for two separate unit costs.

The PA Program may reimburse straightening and bracing if they are less costly than removal and disposal. Straightening and bracing are emergency protective measures if they eliminate an immediate threat to lives, public health and safety, or improved property. If the County chooses to straighten and brace a tree in lieu of removal, the tree would not be eligible for removal if it dies.

Hazardous Limb Removal

Removing hanging limbs may be eligible for PA grant assistance, provided:

- The limbs or branches extend over the public ROW or another public use area, e.g. trails;
- The limbs or branches pose an immediate threat;
- Greater than 2 inches in diameter at the point of breakage; and
- The Applicant removes the hazard from the public ROW (without entering private property).

Only the minimum amount of work necessary to remove the hazard is eligible. Pruning, maintenance trimming, and landscaping are not eligible. Work should be executed in an efficient manner. For example, all hazardous limbs in a tree should be cut at the same time, not in passes for particular sizes. Work to remove hanging limbs from a tree that has been determined to be a hazard and is scheduled for removal is not eligible. If this work is contracted out, it is typically done on a per tree basis.

An eligible scope of work may be to cut the branch at the closest main branch junction. Removing the entire branch back to the trunk may not be eligible.

If the canopy of a tree located on private property extends over a public ROW such as a sidewalk, removal of hazardous limbs on the tree that extend over the public ROW and meet the above criteria may be eligible. Limbs on the tree that do not extend over the public ROW are not eligible.

Documentation required for PA grant consideration:

- Describe the immediate threat, e.g. photos of hanging limbs or leaning trees;
- Clearly define the scope of work to remove the immediate threat;
- Specify the improved public property location by recording the nearest building address and/or Global Positioning System (GPS) location; and

- Denote date, labor (force account or contract), and equipment used to perform the work.

Hazardous Tree Stumps

A stump may be determined to be hazardous and eligible for PA grant funding as a per-unit cost for stump removal if it meets all of the following criteria:

- It has 50 percent or more of the root-ball exposed (less than 50 percent of the root-ball exposed should be flush cut);
- It is greater than 2 feet in diameter, as measured 2 feet above the ground;
- It is on improved public property or a public ROW; and
- It poses an immediate threat to life and public health and safety.

If an uprooted stump must be removed prior to federal approval, the public entity must submit the following information for PA grant consideration:

- Photographs and GPS coordinates that establish the location on public property;
- Specifics of the threat;
- Diameter of the stump 24 inches from the ground; and
- Quantity of material needed to fill the resultant hole.

FEMA may reimburse the reasonable cost to remove, transport, dispose of, and fill the hole from a stump of more than 2 feet in diameter if:

- The County and State agree the tree or stump is hazardous according to the above definition;
- Generally, if the removal was approved in advance; and
- A Hazardous Stump Worksheet is completed and submitted for FEMA approval.

A copy of the Hazardous Stump Worksheet may be found in Attachment M: Hazardous Stump Extraction and Removal Eligibility.

In some instances, grinding of an uprooted stump and filling the resulting cavity may cost less than a complete extraction. In these cases, the County should present the cost comparison documentation to FEMA for consideration; however, the stump must have already been determined eligible for removal according to the above criteria.

Stumps measuring 2 feet in diameter or less do not require special equipment for removal; therefore, reimbursement will be based on the reasonable unit cost per cubic yard (CY), using the Stump Conversion Table found in Attachment M: Hazardous Stump Extraction and Removal Eligibility. The unit price for stump removal includes the extraction, transport, and disposal of the stump as well as filling the cavity that remains.

FEMA will reimburse the public entity at the unit cost rate (usually CYs) for normal debris removal for all stumps, regardless of size, placed on the public rights-of-way by others, i.e., contractors did not extract them from public property or property of eligible private nonprofit organizations. In such instances, public entities do not incur additional costs to remove these stumps; the same equipment used to pick up vegetative debris can be used to pick up these stumps.

See FEMA FP 104-009-2 for more information on hazardous stumps.

2.6.3 Vehicles

For the removal of vehicles to be eligible, the County must demonstrate that:

- The vehicle presents a hazard or immediate threat that blocks ingress/egress in a public use area;
- The vehicle is abandoned; e.g., the vehicle is not on the owner's property and ownership is undetermined;
- The County followed local ordinances and state law by securing ownership; and
- The County verified chain of custody, transport, and disposal of the vehicle.

All supporting documentation relating to removal of abandoned vehicles must be submitted to FEMA for PA grant consideration. It is important for the County to follow its normal written procedures regardless of the circumstances. Any duplication of benefits issues should be addressed.

3.0 ORGANIZATION AND ROLES AND RESPONSIBILITIES

3.1 Organizational Structure for Debris Operations

To mount an effective response to a debris-generating incident, roles and responsibilities must be clearly delineated between the County departments, local municipal jurisdictions, contractors, state and federal agencies, and nongovernmental organizations with a role in response. In addition, all of the responding agencies must respond in a coordinated manner to ensure disaster debris operations are conducted as efficiently and as safely as possible.

Achieving an organized and efficient approach is facilitated through utilization of the ICS. ICS provides a standardized approach to incident management and helps to organize response agencies under a top-down modular organization that is flexible based on the scope of the incident. In addition, under ICS there is a well-defined process for setting response objectives and communicating those objectives throughout the response organization.

Multnomah County will coordinate response using ICS to effect an organized and timely response to debris operations. In addition, residents and businesses in affected areas will also have an important role to fill in ensuring the success of disaster debris operations. The specific roles and responsibilities of response agencies and those affected by a debris-generating incident are described below.

3.2 Roles and Responsibilities

Many stakeholders will be involved in disaster debris operations. Roles and responsibilities must be clearly delineated between County departments and other local agencies. State and federal agencies will also have a role in debris operations as well as private nonprofit organizations, volunteer organizations, and private sector business enterprise. These roles and responsibilities are described below.

3.2.1 Multnomah County Roles and Responsibilities

Multnomah County will be responsible for conducting debris operations within the unincorporated County and on County-maintained roads in incorporated areas of the County to the greatest extent possible.

The following list provides general roles and responsibilities of Multnomah County departments, and other local agencies, prior to and during debris operations.

Table 3.1: Multnomah County Roles and Responsibilities

Department/Position	Roles and Responsibilities
DCS	<ul style="list-style-type: none">• Serve as the debris manager for the unincorporated County.• Activate and implement the County DDMP with regard to unincorporated County operations.• Oversee debris operations within the unincorporated County.• Perform debris clearance and removal operations on County-maintained roads in incorporated areas of the County.• Coordinate with local, state, and federal officials regarding debris operations within the unincorporated County.• Obtain approval from regulatory agencies for TDMS to be operated by the County.

Department/Position	Roles and Responsibilities
	<ul style="list-style-type: none"> • Support FPM operations at County TDMS as necessary after a disaster. • Open community collection centers for use by unincorporated County residents as necessary and appropriate. • Coordinate with private contractors to remove debris that cannot be handled with internal County resources i.e. large amounts of debris or special types of debris (animal carcasses, white goods, etc.). • Provide situational updates on unincorporated County debris operations to the County Emergency Management Coordinator, Debris Task Force Manager, ESF #3, etc. • Coordinate Geographic Information System (GIS) data as appropriate for use in debris removal operations with the support of DCA if necessary. • Maintain documentation for federal reimbursement for unincorporated County debris operations. • Ensure compliance with federal assistance programs for debris removal within the unincorporated County. • Coordinate with County Chair and Legal Counsel to negotiate inter-local agreements for public works and engineering support. • Ensure all goods and services are procured following the County's purchasing policy. • Coordinate with federal agencies for disaster support for unincorporated County debris operations.
DCA FPM	<ul style="list-style-type: none"> • Support DCS to provide GIS data to appropriate agencies and vendors for debris removal operations, which may include road lists, data on historical properties, and County-owned and privately owned lands. • Support TDMS operations (including identification and site prep). • Lead operation at County TDMS as necessary after a disaster.
Office of Sustainability	<ul style="list-style-type: none"> • Develop, maintain, and implement the Climate Action Plan including maintaining awareness of debris operations and helping to mitigate activities that could have a negative impact on climate. • Provide guidance around recycling and reuse as appropriate.
Disaster Policy Group	<ul style="list-style-type: none"> • Make policy-level decisions related to debris operations. Policy-level decisions may include activating the Debris Task Force, any multi-jurisdictional coordination, cooperative purchasing or contracting, and opening joint TDMSs among other things.
County Chair's Office	<ul style="list-style-type: none"> • Provide signature authority for legal documents, including mutual aid agreements with neighboring jurisdictions, inter-local agreements, and notices to proceed with contracted service providers.
DCM – (Finance and Risk Management)	<ul style="list-style-type: none"> • Maintain awareness of unincorporated County debris operations. • Ensure safety considerations for all unincorporated County debris operations.

Department/Position	Roles and Responsibilities
	<ul style="list-style-type: none"> • Coordinate with the DCS to obtain force account labor, equipment, and overtime documentation related to debris removal operations for federal reimbursement.
Communications Office	<ul style="list-style-type: none"> • Coordinate with the DCS to develop public information messages related to debris operations. • Provide press releases related to debris removal operations, set-out procedures, and citizen debris drop-off locations. • Establish resident hotline for debris removal questions and concerns. • Coordinate with municipality, Metro, and regional PIOs as necessary.
DCM (Purchasing Department)	<ul style="list-style-type: none"> • Provide support to the DCS to procure goods and services for debris removal operations. • Review and update emergency procurement policies as necessary following an emergency.
County Auditor	<ul style="list-style-type: none"> • Provide quality control assistance throughout the cost recovery process. • Audit purchase orders and documents, general ledger entries, cash receipts, and payroll documents related to debris removal operations. • Manage and audit contractor invoices for payment.
County Health Department	<ul style="list-style-type: none"> • Provide environmental health guidance, including disaster sanitation guidance for public information and for debris operations. • Make countywide public health determinations as to when debris is a threat to public health and safety.
Portland Bureau of Development Services	<ul style="list-style-type: none"> • Enforce nuisance and abatement codes. • Document nuisance and abatement cases to support the County DCS with private property debris removal. • Provide guidance and regulatory oversight for building and structure demolition requirements.
Multnomah County Sheriff's Office	<ul style="list-style-type: none"> • Provide security for TDMS locations and other debris removal operations when necessary. (Contracted security may alternately be used.)
City and Volunteer Fire Departments	<ul style="list-style-type: none"> • Maintain awareness of County TDMS locations and operations. • Provide emergency services at TDMS locations in the event of a fire.
Multnomah County Emergency Management	<ul style="list-style-type: none"> • Provide support to DCS in scheduled updates to the DDMP. • Staff the Duty Officer Role to provide alerts and warnings. • Participate in the decision to make a countywide emergency declaration and request state/federal emergency declarations. • Activate the EOC and ESF #3 as appropriate.
Metro	<ul style="list-style-type: none"> • Take the lead on special debris removal programs, specifically HHW, but perhaps others as deemed appropriate post-disaster. • Support public information when multiple jurisdictions are involved or upon request as applicable.

Department/Position	Roles and Responsibilities
	<ul style="list-style-type: none"> • As the solid waste planning authority, make a recommendation (SWLA requirement) to approve TDMS in the Metro area. • Provide technical assistance to jurisdictions regarding debris removal and disposal operations.

3.2.2 Local Municipalities

Local municipalities within Multnomah County are responsible for conducting debris operations within their jurisdiction to the greatest extent possible. These activities likely include:

- Serve as the debris manager for their municipality.
- Activate and implement the City DDMP with regard to City operations.
- Oversee debris operations within the City.
- Perform debris clearance and removal operations on City-maintained roads.
- Coordinate with local, state, and federal officials regarding debris operations within their City.
- Obtain approval from regulatory agencies for TDMS to be operated by the City.
- Open community collection centers for use by City residents as necessary and appropriate.
- Coordinate with private contractors to assist in debris collection and removal as necessary within the City.
- Provide situational updates on their debris operations to the County Emergency Management Coordinator, Debris Task Force Manager, ESF #3, etc.
- Maintain documentation for federal reimbursement for City debris operations.
- Ensure compliance with federal assistance programs for debris removal within the City.
- Coordinate with County Chair and Legal Counsel to negotiate inter-local agreements for public works.

In a countywide disaster it may make sense for there to be coordination between the jurisdictions in certain aspects of debris management operations and in these circumstances it would be important for local municipalities to participate in a countywide debris task force.

3.2.3 State Agencies

State agencies provide regulatory guidance and technical assistance for debris operations. The following section provides an overview of the roles and responsibilities of State agencies involved in debris operations.

Oregon Office of Emergency Management

As outlined in ORS 401.092, the office is responsible to provide and staff a state EOC. Under a state declaration of emergency, the Oregon Office of Emergency Management has the authority to direct state agencies to provide response and recovery assistance to local and tribal governments.

- Request debris removal resources from other States through the Emergency Management Assistance Compact (EMAC) or through the Pacific Northwest Emergency Management Arrangement.
- Coordinate requests for assistance and participate with the federal government in operating a Joint Field Office when federal assistance is needed.

- Task other state agencies, as needed, to aid local jurisdictions in debris management operations.

Oregon Department of Environmental Quality

- Provide guidance on environmental regulations regarding debris operations.
- Provide technical assistance for debris removal of hazardous materials.
- Provide technical assistance in temporary disaster debris site management and/or debris disposal site permitting.
- Provide expedited environmental permitting and/or authorizations if prudent and necessary (air quality, water quality, solid waste) including SWLAs or Air Quality Emergency Burn Letter Permits.
- Provide technical assistance on waste characterization and minimization, hazardous and solid waste handling/disposal, and related issues.
- Provide contractors for response to hazardous materials and oil releases (for imminent threat or potential releases) through use of DEQ or EPA spills response contractor if appropriate or through DEQ's HHW contract for removal of HHW or CEG waste.
- Provide coordination with U.S. EPA and U.S. Coast Guard through the Northwest Region 10 Response Team for responses that exceed the State of Oregon's capacity to respond.

Oregon Department of Transportation

- Implement debris removal along state and federal rights-of-way; provide support as requested through the State Emergency Coordination Center.

Oregon Department of Forestry

- Provide technical support on timber and management of forestlands, debris flow warning systems; provide support as requested through the State Emergency Coordination Center.

Oregon Public Health

- Provide technical assistance on public health concerns associated with debris management including radioactive waste or asbestos-containing waste; provide support as requested through the State Emergency Coordination Center.

Oregon Occupational Health and Safety

- Provide technical assistance on health and safety issues associated with debris management; provide support as requested through the State Emergency Coordination Center.

Oregon Department of Fish and Wildlife

- Provide technical support on maintaining beneficial debris in stream channels; providing technical support on fish and wildlife issues; provide support as requested through the State Emergency Coordination Center.

Oregon State Parks and Recreation Department

- SHPO responsible for cultural/archeological impacts associated with site and operation of temporary storage reduction facilities.

3.2.4 Federal Agencies

Federal agencies support debris operations by providing disaster assistance funding, regulatory oversight, and technical assistance. The following section provides an overview of the roles and responsibilities of federal agencies involved in debris operations.

FEMA

- Provide technical assistance for debris operations.
 - Environmental and historical preservation review process
 - PA Program reimbursement process
 - Procurement assistance
- Assign federal mission assignments as requested.
 - ESF #3 - Public Works and Engineering
 - ESF #10 - Oil and Hazardous Material Response
- Administer the FEMA PA Program for Category A Debris Removal.
 - Ensure safety, eligibility, and compliance are maintained.

U.S. Army Corps of Engineers

- Act as the primary federal entity for ESF #3 - Public Works and Engineering.
- Provide debris operations for mission assignments.
- Remove sunken vessels from navigable waterways under emergency conditions.
- Provide strong technical assistance and training support to state and local agencies.
- Enable state and local operations to the greatest extent possible.

Natural Resources Conservation Service

- Provide technical assistance for debris removal from natural streams and creeks.
- Provide funding for debris operations through the Emergency Watershed and Protection program.

Federal Highway Administration

- Support repair and reconstruction of federal aid highways and roads on federal lands.
- Provide funding for debris operations through the Federal Highway Administration Emergency Relief Program. (Federal Highway Administration's [FHWA] authority for debris-related activities is limited to debris removal and disposal within their jurisdiction when the ER Program is activated.)

Environmental Protection Agency

- Act as the primary federal entity for ESF #10 – Oil and Hazardous Material Response that occur on land and non-navigable waterways. (USCG provides lead for Columbia River, Willamette River and Multnomah Channel within Multnomah County.)
- Provide clean-up of debris that is mixed with or contains oil or hazardous materials, in coordination with the Oregon DEQ, and with the United States Coast Guard if within Navigable Waterways in Multnomah County.
- Establish standards and guidance for the proper management of debris.

U.S. Fish and Wildlife

- Provide technical assistance for debris removal projects that involve the known habitat of a threatened or endangered species.

3.2.5 Private Sector Business Enterprise

Private sector business enterprises are typically not eligible for debris removal under the FEMA PA Program. However, private businesses are crucial in the overall recovery of the community and will have a very large role in managing mass debris operations.

- Build relationships with community emergency managers and other officials to have an active voice in the debris operations.
- Develop, test, and implement debris operations plans. Take into account worker safety and health and potential employee unavailability or attrition due to a disaster.
- Educate and train employees to implement debris operations plans.
- Know, understand, and comply with federal regulations for disaster assistance programs.

3.2.6 Commercial Sector

Jurisdictions do not have enough internal resources to conduct debris operations during a widespread incident without the use of contracted service providers. The following provides the potential roles and responsibilities of the commercial sector for debris operations.

Debris Hauling Firm

In the event the scope of debris collection operations is beyond the capabilities of local force account resources, state, and mutual aid resources, it may be necessary to contract for labor and equipment. Responsibilities of a debris-hauling firm will include the following:

- Clear and remove debris from jurisdiction roadways and waterways to make them passable immediately following a declared disaster.
- Conduct debris removal from the ROW.
- Decommission, demolish, and dispose of eligible non-regulated asbestos-containing material structures on private property.
- Manage and operate TDMS locations.
- Conduct debris reduction.
- Haul-out reduced materials to a final disposal site.
- Remove hazardous leaning trees and hanging limbs.
- Remove hazardous stumps.
- Remove white goods debris from the ROW.
- Coordinate the removal of HHW from the ROW.
- Remove animal carcasses from areas designated by the jurisdiction.
- Build relationships with community emergency managers and other officials to have an active voice in the debris operations.

- Develop, test, and implement debris operations plans. Take into account worker safety and health and potential employee unavailability or attrition due to a disaster.
- Educate and train employees to implement debris operations plans.
- Ensure contracts comply with procurement requirements.
- Communicate status of operations and supply chains as well as challenges and time lines to local officials.
- Research available funding sources and types of funding for debris operations.
- Know, understand, and comply with federal regulations for disaster assistance programs.

Monitoring Firm

Relatively small amount of debris could be monitored by force account labor; however, in an incident resulting in widespread and considerable debris amounts as deemed by local authorities, the decision could be made to employ the services of a debris-hauling firm. Debris monitoring responsibilities are described below.

- Perform truck certifications.
- Perform on-site, street-level debris monitoring at all collection sites to verify debris eligibility based on contract requirements, and initiate debris removal documentation using load tickets.
- Conduct disposal monitoring to document the disposal of disaster debris at approved TDMSs and at final disposal or end use locations.

3.2.7 Nonprofit Sector

Private nonprofit businesses may be eligible for federal funding for debris removal under the FEMA PA Program, but they will be their own Applicant separate from the County. Multnomah County will partner with nonprofit and volunteer organizations to provide assistance to individuals with disabilities and/or access and functional needs. The County will ask that nonprofit sector entities coordinate with the County to ensure their efforts are conducted in coordination with County objectives. The roles and responsibilities for nonprofit organizations in debris operations are listed below.

- Coordinate with the County to identify vulnerable populations and incorporate strategies to assist these populations in local debris management plans.
- Coordinate with jurisdictions and volunteer organizations post-disaster to assist individuals with disabilities and access and functional needs with bringing debris to the public ROW.
- Coordinate with jurisdictions to provide public information regarding debris operations to populations with communication barriers.
- Provide debris services to vulnerable and under-served groups, individuals, and communities as necessary.

3.2.8 Residents

To coordinate effective debris operations, residents play an important role in maximizing the potential for recycling and reuse of disaster-generated debris. The following provides the roles and responsibilities for residents in debris operations.

- Follow instructions from local officials on set-out procedures for disaster-related debris.
- Segregate disaster debris from regular household waste.

- Safely bring debris to the public ROW.
- Bring HHW to citizen drop-off locations.
- Use caution when operating equipment and dangerous machinery.
- Help others who may need assistance with debris removal.

4.0 FINANCE, ADMINISTRATION AND LOGISTICS

4.1 Finance

All departments and agencies will maintain records of personnel, equipment, and material resources used to comply with this plan. Such documentation will be used to support reimbursement from any state or federal assistance that may be requested or required. Attachment F: FEMA Force Account Equipment and Labor Summary Records of this plan contains the forms needed to track use of equipment and employee time during debris operations.

4.1.1 Funding Sources for Disaster Debris Operations

The federal government provides several assistance programs through various agencies to support debris operations. However, these programs have extensive documentation requirements that must be adhered to. Additionally, the policy guidance for these assistance programs changes and adapts with lessons learned from each disaster across the United States. It will be important for the County to maintain awareness of current federal assistance program guidance and regulations related to disaster debris federal funding programs.

4.1.1.1 FEMA PA Program

The mission of the FEMA PA Grant Program is to provide assistance to state and local governments and certain private nonprofit (PNP) organizations to quickly respond to and recover from disasters or emergencies declared by the President. FEMA provides supplemental federal disaster grant assistance for debris removal, emergency protective measures and repair, replacement, or restoration of disaster-damaged facilities through the PA Program. The PA Program also encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process.

The FEMA PA Program is a cost-sharing program. Cost share refers to the portion of disaster-related costs the federal government is responsible for funding. Per the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), the federal cost share of assistance is not less than 75 percent of the eligible cost for emergency measures and permanent restoration. The remaining 25 percent is the responsibility of the state and local governments. The State serves as the grant administrator or the grantee. The grantee determines how the non-federal share is funded.

Recent Changes to the PA Program

The Stafford Act constitutes the statutory authority for most federal disaster response activities, especially as they pertain to FEMA and FEMA programs.

The Stafford Act was recently amended by the SRIA of 2013. The President signed the SRIA into law in January 2013 to improve and streamline disaster assistance for Hurricane Sandy and for future disasters. As a result of this Act, the Stafford Act was amended, including alternative procedures for the FEMA PA Program.

The purpose of the SRIA is to:

- Reduce the cost of federal government assistance.
- Increase the administrative flexibility of the FEMA PA Program.
- Expedite the process of providing and using the assistance.

- Create incentives for applicants to complete projects in a timely and cost-effective manner.

The law authorizes several significant changes to the way FEMA may deliver disaster assistance under a variety of programs. This includes the following procedures:

- PA alternative procedures
 - Permanent work alternative procedures
 - Debris removal work alternative procedures
- Hazard mitigation
- Dispute resolution
- Federal assistance to individuals and households
- Unified federal review
- Small project threshold review
- Essential assistance
- Individual assistance factors
- Recommendations for reducing costs of future disasters

It is the responsibility of the Applicant to understand the eligibility requirements and provisions of the Stafford Act and the SRIA. FEMA will make every effort to provide reliable information through field personnel following a disaster. However, it is ultimately the responsibility of the Applicant to understand what is allowed under the law.

It is critical that local officials and local managers implementing federal programs fully understand applicable local, state, and federal laws related to disaster assistance.

The consequence of non-compliance with these provisions is fraud and can result in the following:

- Temporarily withhold payment or take more severe enforcement action.
- Disallow all or part of the cost of the activity or action not in compliance.
- Wholly or partly suspend or terminate the Applicant's current award.
- Withhold future awards.
- Take other remedies that may be legally available.

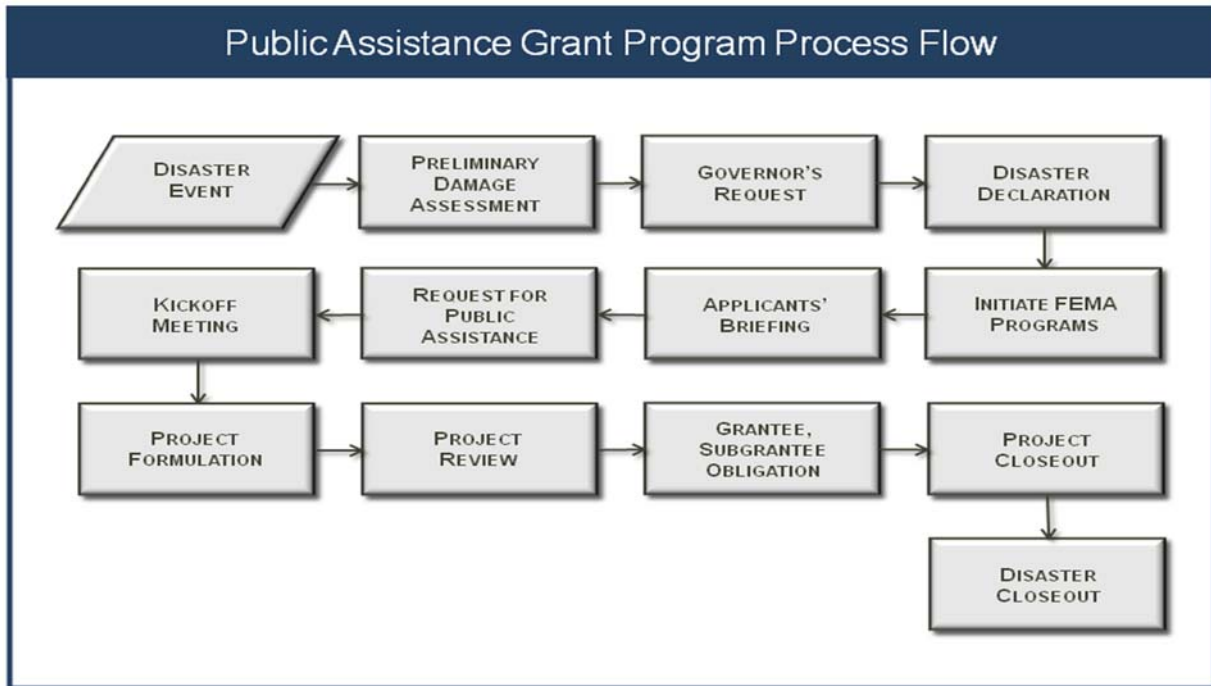
Debris managers will need to understand how these policies impact debris operations. The following is an overview of the FEMA PA Grant Program process with a flow chart at the end of the section.

FEMA PA Grant Program Process Overview⁹

The following flow diagram provides a graphical representation of the FEMA PA Grant Program. Additional details on the FEMA PA Grant Program can be found in Attachment O: FEMA PA Grant Program Process Overview.

⁹ FEMA Public Assistance Program and Policy Guide, FP 104-009-2, January 2016

Figure 4.1: PA Grant Program Process Flow



4.1.1.2 Other Funding Options

Public entities may be eligible for other federal assistance programs for disaster debris management including:

- Federal Highway Administration Emergency Relief Program
- Natural Resources Conservation Commission Emergency Watershed Protection Program
- US Department of Agriculture Farm Services Agency Emergency Programs

Each disaster assistance program has different documentation requirements. For additional information on cost tracking and documentation requirements, a complete list of federal disaster assistance programs with links to the program guidance can be found in Attachment H: Federal Policies and Guidance for Debris Operations.

4.2 Documentation

Accurate and complete cost tracking is critical to obtain assistance for disaster-related costs. Emergency protective measures can be eligible for reimbursement. If the incident allows for warning, public entities should begin tracking costs once the threat has been identified. If there is no warning, public entities should begin tracking costs as soon as possible. Accounting best practices for tracking costs includes the following:

- Identify a person that will be responsible for compiling disaster-related costs for the jurisdiction.
- Establish a cost code for disaster-related costs.
- Establish a file structure for each site where recovery work has been or will be performed.

- Maintain accurate disbursement and accounting records to document the work performed and the cost incurred.
- Obtain and review applicable local, state, and federal policies and regulations.
- Document administrative costs.
- Begin compiling recovery project documentation, including:
 - Executed contracts, bids, periods of performance, and locations worked
 - Property insurance
 - Donated resources (labor, equipment, and materials)
 - Mutual aid
 - Force account labor
 - Force account equipment
 - Equipment rental agreements
 - Fuel logs
 - Materials including meals and gas purchases
 - Description of damage
 - Scope of work to be completed
 - Photos of damage
 - Copies of estimates
 - Maintenance records
 - Site inspection records
 - Special considerations

Coordinate with state and federal agencies to obtain disaster-specific cost tracking spreadsheets and templates.

5.0 OPERATIONAL COMMUNICATION AND COORDINATION

5.1 Direction and Control

It is important for debris managers to have a thorough understanding of the status of debris operations throughout the County. County staff in field operations will need to provide situational updates to the EOC (ESF #3) on debris operations. There are several ways debris operations may be managed.

- County debris operations handled through DCS DOC and supported by ESF #3.
- Municipal debris operations supported by ESF #3.
- ESF #3 activates task force to support County and Municipal debris operations.

5.2 Coordination

In a large or widespread disaster affecting the entirety of Multnomah County where increased cooperation and coordination would be beneficial, it may be advantageous to activate a countywide debris task force. Some of those operational and support activities that this debris task force may decide to undertake are TDMS management, coordinated public information, sharing of resources between jurisdictions and having the agreements in place necessary to do so, integration of Metro assistance, cooperation in identifying final disposal alternatives, joint contracting, and integration of volunteer resources. Attachment V: Debris Management Task Force includes a draft organizational chart for a countywide debris management task force and details the roles and responsibilities that may be utilized in a countywide operation.

5.2.1 Situational Awareness

It is important for debris managers to have a thorough understanding of the status of debris operations throughout the County. County staff in field operations will need to provide situational updates to the EOC (ESF #3) on debris operations. Some of the information that should be documented includes:

- Status of current conditions
- Damage assessments including debris estimates
- Imminent threats to public health and safety
- Resource needs to provide the following:
 - Emergency road clearance
 - Assistance to individuals with disabilities and access and functional needs
 - ROW collection
 - Special debris programs
 - Reduction, transport, and disposal of debris
 - Public information
- TDMS status and critical needs
- Environmental and historical preservation concerns
- Reduction and disposal strategy
- Health and safety strategy

5.2.2 Resources and Logistics

Multnomah County will conduct debris operations within areas under its authority to the greatest extent possible using internal resources, mutual aid, or contracted services. In the event that the County needs additional resources to conduct debris operations, the County can request assistance from the State of Oregon.

The County is responsible for prioritizing resources for debris operations in support of the following priorities:

- Protecting human life, safety, and health
- Protecting property and the environment
- Restoring utilities and essential government functions
- Supporting regional coordination among all levels of government

The County, through ESF #3, will monitor the status of debris operations throughout the County to assist in providing resources in support of these goals. The County will prioritize resources based on critical need to the greatest extent possible to support a responsible distribution of resources. A list of DCS equipment is included in Attachment R: Debris Removal Equipment. A list of pre-identified vendors who may be available to support operations is included in Attachment Q: Potential Vendors List. A list of existing mutual aid agreements is included in Attachment S: Disaster Debris Management Framework Existing Tools and Resources.

5.2.3 Communication

The DCS will communicate debris management status to the EOC at agreed upon intervals.

The EOC debris operations task force leader will communicate with state and federal agency representatives to obtain accurate information and guidance regarding debris operations. The EOC debris task force leader will communicate this information to DCS, other County departments supporting debris removal and to the cities.

Jurisdictions will initially work with the County EOC to provide damage assessments and debris estimates. However, as an Applicant, jurisdictions will communicate and coordinate directly with state and federal representatives regarding federal disaster assistance for their debris removal operations.

6.0 PLAN MAINTENANCE STRATEGY

6.1 Plan Maintenance

For this plan to maintain viability, the document will be updated annually and personnel should be trained on the content prior to a disaster. This section provides guidance on maintaining this plan to ensure it is current and relevant. FEMA updates debris operations program guidance throughout the year based on lessons learned from recent disasters. It is important for this plan to include the most current program guidance.

6.1.1 Plan Review

Multnomah County Emergency Management (MCEM), in conjunction with DCS will facilitate an annual review of the DDMP with the debris planning team. The plan will be updated based on organizational changes, new policies and guidance, and lessons learned from actual debris events. Changes made to the plan will be noted on a plan changes log as needed.

6.1.2 FEMA Debris Plan Approval

FEMA currently provides incentives to public entities for having an approved DDMP. MCEM will submit the DDMP to the State of Oregon for review and comment following the finalization of the initial version of the plan and following any major plan revisions. The State will submit the plan to FEMA for review and approval. It is not necessary to submit the plan to the State of Oregon for approval each year.

6.2 Training for Personnel

MCEM will coordinate with DCS to develop appropriate training on debris policies and procedures to maintain a viable plan. The following list provides recommendations for debris operations training.

General

- Personnel should be trained in their specific job duties related to debris operations.
- Personnel operating equipment must be trained to operate any equipment they are responsible for competently and safely.
- Personnel should be trained in basic NIMS ICS.
- Personnel performing debris monitoring tasks will be trained by the jurisdiction or a qualified designee.
- Personnel with responsibility for preparing documentation for reimbursement will receive training on federal programs.
- All personnel involved in response to a debris-generating incident will participate in a briefing on safety policies and procedures. See Attachment J: Health and Safety Plan.

Debris Management Task Force Staff

- Individuals identified as debris managers should be trained in the regulatory requirements for debris operations including:
 - Health and safety
 - Environmental and historical preservation
 - Procurement
 - Federal disaster grant programs

- Multnomah County Equity and Empowerment Lens, including considerations for individuals with disabilities and access and functional needs and historically under-served and under-represented communities
- Damage assessments including debris estimates
- Training options include the following:
 - FEMA E0202: Debris Management Planning for State, Tribal, and Local Officials. This is a 4-day class designed to provide an overview of issues and recommended actions necessary to plan for, respond to, and recover from a major debris-generating incident with emphasis on state, local, and tribal responsibilities.
 - FEMA IS – 0634 Introduction to FEMA’s PA Program. This is a 4-hour online course designed to familiarize participants with the PA Program and the steps in the PA process as well as the documentation requirements.
 - FEMA IS – 0632.a Introduction to Debris Operations. This is a 2-hour online course designed to familiarize participants with general debris removal operations and identify critical debris operations issues.
 - See the FEMA training website for additional information at <https://training.fema.gov/>.

Finance and Administration

- Finance and administration staff responsible for documenting and tracking costs and activities should be trained in regulatory requirements for debris operations including:
 - Procurement
 - Federal disaster grant programs
 - Documentation
- Training options include the following:
 - **FEMA IS – 0634 Introduction to FEMA’s PA Program.** This is a 4-hour online course designed to familiarize participants with the PA Program and the steps in the PA process as well as the documentation requirements.
 - **FEMA IS – 0632.a Introduction to Debris Operations.** This is a 2-hour online course designed to familiarize participants with general debris removal operations and identify critical debris operations issues.
 - See the FEMA training website for additional information at <https://training.fema.gov/>.

6.2.1 Exercises

Exercises are essential to maintaining readiness and in determining the effectiveness of plans, personnel, and resources in responding to a debris-generating incident. Workshops and exercises will be conducted periodically to test the ability of Multnomah County to conduct debris operations.

Following exercises, an after action report will be developed to document strengths and areas needing improvement. An improvement plan will be developed to list corrective actions, identify individuals or agencies responsible for completing the corrective actions, and indicate a timeline for completion.

ATTACHMENT A EMERGENCY TRANSPORTATION ROUTES

County Transportation personnel will prioritize their debris clearing operations based on the Emergency Transportation Routes, which are shown in Table A.1 below.

Table A-1: Emergency Transportation Routes

Road	From	To
Emergency Transportation Routes		
Cornelius Pass Rd.	Multnomah Co. Line	Hwy. 30
Foster Rd.	Multnomah Co. Line	Jenne Rd.
242nd/238th	242nd Troutdale/Gresham Boundary	Sandy Blvd.
Sandy Blvd.	238th	205th
Marine Dr.	Interstate 84	185th
Secondary Emergency Transportation Routes		
Stark St.	NE Rene Ave.	HCRH*
NW Skyline Blvd.	NW Newberry Rd.	NW Rocky Point Rd.
Woodard Rd.	HCRH* @ (Springdale)	HCRH* @ (Troutdale)
Corbett Hill Rd.	HCRH* (Corbett)	Interstate 84
Larch Mt. Rd.	HCRH*	Larch Mt. Rd. @ MP4

*Historic Columbia River Highway

Table A-2: Critical Facilities

Critical Facility	Address	Type
GradinSportsComplex_1Mile		
East Gresham Elementary	900 SE 5th St., Gresham, 97080	School
Dexter McCarty Middle	1400 SE 5th St., Gresham, 97080	School
Gordon Russell Middle	3625 SE Powell Valley Rd., Gresham, 97080	School
Springwater Trail High	1440 SE Fleming Ave., Gresham, 97080	School
Hogan Cedars Elementary	1770 SE Fleming Ave., Gresham, 97080	School
Gresham Community Christian School	3445 SE Hillyard Rd., Gresham, 97080	School

Critical Facility	Address	Type
242nd/Hogan Road Bridge		Bridge
252nd Avenue Bridge		Bridge
SkylineSite_1Mile		
368	11646 NW Skyline Blvd., Portland, 97231	Fire Station
Stark St.	11536 NW Skyline Blvd., Portland, 97231	School
YeonVanceSite_1Mile		
Slavic Community Center of NW	17229 SE Division St., Portland, 97236	Community Center
31	1927 SE 174th Ave., Portland,	Fire Station
Ascension Early Childhood	1440 SE 182nd Ave., Portland, 97233	School
Centennial Park School	17630 SE Main St., Portland, 97233	School
Davis Elementary	19501 NE Davis St., Portland, 97230	School
Alder Elementary	17200 SE Alder St., Portland, 97233	School
Gresham Heights Learning Center	2300 NW Division St., Gresham, 97030	School
Mt. Hood Community College Head Start Yamhill	19309 SE Yamhill St., Gresham, 97030	School
KNOVA Learning School	740 SE 182nd Ave., Gresham, 97233	School
MESD Program at Davis Elementary	19501 NE Davis St., Gresham, 97230	School
Centennial Middle	17650 SE Brooklyn St., Gresham, 97236	School
Lynch Meadows Elementary	18009 SE Brooklyn St., Gresham, 97236	School
Lynch View Elementary	1546 SE 169th Pl., Gresham, 97233	School
Centennial School District 28J	18135 SE Brooklyn St., Gresham, 97236	School
Rosemary Anderson High -East Campus	2208 SE 182nd Ave., Gresham, 97233	School
Rockwood Community Health Center	2020 SE 182nd Ave., Gresham, 97233	Health Clinic
John B Yeon Facility - 425	1620 SE 190th Ave., Gresham, 97233	Red Cross Shelter
Rockwood Adventist Church	1910 182nd Ave., Rockwood, 97233	Red Cross Shelter
SecondaryETR_1000Feet		

Critical Facility	Address	Type
368	11646 NW Skyline Blvd., Portland	Fire Station
61	31727 E Historic Columbia River Hwy., Springdale	Fire Station
Tree of Knowledge	24457 SE Stark St., Gresham, 97030	School
Springdale Job Corps Center	31224 E Historic Columbia River Hwy., Troutdale, 97060	School
Skyline Elementary	11536 NW Skyline Blvd., Portland, 97231	School
Corbett Elementary	35800 E Historic Columbia River Hwy., Corbett, 97019	School
Stark Street Bridge		Bridge
Stark Street Viaduct		Bridge
Corbett Hill Viaduct		Bridge
Legacy Mount Hood	24800 SE Stark St., Gresham, 97030	Hospital
The Chapel	27132 SE Stark St., Troutdale, 97060	Red Cross Shelter

Figure A-1: Emergency Transportation Routes

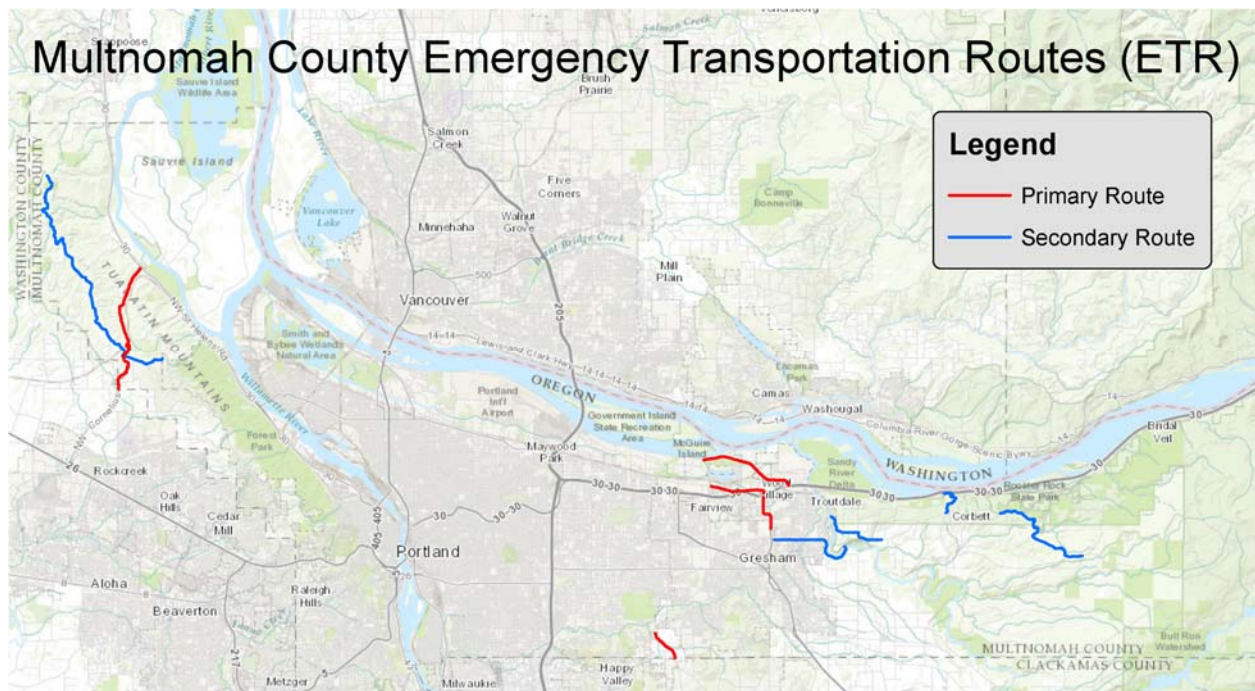
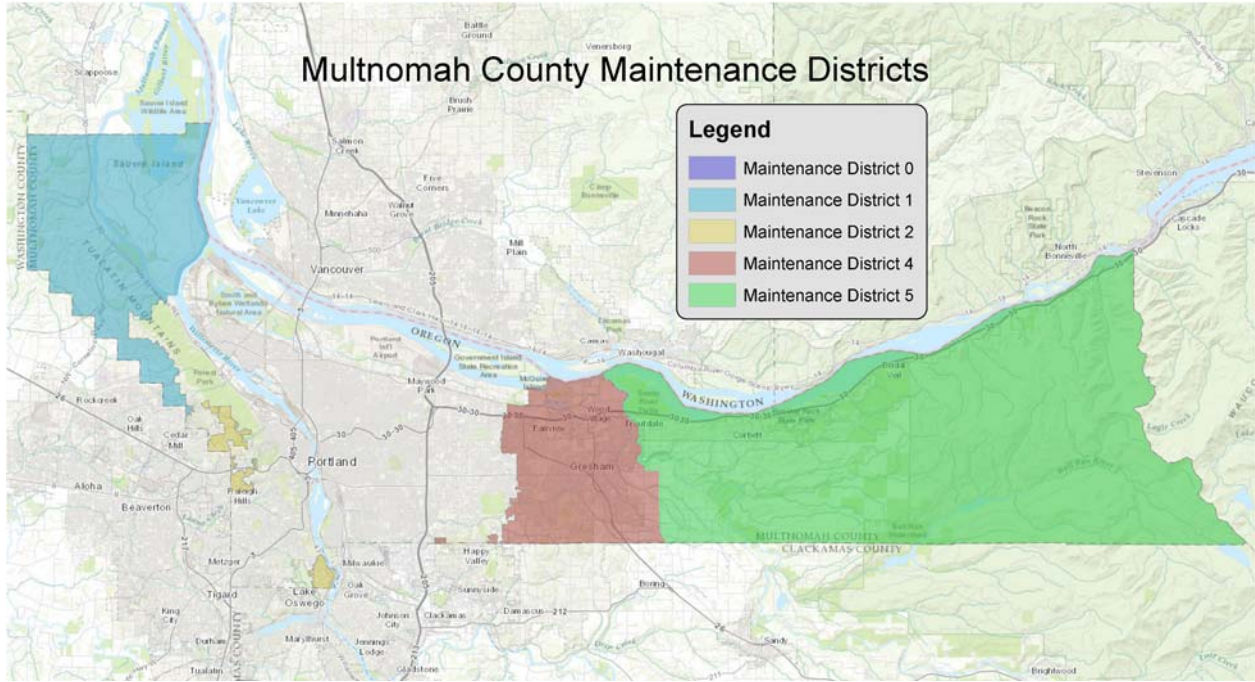


Figure A-2: Maintenance Districts



ATTACHMENT B SAMPLE PRESS RELEASES

For Immediate Release (Approximately 48-72 Hours Prior to Event)

Multnomah County, Oregon – The potential for **INSERT INCIDENT** is eminent for the Multnomah County and its residents. The County is prepared and has a plan in place to immediately respond following the incident. Once dangerous conditions subside and roads have been cleared of obstructions, residents should bring any debris to the public right-of-way for removal.

The public right-of-way is the area of residential property that extends from the street to the sidewalk, ditch, utility pole or easement. Residents should separate clean, vegetative debris (woody debris such as limbs and shrubbery) from C&D debris. Do not mix hazardous material, such as paint cans, aerosol sprays, batteries, or appliances with curbside debris; there will be special instructions forthcoming regarding disposal of household hazardous waste. Household garbage, tires, or roof shingles cannot be combined with any storm debris.

Do not place debris near water meter vault, fire hydrant or any other above-ground utility. Only debris placed on the public right-of-way will be eligible for collection until further notice.

If all debris is not picked up during the initial pass, residents should continue to push remaining debris to the public right-of-way for collection on subsequent passes. Residential debris drop-off locations may be available within the County. Check Multnomah County’s web site **INSERT WEB SITE** for the location of these sites and the hours of operation or call **INSERT NUMBER**. The Multnomah County website will also provide any other information necessary. All reconstruction debris (debris resulting from rebuilding) is the responsibility of the homeowner. Those items must be dropped off at the **INSERT LOCATION**.

Separating Your Debris
Debris should be placed curbside, without blocking the roadway or storm drains.

DEBRIS SEPARATION
Separate debris into the five categories shown below.

DON'T STACK OR LEAN
Placing debris near or on trees, poles, or other structures makes removal difficult. This includes fire hydrants and meters.

UNSURE WHERE TO PLACE DEBRIS?
If you don't have a sidewalk, ditch or utility line in front of your house, place debris at the edge of your property before the curb

DO NOT PLACE DEBRIS HERE (indicated by a red arrow pointing to the area above the curb)

PLACE DEBRIS HERE (indicated by a green arrow pointing to the area between the curb and the street)

HOUSEHOLD GARBAGE & BAGGED DEBRIS	VEGETATIVE DEBRIS	CONSTRUCTION AND DEMOLITION DEBRIS	APPLIANCES AND WHITE GOODS	ELECTRONICS
<p>NOTE: Normal household trash and bagged debris of any kind will not be picked up with debris as part of this program. You should continue to follow your normal garbage removal schedule.</p>	<ul style="list-style-type: none"> Leaves (do not put in bags) Logs Plants Tree branches 	<ul style="list-style-type: none"> Building materials Carpet Drywall Furniture Lumber Mattresses Plumbing 	<ul style="list-style-type: none"> Air conditioners Dishwashers Freezers Refrigerators Stoves Washers, dryers Water heaters 	<ul style="list-style-type: none"> Computers Radios Stereos Televisions Other devices with a cord

For more information contact your local government.

####

For Immediate Release (Approximately 0-72 Hours Following Event)

Multnomah County – Multnomah County is beginning its recovery process in the wake of **INSERT INCIDENT**. Multnomah County residents are asked to place any incident generated debris on the public right-of-way.

The public right-of-way is the area of residential property that extends from the street to the sidewalk, ditch, utility pole or easement. Keep vegetative debris (woody debris such as limbs and shrubbery) separated from construction and demolition debris, as they will be collected separately. Bagged debris should not be placed on the public right-of-way; only loose debris will be collected. Any household hazardous waste, roof shingles or tires resulting from **INSERT INCIDENT**, may be eligible for removal and should be separated at the curb.

Do not place near water meter vault, fire hydrant or any other above-ground utility. Only debris placed on the public right-of-way will be eligible for collection until further notice.

If all debris is not picked up during the initial pass, please continue to push remaining debris to the right-of-way for collection on subsequent passes. Household garbage collection will resume to its normal schedule on **INSERT DATE AND TIME**. Please check the Multnomah County Web site **INSERT WEB SITE** for additional information and updates on the debris removal process.

For more information, please call the Multnomah County debris hotline at **INSERT NUMBER**.

####

For Immediate Release (72 Hours Prior to Final Pass of Debris Removal)

Multnomah County. – Final preparations are being made for the third and potentially final pass for debris removal in the wake of **INSERT INCIDENT**.

Multnomah County residents should have all debris in front of their homes on the public right-of-way (the area of residential property that extends from the street to the sidewalk, ditch, utility pole or easement) no later than **INSERT DATE** to be eligible for pick-up.

Multnomah County will not be able to guarantee that debris placed on the public right-of-way after the specified deadline will be removed.

Residents should continue to separate vegetative debris (woody debris such as limbs and shrubbery) and construction and demolition debris. Do not place debris near water meter vault, fire hydrant or any other above-ground utility. Hazardous household chemicals such as paint cans and batteries may be deposited at the **INSERT LOCATION**.

You can follow the debris removal efforts in your neighborhood and the rest of the city by going to the Multnomah County Web site **INSERT WEB SITE**, or by calling **INSERT NUMBER**.

####

**ATTACHMENT C
FEMA 329 DEBRIS ESTIMATING GUIDE**



Debris Estimating Field Guide

FEMA 329 / September 2010



FEMA

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FEMA DEBRIS ESTIMATING FIELD GUIDE

INTRODUCTION

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, (Stafford Act), Public Law 93-288, as amended, 42 U.S.C. §5121, et seq., authorizes the Federal Emergency Management Agency (FEMA) Public Assistance (PA) Program to award Federal funding to State and local governments, Federally recognized Tribes, and certain eligible private non-profit organizations in order to assist them in their disaster response and recovery activities. Under the Stafford Act, FEMA provides PA program grant funding for debris clearance, removal, and monitoring efforts to eligible applicants following a Presidential emergency or disaster declaration.

Timely, accurate, and consistent estimates of debris quantities and types are an important aspect of FEMA debris operations. FEMA uses debris estimates obtained during Preliminary Damage Assessment (PDA) activities to provide part of the basis for its recommendation as to whether a disaster declaration should be approved. FEMA also uses PDA debris estimates to identify potential needs for Mission Assignments for Technical and Direct Federal Assistance to PA applicants.

The FEMA PA Debris Task Force Leader (DTFL) relies on PDA debris estimates to make informed decisions concerning staffing levels, required technical expertise, organizational

structure, and geographic distribution of the FEMA PA Debris Task Force. The DTFL also uses debris estimates to update senior FEMA management, the State, applicants, and the general public regarding the status of debris operations. Finally, the FEMA PA Debris Task Force relies heavily on accurate debris estimates to define eligible scopes of work during project formulation and Project Worksheet development for an applicant's debris-related activities.

Section 407(e) of the Stafford Act establishes deadlines for FEMA to provide funding for debris removal activities. The complete text of Section 407(e) is as follows:

(e) Expedited Payments –

(1) Grant Assistance – In making a grant under subsection (a)(2), the President shall provide not less than 50 percent of the President's initial estimate of the Federal share of assistance as an initial payment in accordance with paragraph (2).

(2) Date of Payment – Not later than 60 days after the date of the estimate described in paragraph (1) and not later than 90 days after the date on which the State or local government or owner or operator of a private nonprofit facility applies for assistance under this section, an initial payment described in paragraph (1) shall be paid.

FEMA Debris Technical Specialists must work closely with the State, Tribal governments, and applicants to achieve reasonable, consensus-based debris estimates.

This document is intended for use as a supplement to the Public Assistance Debris Management Guide (FEMA 325) to ensure that FEMA Debris Technical Specialists apply a consistent methodology to obtain accurate debris estimates in accordance with PA program eligibility criteria.

DEBRIS ESTIMATING CONSIDERATIONS

The DTFL should clearly define the accuracy and precision requirements for disaster debris estimates in the FEMA Debris Operations Strategy to achieve the desired results. A key consideration in defining estimate requirements is how the estimate will be used, e.g., if a debris estimate is only used for a PDA, the level of accuracy and precision required is less than that required to develop a Project Worksheet.

The formulas, assumptions, and conversions used by the FEMA Debris Task Force must be applicable to the circumstances of the disaster and be consistently applied.

FEMA Debris Technical Specialists should confirm with the DTFL which formulas, assumptions, and conversions should be used and remember to check all work for accurate math and units of measure. FEMA Debris Technical Specialists should document the basis of the debris estimate, including the methodology and equipment used, formulas, assumptions, and conversions to support decision making.

The equipment and resources required will depend on the type of estimating method used. Examples of possible equipment include cameras, measuring tapes, and GPS units. Examples of possible resources include the personnel required to develop the estimates, Geographic Information System (GIS) data, aerial photos, and debris modeling information.

DEBRIS ESTIMATING METHODS

There are several methods available to develop debris estimates. The DTFL should select the method based on the accuracy, precision, and schedule requirements of the operation, and by the availability of resources such as personnel and equipment.

- Ground measurements of debris can be taken to develop estimates, using visual observation and detailed data collection with equipment such as measuring tapes and GPS units
- Aerial and satellite photographs of areas taken before and after the disaster event may be used to estimate debris quantities and types, based on the structures, features, and debris observed in the photos
- Computer models, including those developed by the U.S. Army Corps of Engineers (USACE) and FEMA

The FEMA Debris Task Force may use a combination of estimating methods, if necessary, to meet the requirements of the operation.

GROUND MEASUREMENTS

The basic steps and considerations when completing debris estimates using ground measurements include:

1. Define the area covered by the debris estimate:
 - a. Divide the area, as needed, to differentiate differences in debris types and amounts, which may be influenced by items such as differences in land use (e.g., rural versus urban) within the area
 - b. Division of the area into sections should take into account how the applicant may have divided the area into sections, either for the purpose of developing debris estimates or for planning the execution of debris removal activities
2. Determine whether comprehensive debris measurements (e.g., street-by-street) or measurement of a representative sample is appropriate for the estimate requirements
3. Identify and obtain the personnel and equipment necessary to complete the estimate:
 - a. The number of personnel used depends on the area to be covered, ease of access to the area, schedule to complete the estimate, and availability of personnel resources
 - b. The equipment used for ground measurements commonly includes a digital camera, measuring tape or roll-off wheel, calculator, sketch pad and note

paper, maps, GPS unit, laser rangefinder, and equipment needed for logistics and safety (e.g., vehicle, cell phone, first aid kit)

4. Engage the State and applicant in the ground measurement process:
 - a. The applicant is generally a source of information used for the estimate, such as locations of public property and rights-of-way, and planned debris removal activities
 - b. Proactively engaging the State and applicant will also facilitate achieving earlier, consensus-based debris estimates.

Additional considerations regarding debris estimates based on ground measurements include:

- Ensure the measurements include all eligible debris
 - Eligible debris may include disaster-generated debris located in the yards or inside of residences that has not yet been placed on the right-of-way
 - Limbs hanging in trees that will likely be placed on rights-of-way should be included
 - Flood disasters may produce personal property debris (e.g., household furnishings, clothing) that may still be in residences at the time of the debris estimate

- The estimate should not include any ineligible debris (e.g., old tires, residential construction materials, and white goods awaiting disposal prior to the disaster event), but ineligible debris (estimated quantity and location) should be noted so that it can be properly addressed during project formulation
- Recognize that debris may undergo changes in volume during the handling process
 - Flood-deposited sediment may be naturally compacted in place, and the volume may increase when it is removed
 - Leafy vegetative debris located on public property and rights-of-way may experience a significant reduction in volume when it is mechanically loaded into trucks
- One acre of debris 10 feet high converts to 16,133 CY

$$\frac{43,560 \text{ SF} \times 10 \text{ FT}}{27} = 16,133 \text{ CY}$$

FEMA Debris Technical Specialists should approximate the volume of debris piles using cubes when conducting ground measurements, as opposed to using formulas to approximate the volumes of debris piles as cones or pyramids.

BUILDINGS AND RESIDENCES

General Building Formula

To estimate the amount of debris generated by a building, multiply the building length, width, and height in feet by a constant of 0.33 to account for the air space in the building, and divide the resulting number by 27 to convert from cubic feet to cubic yards:

$$\frac{\text{Length} \times \text{Width} \times \text{Height} \times 0.33}{27} = \text{CY}$$

Single Family Residence Formula

FEMA conducted an empirical study following Hurricane Floyd in North Carolina in 1999, and developed a formula for estimating debris associated with demolished single family residences:

$$\text{Length} \times \text{Width} \times \text{S} \times 0.20 \times \text{VCM} = \text{CY}$$

Length and Width must be in feet

S = number of stories in the building

0.20 = a constant based on the study data

VCM = a vegetative cover multiplier

The building square footage used in the formula is the total living space at and above ground level and includes attached garages.

If buildings or residences are completely destroyed, square footage can still be calculated by measuring the length and width of the foundation and inquiring about the number of stories that were present before the disaster.

Note: The two formulas above provide different results if applied to the same building because the general building formula was developed using a basic volume calculation and assumed air space, while the demolished single family home formula was developed using field data. The DTFL should select the formula for calculating debris volumes for buildings and residences based on which formula provides the most accurate debris estimate given the circumstances and data available from the particular disaster.

FEMA developed Vegetative Cover Multipliers (VCM) for use in combination with the formula for a demolished single family residence, to estimate the quantity of vegetative debris that should be added to the quantity of debris estimated for demolished homes within a subdivision or neighborhood:

Light (1.1 multiplier) includes new home developments where more ground is visible than trees and canopy cover is sparse

Medium (1.3 multiplier) generally has a uniform pattern of open space and tree canopy cover, and is the most common description for vegetative cover

Heavy (1.5 multiplier) is found in mature neighborhoods and woodlots where the ground or houses cannot be seen due to the tree canopy cover

The table on the opposite page is based on the application of the vegetative cover multipliers to the debris estimating formula for a demolished single-family, single-story home.

Table for Single Family, Single Story Homes

Typical House (Square Feet)	Vegetative Cover Multiplier			
	None	Light (1.1)	Medium (1.3)	Heavy (1.5)
1000 SF	200 CY	220 CY	260 CY	300 CY
1200 SF	240 CY	264 CY	312 CY	360 CY
1400 SF	280 CY	308 CY	364 CY	420 CY
1600 SF	320 CY	352 CY	416 CY	480 CY
1800 SF	360 CY	396 CY	468 CY	540 CY
2000 SF	400 CY	440 CY	520 CY	600 CY
2200 SF	440 CY	484 CY	572 CY	660 CY
2400 SF	480 CY	528 CY	624 CY	720 CY
2600 SF	520 CY	572 CY	676 CY	780 CY

For multiple-story residences, the debris generated by the demolished residence should be calculated using the total number of stories (as the formula dictates), however, the amount of vegetative debris calculated should be determined by applying the VCM to the amount of debris generated by just the first story square footage of the residence, i.e., the amount of debris calculated if S = 1.



The following numbers should be used to estimate the quantity of debris generated by a typical mobile home:

Typical single-wide mobile home:
290 CY

Typical double-wide mobile home:
415 CY

Because mobile homes have less air space due to their construction and layout, the numbers provided above are larger than those calculated using the general building formula.

Personal Property Placed on Public Rights-of-Way

FEMA and USACE have conducted empirical studies on the average amount of personal property brought to public rights-of-way from residences following flooding disasters:

Personal property for a slab on grade home:
25–30 CY

Personal property for a home with a basement:
45–50 CY

CONVERSION FACTORS

USACE has developed several conversion factors for converting between tons and cubic yards of debris that FEMA has determined are reasonable:

Construction and demolition debris:
1 ton = 2 CY

Mixed debris:
1 ton = 4 CY

Vegetative debris:
Hardwoods: 1 ton = 4 CY
Softwoods: 1 ton = 6 CY

Actual conversion values for a particular disaster may be very different; therefore, field tests coordinated with the State and applicant may be necessary to confirm an appropriate conversion factor.

AERIAL ESTIMATES

Applications where debris estimates based on aerial or satellite photography may be appropriate include:

- Rough estimates that must be developed quickly, such as for a PDA
- Validation or extrapolation of debris estimating information obtained through ground measurements or computer models



- Debris estimates for areas that are difficult to access
- Cases where it is difficult to gain a good perspective on debris quantities from the ground, e.g., estimating the size of very large debris piles at debris management sites

Basic steps involved in using aerial or satellite photographs to develop debris estimates include:

- Obtain aerial photos of all or a representative sample of the area
 - Recent aerial photos from both before and after the disaster may be useful
 - Sources of aerial photos could include the FEMA Planning Section, other Federal agencies (e.g., USACE), the State, applicants, and the press

To analyze an individual photo:

- Select an object of reference with known dimensions (e.g., vehicles, garage doors) to establish a dimensional scale
- Apply the dimensional scale to determine the size of objects in the photo, and apply the appropriate debris estimating formulas to estimate debris quantities

COMPUTER MODELS

There are a variety of computer models that have been developed for estimating debris. FEMA developed the HAZUS-MH software which includes models for estimating potential damages and losses (including debris generated) from floods, earthquakes, and hurricanes. Additional information can be found at (<http://www.fema.gov/plan/prevent/hazus/#1>). Additionally, USACE has developed and continues to refine a debris estimating model that focuses primarily, although not exclusively, on hurricanes. Additional information, including model output data, can be found at <http://www.enlink.usace.army.mil/>.

Debris estimates generated by models are based on items such as:

- Historic information on debris quantities generated by similar disaster events
- GIS data on topography, land use, and level of development
- Information on the disaster, such as the extent of flooding or Hurricane Category

- Formulas that mathematically combine the information to generate an estimate

FEMA continues to develop and refine its debris estimating tools and processes to enhance the timeliness, accuracy, consistency, and efficiency of debris estimates. FEMA Debris Technical Specialists should refer to the Debris Task Force Leader for guidance on the status and use of new tools such as handheld data collection tablets in the field.

SAFETY

YOU are responsible for your personal safety at all times.

Health/Safety Risks:

- Isolated and/or not readily accessible areas
- Heavy machinery, loud equipment, traffic
- Limited communication
- Extreme weather
- Large debris piles
- Waterborne, vector-borne, and blood-borne disease
- Rabid animals, infectious reptiles and plants
- Downed power lines and cables
- Gas leaks
- Natural and wildlife hazards
- Hazardous material

Any hazards posing an immediate threat to public health and safety should be reported to the appropriate authority immediately.

If you are faced with an emergency in the field:

- **Remove yourself from the situation**
- **Call 911 if appropriate**
- **Contact your direct supervisor immediately**

Field Safety Gear/Supplies:

- Appropriate clothing, footwear, and gloves
- Eye and ear protection
- Hardhat
- Respiratory protection
- Personal meds & Rx drugs
- Bottled water
- Maps and/or GPS device
- Cell phone
- Sunscreen, lip balm, insect repellent
- First aid kit

Proper FEMA identification should be visible at all times while on site.



Disaster recovery assistance is available without regard to race, color, national origin, sex, age, religion, disability, or economic status. Anyone who believes he/she has been discriminated against should contact the FEMA Helpline at 1-800-525-0321.

Report fraud, waste, and abuse to the Office of Inspector General on the Hotline at 1-800-323-8603.



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ATTACHMENT D DISASTER DEBRIS CONTRACT GUIDE

The Disaster Debris Contract Guide was designed to provide considerations and best practices when developing a debris removal services contract. Based on recent events and guidance from federal regulatory agencies, this guide lists provisions to include in a debris services contract. This guide was developed using guidance set forth under the *Uniform Administrative Requirements, Cost principles, and Audit Requirements for Federal Awards* - Title 2, Code of Federal Regulations (CFR) Section 200.317-.326 Procurement. Non-federal entities must comply with these regulations for contracts that will be federally assisted through grant funds.

The table below lists the contract provisions that should be reviewed because of recent changes in policy or lessons learned as a result of recent disasters. This is not a comprehensive list of all provisions that should be included in a debris removal services contract.

Table D.1: Disaster Removal Services Request for Proposal (RFP) and Contract Provisions

RFP/Contract Provision	Description and Sample Contract Language
<p>Conduct procurement transactions in a manner providing for “full and open competition.”</p>	<p>When conducting a procurement a non-federal entity must do so in a manner the prohibits the use of statutorily or administratively imposed geographic preferences in the evaluation of bids or proposals except where federal law expressly mandates or encourages geographic preference.</p> <p>Contractors that develop or draft specifications, requirements, statements of work, or invitations for bid or requests for proposals must be excluded from participating in those procurements.</p> <p>Invitations for Bids or Requests for proposal must be publicly advertised.</p> <p>Requests for proposals must list all evaluation factors and their relative importance and there must be a written method for conducting technical evaluations of the proposals and selection of the contractor.</p>
<p>Take all necessary affirmative steps to ensure that minority businesses, women’s business enterprises, and labor surplus area firms are used when possible.</p>	<p>Affirmative steps must include at least the following:</p> <ul style="list-style-type: none"> • Placing qualified small and minority businesses and women’s business enterprises on solicitation lists. • Assuring that small and minority businesses and women’s business enterprises are solicited whenever they are potential sources. • Dividing total tasks, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women’s business enterprises. • Establishing delivery schedules, where the requirement permits, which encourages participation by small and minority businesses and women’s business enterprises. • Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business

RFP/Contract Provision	Description and Sample Contract Language
	<p>Development Agency of the Department of Commerce.</p> <ul style="list-style-type: none"> Requiring the prime contractor, if subcontracts are to be let, to take the five previous affirmative steps.
<p>Payment provisions must be based on unit prices (volume or weight).</p>	<p>When pre-qualifying contractors, bidders should demonstrate that their payment provisions will be based on unit pricing. Actual rates should be provided at the time of the disaster to ensure competitive bidding and to obtain reasonable market prices at the time work is performed.</p>
<p>Payments based on time and materials are limited to work performed during the first 70 hours of actual work following a disaster.</p>	<p>FEMA will typically only reimburse for a time and materials contract for eligible debris clearance during the first 70 hours following a declared disaster.</p> <p>After 70 hours of work, the jurisdiction should have sufficient information on the scope of work necessary to complete debris collection and disposal and a basis for estimating a reasonable cost for the contract work to effectively solicit a lump sum or unit price contract.</p> <p>For some types of debris work, time and materials contracts may be the most cost-effective and best suited to the type of work.</p> <p>Jurisdictions should work closely with the state and FEMA when awarding such contracts to ensure eligibility requirements are met.</p>
<p>Include a provision that payment will be made only for debris that FEMA determines eligible.</p>	<p>Sample contract language</p> <ul style="list-style-type: none"> In the event any portion of this scope of work is to be funded by state or federal funds, the Contractor will comply with all requirements of the state or federal government applicable to the use of the funds. The End User will only pay for those items deemed eligible by the federal funding agency, unless the End User otherwise agrees in writing.
<p>Contractors must submit invoices regularly and for no more than 30-day periods.</p>	<p>Confirm state and local procurement policies for additional payment terms and conditions.</p> <p>Sample contract language:</p> <ul style="list-style-type: none"> Invoices shall be submitted to the End User or authorized representative on a bi-weekly basis. All invoices must be submitted with a hard copy and electronic copy (Microsoft Excel format) of the invoice detail. The invoice detail must consist of a tabular report listing all ticket information required by the End User. Invoice detail submittals will be checked against End User records. End User records are the basis of all payment approvals. Only one hundred percent (100%) accurate and complete invoices shall be approved for payment. Contractor must submit a final invoice within thirty (30) days of completion of scope of work. Completion of scope of work will be acknowledged, in writing, by the End User. The final invoice must be marked "FINAL INVOICE" and no additional

RFP/Contract Provision	Description and Sample Contract Language
	payments will be made after the Contractor's final invoice.
<p>Include provisions for accurate backup documentation for costs in a preferable format. This includes separation of debris documentation by debris type or project type.</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> The End User, or an authorized representative, will monitor, verify, and document with load tickets or unit rate tickets the completion of all work, as defined in the scope of work. The Contractor will be provided copies of this documentation. These documents will be used by the Contractor as backup data for invoice submittals. Work not ticketed or not authorized by the End User will not be approved for payment. Additionally, any ticket submitted for payment must be properly completed. Tickets missing loading address, truck number, certified capacity, collection monitor signature, disposal site, load call or disposal monitor signature will not be paid, nor will the End User be responsible for unpaid incomplete tickets. The End User reserves the right to request that private property debris removal operations will be invoiced separately from right-of-way collection removal operations. The End User reserves the right to request additional invoice separation by debris type (C&D, vegetative debris, household hazardous waste, etc.), program (right-of-way collection, private property debris removal, etc.) and/or Applicant(s) (entities located within the jurisdiction).
<p>Include provisions for retainage. Terms should specify that unpaid costs of damage caused by the Contractor will be deducted from the retainage. Final payment of retainage will be provided when the Contractor provides written documentation that the project is complete.</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> A ten percent (10%) retainage will be withheld from each reconciled invoice until the end of the project. In order to recover the retainage, the Contractor must successfully complete and receive a letter of completion from the End User for all work zones. Retainage will be held until final reconciliation is complete. Portions of the retainage may be held by the End User to repair damage caused by the Contractor to public or private property.
<p>Include a provision that specifies the Contractor is responsible for payment to the Subcontractor(s).</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> The Contractor is responsible for payment to all subcontractors utilized for the services rendered within this scope of work. The Contractor shall execute release waivers with all subcontractors to release the End User from payment to subcontractors directly. The release waivers for all subcontractors shall be provided to the End User prior to final retainage release.
<p>Include a provision that no separate payment will be made for mobilization and demobilization.</p>	<ul style="list-style-type: none"> Sample contract language: No separate payment will be made for mobilization and demobilization operations. These costs are to be included in the respective unit prices bid for debris removal and will not be adjusted based on the total

RFP/Contract Provision	Description and Sample Contract Language
	<p>amount of debris actually removed in the contract.</p>
<p>Include provisions that the Contractor will use a final disposal site location that is approved by the jurisdiction. This is to prevent unnecessary use of disposal sites that are farther away from the jurisdiction. Provisions should also include that the Contractor will be reimbursed for fees from the approved disposal site and the jurisdiction will retain any recycling revenues from recycled debris.</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> • Payment for disposal cost incurred by the Contractor at End User's designated final disposal facility will be made at the cost incurred by the Contractor. The Contractor must submit a copy of all applicable disposal site permits, a copy of the invoice(s) received by the End User's designated final disposal facility, an electronic copy tabulating all scale or load tickets issued by the End User's designated final disposal facility, and proof of Contractor payment to the End User's designated final disposal facility.
<p>Include provisions for records retention. The jurisdiction is required to retain records regarding grant funds for seventy-five months (six years and three months) from the date of the final reimbursement. These records may come into question during the audit and final closeout process.</p> <p>The jurisdiction should keep its own records for seven years and require contractors to keep their records for the same length of time to ensure contingencies are in place if records are lost or damaged.</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> • The Contractor will retain all records pertaining to the services and the contract for these services and make them available to the End User for a period of seven (7) years following receipt of final payment for the services referenced herein.
<p>Include a termination for convenience clause allowing contract termination at any time for any reason.</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> • Failure on the part of the Contractor to comply with any portion of the duties and obligations under the Contract Agreement shall be cause for termination. If the Contractor fails to perform any aspect of the responsibilities described herein, the End User shall provide written notification stating any and all items of non-compliance. The Contractor shall then have fourteen (14) consecutive calendar days to correct any and all items of non-compliance. If the items of non-compliance are not corrected or acceptable corrective action as approved by the End User has not been taken within the fourteen (14) consecutive calendar days, the Contract Agreement may be terminated by the End User for cause, upon giving fourteen (14) consecutive calendar days written notice to the Contractor. • In addition to the above, the End User may terminate the Contract Agreement at any time, without cause, upon thirty (30) days written notice to the Contractor of intention to do so.
<p>Include a provision that the use of contractors and subcontractors on the federal debarment list is prohibited.</p> <p>Also include a provision to require a Subcontractor plan including:</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> • The use of any Contractor that has been declared debarred by the Office of Federal Contract Compliance Programs (OFCCP) is prohibited. Further, the use of Subcontractor(s) that has been declared debarred by OFCCP is prohibited. A

RFP/Contract Provision	Description and Sample Contract Language
<ul style="list-style-type: none"> • A clear description of the percentage of the work the Contractor may subcontract out • A list of subcontractors the contract plans to use 	<p>complete list of federally disbarred contractors can be found at www.sam.gov. It is the sole responsibility of the Contractor to ensure that Subcontractor(s) are in good standing with the OFCCP and not on the disbarment list.</p> <p>The jurisdiction is responsible for conducting due diligence by ensuring that contractors and subcontractors are not federally debarred.</p> <ul style="list-style-type: none"> • Go to the SAM Database at https://www.sam.gov/portal/public/SAM/. • Under the Search Records tab, enter a DUNS number, CAGE code or Business Name to search for the Contractor. • Note any exclusions listed for the Contractor that may prohibit federal assistance for debris services. • Print the screen with the results and file in records.
<p>Include a provision that the Contractor use mechanical equipment to load and reasonably compact debris into trucks and trailers.</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> • All debris will be mechanically loaded. Hauling vehicles that are hand loaded or that require mechanical assistance for dumping, except self-loading vehicles, will not be permitted to dump at debris management site(s) unless approved in advance by the End User.
<p>Include a provision that the Contractor provide a safe working environment compliant with all applicable local, state, and federal requirements.</p>	<p>Contractors should provide a description of their health and safety plan, including a detailed safety plan for debris management sites. This should be included in their bid proposal.</p>
<p>Include a provision that all contract amendments and modifications will be provided in writing.</p>	<p>Sample contract language:</p> <ul style="list-style-type: none"> • No verbal interpretation or responses will be considered as official.
<p>Include a provision that all contractors must obtain adequate payment and performance bonds and insurance.</p>	<p>The jurisdiction's procurement office should have standard language for performance bonds and insurance requirements.</p>
<p>Include a provision to provide a mobilization plan that includes the following:</p> <ul style="list-style-type: none"> • Preparation activities at 72, 48, and 24 hours prior to a known impact • Timeframe of when management staff and assets will mobilize to the impacted area • Tasks to identify primary areas of concern within the impacted area • Detail of project initiation activities including truck certification and measurement procedures • Mobilization plan for an incident without warning 	<p>Mobilization requirements in the contract language should be flexible so that the Contractor's mobilization plan can be scalable depending on the requirements of the incident.</p> <p>The Contractor should coordinate with the jurisdiction to identify priority areas for clearance and develop a plan to clear those areas first.</p>
<p>Review existing recovery contracts to ensure the jurisdiction can maximize the benefits of the alternative</p>	<p>As a result of the Hurricane Sandy Recovery Improvement Act of 2013, Alternative procedures to the</p>

RFP/Contract Provision	Description and Sample Contract Language
<p>procedures in the Sandy Recovery Improvement Act of 2013.</p> <p>Ensure contracts include provisions for the following:</p> <ul style="list-style-type: none"> • Time limit on the period of performance for the work to be completed especially if the jurisdiction might use the sliding scale alternative procedure. • Provisions for recycling and final disposal so that the jurisdiction will retain any revenue from recycled debris. 	<p>current FEMA PA Program have been established to streamline reimbursement and allow for more flexibility within the program. Jurisdictions may opt to manage their debris projects using traditional program guidance or opt to use the alternative procedures. The alternative procedures for debris removal work include the following:</p> <ul style="list-style-type: none"> • Permits debris removal grants to be based on fixed estimates, with applicants accepting responsibility for any actual costs above the estimate. This will significantly accelerate the distribution of grant funds and significantly reduce administrative costs associated with grants based on actual costs. • Permits applicants to retain income from debris recycling without an offset from their grant. • Allows the use of a sliding scale for applicants' debris removal cost share to incentivize faster and more cost-efficient debris removal. • Permits the establishment of financial incentives for a FEMA-approved pre-DDMP and at least one pre-qualified debris Contractor. • Allows applicants to use excess funds for activities to improve future debris removal operations. • Permits the reimbursement of straight time force account labor costs for applicants' employees performing debris removal work.

ATTACHMENT E DISASTER DEBRIS CONTRACT CHECKLIST

The Disaster Debris Contract Checklist was designed to guide jurisdictions in contracting disaster debris services. The checklist provides a systematic process to procuring disaster debris services that complies with current federal standards and best practices. The checklist includes the steps to solicit bids, review proposals, and select an appropriate contractor. The checklist was developed using guidance set forth by the Federal Emergency Management Agency (FEMA) and the provisions of Title 2, Code of Federal Regulations (CFR) Section 200.317-.326 Procurement Standards. The checklist is intended to serve as a guide and should be utilized in conjunction with the jurisdiction's current procurement policies.

Table E.1: Disaster Debris Contract Checklist

Task	Responsibility	Completion Date
Pre-Disaster Tasks		
Pre-qualify disaster debris services contractors prior to an incident. Pre-qualifying contractors means identifying contractors that have demonstrated the capability to meet minimum requirements with the understanding that pricing will be provided at the time of the disaster.		
Consider using a process or program to pre-qualify contractors: <ul style="list-style-type: none"> • H-GAC Disaster Debris Services Procurement Program • U.S. General Service Administration Disaster Purchasing Program 		
Solicit a Request for Qualifications for disaster debris services (see Debris Contract Guide for specific contract provisions).		
The solicitation for pre-qualified contractors should include: <ul style="list-style-type: none"> • Adequately defined scope of work • All potential debris types • Anticipated haul distances • Potential size of debris events 		
Qualify bidders by requesting documentation of the following: <ul style="list-style-type: none"> • Licenses • Financial stability • Proof of insurance • Bonding capability • Description of related experience and capabilities including total verified CYs removed and processed • References including jurisdiction name, point of contact, email address and phone number • Description of health and safety plan including operation plan at debris management site(s). 		

Task	Responsibility	Completion Date
Solicit bid prices from pre-qualified contractors once the incident has occurred. This will help to ensure competitive bidding and to obtain reasonable market prices at the time of work performed.		
<p>Contractors that have been declared debarred by the Office of Federal Contract Compliance Programs (OFCCP) <u>should not be considered</u>. A complete list of federally disbarred contractors can be found in the System for Award Management (SAM) dataset at www.sam.gov.</p> <p>Check the status of pre-qualified contractors in the SAM database <u>at the time of the disaster</u>.</p> <ul style="list-style-type: none"> • Go to the SAM Database at https://www.sam.gov/portal/public/SAM/. • Under the Search Records tab, enter a DUNS number, CAGE code or Business Name to search for the contractor you are interested in pre-qualifying. • Note any exclusions listed for the contractor that may prohibit federal assistance for debris services. • Print the screen with the results and file in records. 		
Ensure compliance with the jurisdiction's procurement procedures.		
Ensure compliance with applicable state and local procurement laws and regulations.		
Ensure compliance with federal procurement laws and standards identified in 44 CFR §13.36.		
Ensure competition.		
Provide a clear and definitive scope of work.		
<p>Develop a cost analysis to demonstrate cost reasonableness <u>for any contract or contract modification where price competition is lacking</u>.</p> <ul style="list-style-type: none"> • Complete a cost analysis. • File documentation supporting the cost analysis with all associated contract documents. 		
Ensure opportunities for local, minority, women-owned, and labor surplus area businesses and firms whenever possible.		
Document the process and rationale the jurisdiction followed in making procurement decisions.		
The jurisdiction's legal counsel should conduct a review of the procurement process and any potential contracts to be		

Task	Responsibility	Completion Date
awarded to ensure compliance with all federal, state, and local requirements.		
Establish procedures to address protests and disputes related to contract awards.		
Compile all documentation related to the procurement and file in a secure location that can be accessed for future review.		

ATTACHMENT F FEMA FORCE ACCOUNT EQUIPMENT AND LABOR SUMMARY RECORDS

DEPARTMENT OF HOMELAND SECURITY FEDERAL EMERGENCY MANAGEMENT AGENCY FORCE ACCOUNT LABOR SUMMARY RECORD				PAGE _____ OF _____		O.M.B. No. 1660-0017 Expires December 31, 2011							
APPLICANT		PA ID NO.	PROJECT NO.		DISASTER								
LOCATION/SITE			CATEGORY		PERIOD COVERING								
DESCRIPTION OF WORK PERFORMED													
NAME		DATES AND HOURS WORKED EACH WEEK				COSTS							
JOB TITLE		DATE											
NAME		REG.											
JOB TITLE		O.T.											
NAME		REG.											
JOB TITLE		O.T.											
NAME		REG.											
JOB TITLE		O.T.											
NAME		REG.											
JOB TITLE		O.T.											
TOTAL COSTS FOR FORCE ACCOUNT LABOR REGULAR TIME											_____	\$	
TOTAL COST FOR FORCE ACCOUNT LABOR OVERTIME											_____	\$	
I CERTIFY THAT THE INFORMATION ABOVE WAS OBTAINED FROM PAYROLL RECORDS, INVOICES, OR OTHER DOCUMENTS THAT ARE AVAILABLE FOR AUDIT.													
CERTIFIED				TITLE				DATE					

FEMA Form 90-123, FEB 09

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 30 minutes per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC, 20472, Paperwork Reduction Project (1660-0017). Submission of the form is required to obtain or retain benefits under the Public Assistance Program. **Please do not send your completed form to the above address.**

DEPARTMENT OF HOMELAND SECURITY
 FEDERAL EMERGENCY MANAGEMENT AGENCY
FORCE ACCOUNT EQUIPMENT SUMMARY RECORD

PAGE ____ OF ____

O.M.B. No. 1660-0017
 Expires October 31, 2008

APPLICANT	PA ID NO.	PROJECT NO.	DISASTER
LOCATION/SITE	CATEGORY		PERIOD COVERING

DESCRIPTION OF WORK PERFORMED

TYPE OF EQUIPMENT		OPERATOR'S NAME	DATES AND HOURS USED EACH DAY							COSTS		
INDICATE SIZE, CAPACITY, HORSEPOWER, MAKE AND MODEL AS APPROPRIATE	EQUIPMENT CODE NUMBER		DATE							TOTAL HOURS	EQUIPMENT RATE	TOTAL COST
			HOURS									
			HOURS									
			HOURS									
			HOURS									
			HOURS									
			HOURS									
			HOURS									
			HOURS									
GRAND TOTAL												

I CERTIFY THAT THE ABOVE INFORMATION WAS OBTAINED FROM PAYROL RECORDS, INVOICES, OR OTHER DOCUMENTS THAT ARE AVAILABLE FOR AUDIT.

CERTIFIED	TITLE	DATE
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PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 15 minutes per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC, 20472, Paperwork Reduction Project (1660-0017). **Please do not send your completed form to the above address.**

ATTACHMENT G TEMPORARY DEBRIS MANAGEMENT SITE ASSESSMENT FORM

Investigation of Property Suitability

TEMPORARY DEBRIS MANAGEMENT SITE (TDMS)

DATE OF SITE INVESTIGATION:

OWNERSHIP OF PROPERTY (CHECK ONE): Municipal Property County Property Private Property

Other Ownership (describe)

PROPERTY NAME:

PROPERTY OWNER'S NAME:

PROPERTY OWNER'S ADDRESS:

PROPERTY OWNER'S PHONE NUMBER:

PROPERTY OWNER'S EMAIL ADDRESS:

ESTIMATED PROPERTY SIZE:

SITE GPS COORDINATES:

PHYSICAL ADDRESS:

CHARACTERIZATION OF NEIGHBORING PROPERTIES	
EVALUATION FACTOR	COMMENTS
Property current land use	
Any proposed future land uses	
Environmental issues	
Proximity to schools, churches, community centers	
Property topography	
Open water sources	
Ground water wells	
Access to electricity/sewer/water	
Soil integrity	
Surface water drainage	
Prevailing wind direction	
Ingress/egress	
Lighted area	
Site security	
Buffer distance for noise control	
Property developed	
Property adjacent to airport/airfield	
Site able to handle large volume of trucks	

SITE PREPARATION: High _____ Medium _____ Low _____

SUITABILITY TO WET WEATHER: High _____ Medium _____ Low _____

ABILITY TO SERVE A SPATIAL AREA: High _____ Medium _____ Low _____

SITE ACCEPTABILITY FOR WHAT TYPE OF REDUCTION METHOD (CHECK APPLICABLE METHOD(S)):

Open Burning _____

Air Curtain Incineration _____

Grinding _____

**Note – likely use as a citizen drop-off site, no reduction on-site*

WILL THIS SITE BE RECOMMENDED FOR USE (YES/NO) AND EXPLAIN:

_____ C&D

_____ Vegetative

_____ Both C&D and Vegetative

_____ White Goods

_____ Other (Describe _____)

LIST NUMBERS OF EACH PHOTOGRAPH TAKEN OF THE PROPERTY:

LIST THE CLOSEST LANDFILL AND APPROXIMATE DISTANCE FROM SITE:

NOTES:

Attach photos of the site.

Investigation of Property Suitability

DEBRIS MANAGEMENT SITE (DMS)

DATE OF SITE INVESTIGATION: June 21, 2016

OWNERSHIP OF PROPERTY (CHECK ONE): Municipal Property County Property Private Property

Other Ownership (describe) _____

PROPERTY NAME: Gradin Community Sports Park _____

PROPERTY OWNER'S NAME: City of Gresham _____

PROPERTY OWNER'S ADDRESS: 1333 NW Eastman Parkway, Gresham, OR 97030 _____

PROPERTY OWNER'S PHONE NUMBER: 503-661-3000 _____

ESTIMATED PROPERTY SIZE: 28 ACRES SITE GPS COORDINATES: N 45.486900 W -122.408139

PHYSICAL ADDRESS: 2545 Southeast Palmquist Road, Gresham, OR 97080 _____

CHARACTERIZATION OF NEIGHBORING PROPERTIES	
EVALUATION FACTOR	COMMENTS
Property Current Land Use	Sports Park includes baseball and soccer fields
Any proposed future land uses	N/A
Environmental issues	No
Proximity to Schools, Churches, Community Centers	Yes – Springwater trail high School and Hogan cedars Elementary are across Palmquist Road
Property topography	Flat, cleared – other than removal of some sports equipment (fencing, nets) very little site prep required
Open water sources	No
Ground water wells	No
Access to electricity/sewer/water	Yes
Soil integrity	Good
Surface water drainage	Good
Prevailing wind direction	West
Ingress/Egress	Yes
Lighted area	Not currently – city plans to add lights
Site security	Not currently
Buffer Distance for Noise Control	No, in the middle of residential neighborhood
Property Developed	Yes, as park land – no permanent structures, some limited paved parking lot
Property Adjacent to Airport/Airfield	No
Site able to handle large volume of trucks	Yes

SITE PREPARATION: High _____ Medium _____ Low X _____

SUITABILITY TO WET WEATHER: High X _____ Medium _____ Low _____

ABILITY TO SERVE A SPATIAL AREA: High X _____ Medium _____ Low _____

SITE ACCEPTABILITY FOR WHAT TYPE OF REDUCTION METHOD (CHECK APPLICABLE METHOD(S)):

Open Burning _____

Air Curtain Incineration _____

Grinding _____

WILL THIS SITE BE RECOMMENDED FOR USE (YES/NO) AND EXPLAIN:

_____ C&D

Vegetative

_____ Both C&D and Vegetative

_____ White Goods

_____ Other (Describe _____)





Investigation of Property Suitability

DEBRIS MANAGEMENT SITE (DMS)

DATE OF SITE INVESTIGATION: June 21, 2016

OWNERSHIP OF PROPERTY (CHECK ONE): Municipal Property County Property Private Property

Other Ownership (describe) _____

PROPERTY NAME: Skyline Site _____

PROPERTY OWNER'S NAME: Multnomah County _____

PROPERTY OWNER'S ADDRESS: 401 N Dixon Street, Portland, OR 97227 _____

PROPERTY OWNER'S PHONE NUMBER: 503-988-3322 _____

ESTIMATED PROPERTY SIZE: 7.7 ACRES SITE GPS COORDINATES: N 45.601593 W -122.846258

PHYSICAL ADDRESS: 10814 NW Quarry Road, Portland, OR 97231 _____

CHARACTERIZATION OF NEIGHBORING PROPERTIES	
EVALUATION FACTOR	COMMENTS
Property Current Land Use	County Maintenance Yard
Any proposed future land uses	N/A
Environmental issues	No
Proximity to Schools, Churches, Community Centers	No
Property topography	Mostly flat, some grading may be necessary
Open water sources	No
Ground water wells	No
Access to electricity/sewer/water	Yes
Soil integrity	Good
Surface water drainage	Good
Prevailing wind direction	West
Ingress/Egress	Yes, but small two lane road in – site could easily back up
Lighted area	No
Site security	Yes – currently fenced with gate
Buffer Distance for Noise Control	Yes
Property Developed	No
Property Adjacent to Airport/Airfield	No
Site able to handle large volume of trucks	Moderate

SITE PREPARATION: High _____ Medium X Low _____

SUITABILITY TO WET WEATHER: High X Medium _____ Low _____

ABILITY TO SERVE A SPATIAL AREA: High _____ Medium _____ Low X

SITE ACCEPTABILITY FOR WHAT TYPE OF REDUCTION METHOD (CHECK APPLICABLE METHOD(S)):

Open Burning _____

Air Curtain Incineration _____

Grinding _____

WILL THIS SITE BE RECOMMENDED FOR USE (YES/NO) AND EXPLAIN:

C&D

Vegetative

Both C&D and Vegetative

White Goods

Other (e-waste, etc.)





Investigation of Property Suitability

DEBRIS MANAGEMENT SITE (DMS)

DATE OF SITE INVESTIGATION: June 21, 2016

OWNERSHIP OF PROPERTY (CHECK ONE): Municipal Property County Property Private Property

Other Ownership (describe) _____

PROPERTY NAME: Yeon Vance Site _____

PROPERTY OWNER'S NAME: Multnomah County _____

PROPERTY OWNER'S ADDRESS: 401 N Dixon Street, Portland, OR 97227 _____

PROPERTY OWNER'S PHONE NUMBER: 503-988-3322 _____

ESTIMATED PROPERTY SIZE: 25 ACRES SITE GPS COORDINATES: N 45.511672 W -122.468366

PHYSICAL ADDRESS: 1512-1544 SE 190th Avenue, Portland, OR 97233 _____

CHARACTERIZATION OF NEIGHBORING PROPERTIES	
EVALUATION FACTOR	COMMENTS
Property Current Land Use	N/A
Any proposed future land uses	N/A
Environmental issues	No
Proximity to Schools, Churches, Community Centers	No, property borders Vance Park and some residential, but plenty of space to provide buffer area
Property topography	Some areas flat and cleared, but in order to use the majority of the property grading and land clearing would be necessary
Open water sources	No
Ground water wells	No
Access to electricity/sewer/water	No
Soil integrity	Good
Surface water drainage	Good
Prevailing wind direction	West
Ingress/Egress	Yes, currently one entrance/exit, but space to create additional access points
Lighted area	No
Site security	Yes – currently fenced with gate
Buffer Distance for Noise Control	Yes
Property Developed	No
Property Adjacent to Airport/Airfield	No
Site able to handle large volume of trucks	Yes

SITE PREPARATION: High X Medium _____ Low _____

SUITABILITY TO WET WEATHER: High X Medium _____ Low _____

ABILITY TO SERVE A SPATIAL AREA: High X Medium _____ Low _____

SITE ACCEPTABILITY FOR WHAT TYPE OF REDUCTION METHOD (CHECK APPLICABLE METHOD(S)):

Open Burning _____

Air Curtain Incineration _____

Grinding _____

WILL THIS SITE BE RECOMMENDED FOR USE (YES/NO) AND EXPLAIN:

C&D

Vegetative

Both C&D and Vegetative

White Goods

Other (e-waste, soil, sand, rock, etc.)





Figure G-1: Temporary Debris Sites

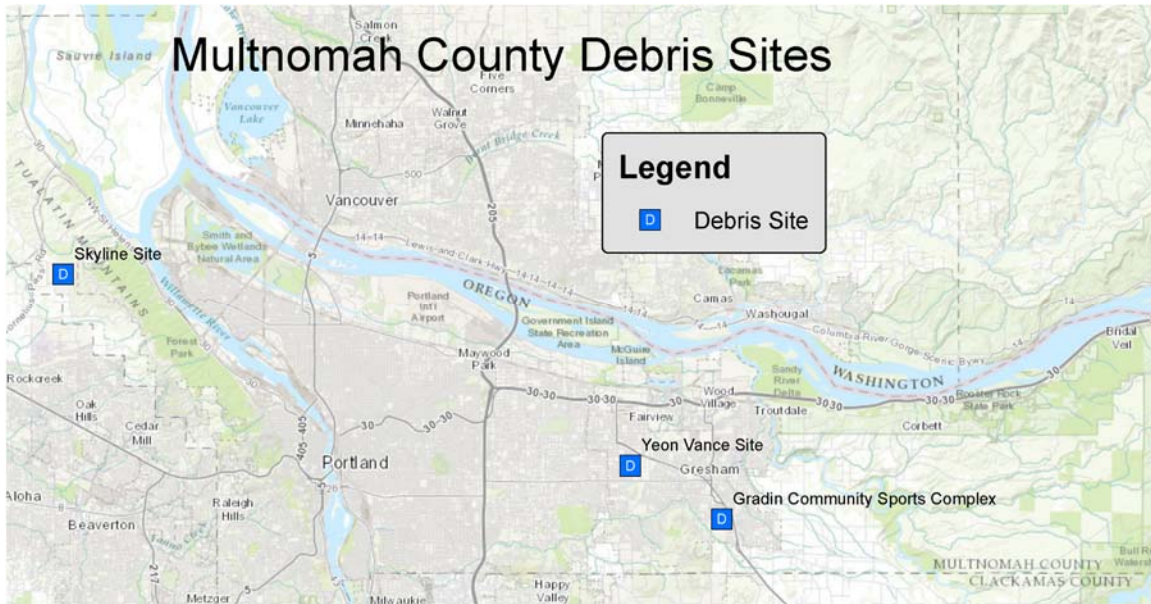
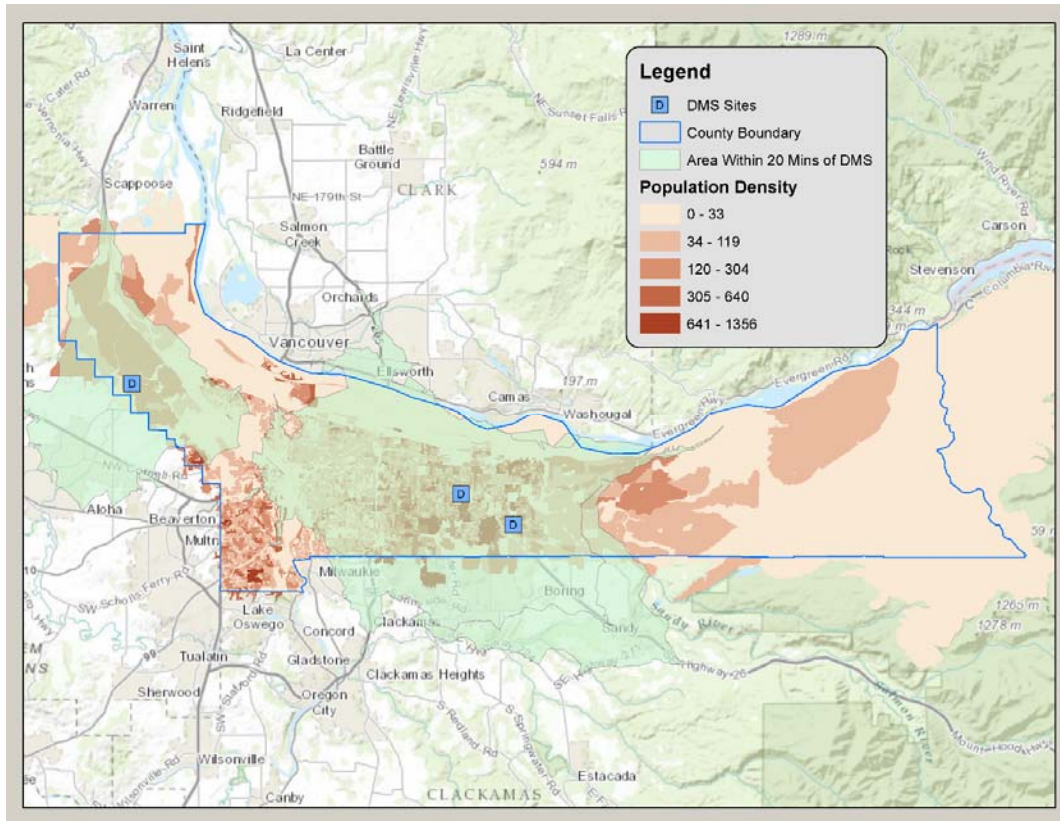


Figure G-2: Population Density Relative to Temporary DMS



ATTACHMENT H FEDERAL POLICIES AND GUIDANCE FOR DEBRIS OPERATIONS

Table H.1: Federal Policies and Guidance Documents for Debris Operations

Authority/ Agency	Document	Description	Link
United States Congress	2 CFR Chapter I, Chapter II, Part 200, et al. Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards; Final Rule	2 CFR Part 200 is an Office of Management and Budget (OMB) reform of regulations that apply to federal financial assistance, streamlining the language from eight existing OMB circulars into one consolidated set of guidance in the CFR. In the past, each federal agency published its own administrative grant regulations in different volumes of the CFR. 2 CFR Part 200 provides guidance on the administrative aspects of federal grants (e.g., how grants are awarded, managed, audited, and closed out). Administrative requirements associated with federal grants will be affected by the Super Circular.	http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title02/2cfr200_main_02.tpl
FEMA	FEMA's Implementation of 2 CFR Part 200, the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards ("Super Circular" or "Omni Circular")	Provides guidance and information regarding FEMA's implementation of Title 2, Part 200 of the CFR and provides a high-level summary of some of the substantive changes that will impact all non-federal entities that receive awards or subawards under the above listed programs.	https://www.fema.gov/media-library/assets/documents/101236
United States Congress	Moving Ahead for Progress in the 21st Century Act (MAP-21) P.L. 112-141	MAP-21 was signed into law on July 6, 2012 by President Obama. MAP-21 creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. MAP-21 required revisions to the FHWA Emergency Relief (ER) Program. The ER program assists federal, state, and local governments with the expense of repairing serious damage to federal aid and federal lands highways resulting from natural disasters or catastrophic failures. Unlike other highway programs, ER is funded by a permanent authorization of \$100 million per year. MAP-21 continues the ER program, with some changes in requirements: <ul style="list-style-type: none"> State must apply and provide a complete list of project sites and costs within two years of 	https://www.fhwa.dot.gov/map21/

Authority/ Agency	Document	Description	Link
		<p>the event; cost may not exceed the cost to repair or reconstruct a comparable facility.</p> <ul style="list-style-type: none"> For emergency repairs, a 100 percent federal share is allowed during the first 180 days following a disaster. MAP-21 allows the Secretary to extend the time period if access to damaged areas is limited. Debris removal for major disasters declared under the Stafford Act will be funded by FEMA. Maintenance and operation of additional ferryboats or transit is eligible as a temporary substitute service. 	
United States Congress	Robert T Stafford Disaster Relief and Emergency Assistance Act as amended April 2013	<p>The Stafford Act constitutes the statutory authority for most federal disaster response activities especially as they pertain to the Federal Emergency Management Agency (FEMA) and FEMA programs.</p> <p>This is the governing document for federal disaster assistance and is applicable throughout the recovery process. The Stafford Act was recently amended by the Sandy Recovery Improvement Act of 2013.</p>	http://www.fema.gov/robert-t-stafford-disaster-relief-and-emergency-assistance-act-public-law-93-288-amended
United States Congress	Sandy Recovery Improvement Act	<p>The President signed the Sandy Recovery Improvement Act into law in January 2013 to improve and streamline disaster assistance for Hurricane Sandy and for other purposes. As a result of this act, the Robert T Stafford Disaster Relief and Emergency Assistance Act was amended including alternative procedures for the FEMA PA Program.</p> <p>The law authorizes several significant changes to the way FEMA may deliver disaster assistance under a variety of programs. The purpose of the Sandy Recovery Improvement Act is to:</p> <ul style="list-style-type: none"> Reduce the cost of federal government assistance. Increase the administrative flexibility of the FEMA PA Program. Expedite the process of providing and using the assistance. Create incentives for applicants to complete projects in a timely and cost-effective manner. 	http://www.gpo.gov/fdsys/pkg/PLAW-113publ2
FEMA	Sandy Recovery Improvement Act of 2013 Fact Sheet	<p>This fact sheet provides an overview of the provisions of the Sandy Recovery Improvement Act of 2013.</p> <p>This fact sheet describes the PA Alternative Procedures described in the Sandy Recovery Improvement Act</p> <ul style="list-style-type: none"> PA Alternative Procedures <ul style="list-style-type: none"> Permanent Work Alternative Procedures Debris Removal Work Alternative Procedures 	http://www.fema.gov/library/viewRecord.do?id=6983

Authority/ Agency	Document	Description	Link
		<ul style="list-style-type: none"> • Hazard Mitigation • Dispute Resolution Pilot Program • Federal Assistance to Individuals and Households • Unified Federal Review • Small Project Threshold Review • Essential Assistance • Individual Assistance Factors • Recommendations for Reducing Costs to Future Disasters 	
FEMA	PA Program and Policy Guide FP 104-009-02	Provides detailed guidance on FEMA assistance programs and disaster debris management.	https://www.fema.gov/public-assistance-policy-and-guidance

ATTACHMENT I FEMA DEBRIS MANAGEMENT PLAN CROSSWALK



FEMA

Debris Management Plan Checklist

Applicant Name _____ State/Territory/Tribe _____

Applicant Point of Contact _____ Contact Number _____

Yes	No	Plan Requirements	Comment
		Overview – Does the plan describe the purpose and objectives?	
		Events and Assumptions - Does the plan provide information on the types and anticipated quantities of debris that will be generated from various types and sizes of events?	
		Debris Collection and Removal - Does the plan have a debris collection strategy? Does the plan discuss the methods that will be used to remove debris and establish priorities for clearance and removal? Does the plan outline the roles and responsibilities of the various functions involved (Public Works, Finance, and Solid Waste Departments, etc.)?	
		Debris Disposal Locations and Debris Management Sites - Does the plan identify where the disaster debris will be segregated, reduced, and disposed or whether debris will be hauled to a recycler?	
		Debris Removal on Private Property - Does the plan address the authority and processes for private property debris removal?	
		Use and Procurement of Contracted Services - Does the plan describe the types of debris operations that will be contracted? Does the plan describe the process and procedure for acquiring competitively procured contracted services?	
		Use of Force Account Labor - Does the plan define the types of work force account labor will accomplish?	



FEMA

Yes	No	Plan Requirements	Comment
		Monitoring of Debris Operations- Does the plan describe who and how debris removal contractors will be monitored at pickup sites, Debris Management Sites/Temporary Debris Storage and Reduction Sites and final disposal?	
		Health and Safety Requirements- Does the plan describe how workers and the public will be protected and discuss the specific measures for adherence to safety rules and procedures?	
		Environmental Considerations and Other Regulatory Requirements- Does the plan identify all debris operations that will trigger compliance with environmental and historic preservation laws and how compliance will be attained?	
		Public Information- Does the plan include a public information strategy to ensure that residents receive accurate and timely information about debris operations?	
		Identification of Debris Removal Contractors- Does the jurisdiction identify at least one or more debris contractors that it has prequalified?	

ATTACHMENT J HEALTH AND SAFETY PLAN

Health and Safety Strategy

Purpose

The purpose of this health and safety strategy is to supplement existing Multnomah County 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 monitoring firm and debris removal contractors' employees. In addition, this document will identify some representative work hazards and the appropriate measures to reduce risk of injury.

1.0 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 during the project to increase worker awareness.

2.0 Compliance

The monitoring firm and debris removal contractors' project managers are responsible for 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.

3.0 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 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, etc.) and the debris-generating incident (e.g. type, incident strength, duration, etc.). In addition, the disaster debris produces a host of uneven surfaces, which must be negotiated.
- **Debris Removal** – Often the removal of disaster debris involves working with splintered, 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 temporary debris management site (TDMS). Upon entry to a TDMS, the monitoring firm will assess the volume of disaster debris being transported. The collection vehicle will then dispose of the disaster debris and the debris will be reduced either through a grinding operation or incineration. The TDMS 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, and 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.

4.0 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. Some common administrative and engineering controls used in the debris removal process are:

Collection Operations

- Conduct debris removal operations during daylight hours only.
- Limit clean-up 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 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 (not overloaded or unbalanced).
- 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 (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.

DMS/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 that 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.

5.0 Personal Protective Equipment

Personal protective equipment (PPE) is the last resort to providing a safe working environment for workers. 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 the individuals and work place hazards.

Proper use of PPE includes using PPE 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. In addition, 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, ROE, and vegetative and construction & demolition (C&D) debris removal activities:

- **Head Protection** – 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** – 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** – Equipment designed to provide protection for an individual's hands against hazards such as sharp or abrasive surfaces. The proper hand protection necessary depends on 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 or when handling hazardous materials.
- **Vision/Face Protection** – 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 proper eye/face protection necessary depends on 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** – Equipment designed to provide protection for an individual’s hearing against prolonged exposure to high noise levels. According to the Occupational Health and Safety Administration (OSHA), the permissible level of sound is an average of 90 decibels over the course of an eight (8) hour workday. Above the 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** – 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.

6.0 PPE 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 (breathable clothes, light colors, sunscreen, etc.). 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; and cuts, abrasions, or punctures from vegetative or C&D sharps. PPE requirements include:

- Reflective vest
- Foot protection (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:

- Reflective vest
- Foot protection (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:

- Reflective vest

- Vision and hearing protection
- Foot protection (rugged shoes or boots, steel toe and shank if required)
- Long pants

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:

- Reflective vest
- Foot protection (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 vehicles; falls or trips on uneven surfaces; cuts, abrasions, or punctures from power tools or vegetative or C&D sharps; being struck by falling disaster debris and airborne particles. PPE requirements include:

- Reflective vest
- Hand and foot protection (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 & Health Administration

1-800-321-6742

ATTACHMENT K TRUCK CERTIFICATION FORMS AND INSTRUCTIONS

Truck Information			
Make	Year	Color	License
<p>Truck Measurements</p> <p> Performed By: _____ Date: _____ Volume Calculated By: _____ Date: _____ Both Checked By: _____ Date: _____ </p>			
Driver Information			
<p>Name: _____</p> <p>Address: _____</p> <p>Phone Number: _____</p>			
Owner Information			
<p>Name: _____</p> <p>Address: _____</p> <p>Phone Number: _____</p> <p>Truck Identification: _____</p> <p>Truck Capacity: _____</p>			
<div style="border: 2px solid black; width: 80%; margin: 0 auto; height: 150px;"></div> <p style="margin-top: 10px;">Photo</p>			

Truck Certification Form Calculation Instructions

Instructions to take the necessary dimensions of corner wedge (refer to Figure B-6):

“a”: Along the side of the bed, measure the distance from the point where the rounded part of the bed starts, to the front corner of the bed.

“b”: Equal to “a.”

“c” and “d”: Along the side of the bed, mark the point where the rounded part of the bed starts, and along the front of the bed, also mark the point where the rounded part of the bed ends. Run a string between the two points and measure the distance between them; half of that distance is “c” and half of the distance is “d” (“c” and “d” are equal).

“e”: Measure the distance from the mid-point of the string that was stretched from the side to the front of the bed in the previous step to the rounded part of the bed.

Extra trailer: The volume calculations for the extra trailer would be simply length x width x height if the extra trailer has a rectangular bed. However, if the extra trailer also has round corners at the front, the volume calculation would be the same as explained above.

Instructions to take the necessary dimensions of round bottom truck (refer to Figure B-6):

“a”: The width of the bed.

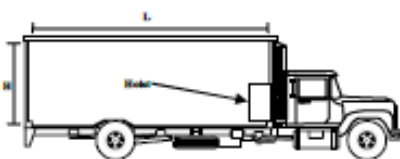
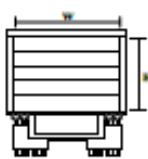
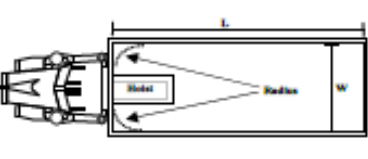
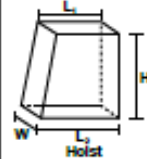
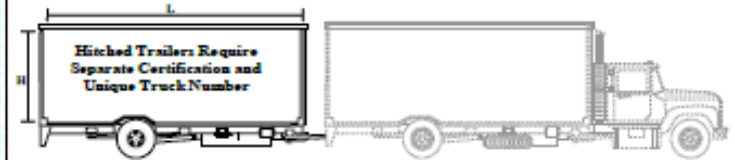
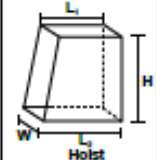
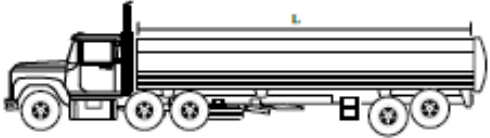
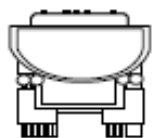
“b”: The depth of the vertical portion (the side) of the bed.

“c” and “d”: Both are equal to half the width of the bed.

“e”: Run a string between the lower ends of the vertical portions of the bed (the sides), and measure the distance from the mid-point of the string to the bottom of the bed.

NOTE: All dimensions used in the above formulas must be in feet, with inches converted to fractions of feet, using the following conversions (for example, 8 feet, 5 inches should be written as 8.42 feet):

1 inch = .08 foot	7 inches = .58 foot
2 inches = .17 foot	8 inches = .67 foot
3 inches = .25 foot	9 inches = .75 foot
4 inches = .33 foot	10 inches = .83 foot
5 inches = .42 foot	11 inches = .92 foot
6 inches = .50 foot	

DUMP TRUCK			
Measurements			
Truck Measurements	Length (L) = <input style="width: 80px;" type="text"/>	Width (W) ft = <input style="width: 80px;" type="text"/>	Height (H) ft = <input style="width: 80px;" type="text"/>
Hoist Measurement	Length ₁ (L ₁) ft = <input style="width: 80px;" type="text"/>	WidthH (W _H) ft = <input style="width: 80px;" type="text"/>	Height _H (H _H) ft = <input style="width: 80px;" type="text"/>
	Length ₂ (L ₂) ft = <input style="width: 80px;" type="text"/>		
Radius	Radius ft = <input style="width: 80px;" type="text"/>	Height (H) = <input style="width: 80px;" type="text"/>	
Calculations			
Bed Volume (Basic)	$(L \times W \times H) / 27 =$ <input style="width: 80px;" type="text"/>	cyd	
Hoist Volume	$((L_1 + L_2) / 2) \times W_H \times H_H / 27 =$ <input style="width: 80px;" type="text"/>	cyd	
Radius Volume	$(3.14 \times R^2 \times H) / 27 =$ <input style="width: 80px;" type="text"/>	cyd	
Total = <input style="width: 80px;" type="text"/>		Cubic Yards	
Truck Measurements			
			
EXTRA TRAILER			
Measurements			
Truck Measurements (Basic)	Length (L) = <input style="width: 80px;" type="text"/>	Width (W) ft = <input style="width: 80px;" type="text"/>	Height (H) ft = <input style="width: 80px;" type="text"/>
Hoist Measurement	Length ₁ (L ₁) ft = <input style="width: 80px;" type="text"/>	WidthH (W _H) ft = <input style="width: 80px;" type="text"/>	Height _H (H _H) ft = <input style="width: 80px;" type="text"/>
	Length ₂ (L ₂) ft = <input style="width: 80px;" type="text"/>		
Radius	Radius ft = <input style="width: 80px;" type="text"/>	Height (H) = <input style="width: 80px;" type="text"/>	
Calculations			
Bed Volume (Basic)	$(L \times W \times H) / 27 =$ <input style="width: 80px;" type="text"/>	cyd	
Hoist Volume	$((L_1 + L_2) / 2) \times W_H \times H_H / 27 =$ <input style="width: 80px;" type="text"/>	cyd	
Radius Volume	$(3.14 \times R^2 \times H) / 27 =$ <input style="width: 80px;" type="text"/>	cyd	
Total = <input style="width: 80px;" type="text"/>		Cubic Yards	
Trailer/Truck Combination			
<p>Hitched Trailers Require Separate Certification and Unique Truck Number</p>			
ROUND BOTTOM TRUCK			
Measurements			
Truck Measurements	Length (L) ft = <input style="width: 80px;" type="text"/>	Diameter (D) ft = <input style="width: 80px;" type="text"/>	
Calculations			
Approx. Volume $(3.14 \times (D/2)^2 \times L) / 27 =$ <input style="width: 80px;" type="text"/>		cyd (round bottom portion only)	
Round Bottom Truck			
		Cubic Yards	

ATTACHMENT L SAMPLE LOAD TICKET

Figure L.1: Sample Load Ticket

Load Ticket		Ticket No. 0012345	
Municipality (Applicant)		Prime Contractor	
		Sub-Contractor	
Truck Information			
Truck No		Capacity	
Truck Driver (print legibly)			
Loading Information			
Loading	Time	Date	Inspector/Monitor
Location (Address or Cross Streets)			
When Using GPS Coordinates use Decimal Degrees (N xx.xxxxx)			
N		W	
Unloading Information			
Debris Classification		Estimated %, CYs, or Actual Weight	
<input type="checkbox"/> Vegetation <input type="checkbox"/> C&D <input type="checkbox"/> White Goods <input type="checkbox"/> HHW <input type="checkbox"/> Other* See Below			
Unloading	Time	Date	Inspector/Monitor
DMS Name and Location			
*Other Debris Explanation		Original: Applicant Copy 1: _____ Copy 2: _____ Copy 3: _____	

ATTACHMENT M HAZARDOUS STUMP EXTRACTION AND REMOVAL ELIGIBILITY

FEMA PA Program and Policy Guide FP 104-009-2

Section VI. A. c. Stump Removal

(c) Stump Removal

For stumps that have 50 percent or more of the root-ball exposed, removal of the stump and filling the root-ball hole are eligible. If grinding a stump in place is less costly than extraction, grinding the stump in place is eligible.

Stump removal in areas with known or high potential for archeological resources usually requires that FEMA further evaluate and consult with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer. If the Applicant discovers any potential archeological resources during stump removal, the Applicant must immediately cease work and notify FEMA.

Contracted Stump Removal

FEMA only reimburses contracted costs charged on a per-stump basis if:

- The stump is 2 feet or larger in diameter measured 2 feet above the ground; and
- Extraction is required as part of the removal.

The Applicant needs to ensure the price for stump removal includes extraction, transport, disposal, and filling the root-ball hole.

For stumps that have less than 50 percent of the root-ball exposed, FEMA only provides PA funding to flush cut the item at ground level and dispose of the cut portion based on volume or weight. Grinding any residual stump is not eligible.

For stumps smaller than 2 feet in diameter, or for stumps of any size that do not require extraction, FEMA only provides PA funding based on volume or weight as removal of these stumps does not require special equipment. If the Applicant claims reimbursement of these stumps on a per-stump basis, FEMA limits PA funding based on a unit price for volume or tons, calculated using the Stump Conversion Table (Located on the following pages of this Appendix).

If the Applicant incurs additional costs in picking up stumps 2 feet or larger in diameter that the contractor did not extract, it should complete the Hazardous Stump Worksheet ((Located on the following pages of this Appendix) and present documentation to substantiate the costs as reasonable based on the equipment required to perform the work.

(d) Documentation Requirements

The Applicant must provide all of the following documentation to support the eligibility of removing tree limbs, branches, stumps, or trees that are still in place:

- Specifics of the immediate threat with the U.S. National Grid (USNG) location and photograph or video documentation that establishes the item is on public property;
- Diameter of each item removed (measurement must be 2 feet up the trunk from the ground for stumps and 4.5 feet up for trees);
- Quantity of material to fill root-ball holes; and
- Equipment used to perform the work.

STUMP CONVERSION TABLE

Diameter to Volume Capacity

FEMA quantifies the amount of CYs of debris for each size of stump based on the following formula:

$$\frac{[(\text{Stump Diameter}^2 \times 0.7854) \times \text{Stump Length}] + [(\text{Root-Ball Diameter}^2 \times 0.7854) \times \text{Root-Ball Height}]}{46,656}$$

- 0.7854 is one-fourth Pi and is a constant. 46,656 is used to convert cubic inches to CYs and is a constant.

The formula used to calculate the cubic yardage used the following factors, based upon findings in the field:

- Stump diameter measured 2 feet up from the ground
- Stump diameter to root-ball diameter ratio of 1:3.6
- Root-ball height of 31 inches

See the conversion chart on the following page.

Stump Diameter(Inches)	Debris Volume (CYs)	Stump Diameter(Inches)	Debris Volume (CYs)
6	0.3	46	15.2
7	0.4	47	15.8
8	0.5	48	16.5
9	0.6	49	17.2
10	0.7	50	17.9
11	0.9	51	18.6
12	1	52	19.4
13	1.2	53	20.1
14	1.4	54	20.9
15	1.6	55	21.7
16	1.8	56	22.5
17	2.1	57	23.3
18	2.3	58	24.1
19	2.6	59	24.9
20	2.9	60	25.8
21	3.2	61	26.7
22	3.5	62	27.6
23	3.8	63	28.4
24	4.1	64	29.4

Stump Diameter(Inches)	Debris Volume (CYs)	Stump Diameter(Inches)	Debris Volume (CYs)
25	4.5	65	30.3
26	4.8	66	31.2
27	5.2	67	32.2
28	5.6	68	33.1
29	6	69	34.1
30	6.5	70	35.1
31	6.9	71	36.1
32	7.3	72	37.2
33	7.8	73	38.2
34	8.3	74	39.2
35	8.8	75	40.3
36	9.3	76	41.4
37	9.8	77	42.5
38	10.3	78	43.6
39	10.9	79	44.7
40	11.5	80	45.9
41	12	81	47
42	12.6	82	48.2
43	13.3	83	49.4
44	13.9	84	50.6
45	14.5		

Hazardous Stump Worksheet

Applicant: _____ Date: _____

Applicant Representative: _____ Signature: _____

FEMA Representative (if available): _____ Signature: _____

State Representative (if available): _____ Signature: _____

	Physical Location (i.e., Street address, road, cross streets, etc.)	Description of Facility (ROW, Park, City Hall, etc.)	Hazard		GPS (decimal degrees, 00.000000)		Tree Size (Diameter)	Eligible		Fill For Debris Stumps CY	Comments (See attached sketch, photo, etc.)
			Yes	No	Latitude (N)	Longitude (W)		Yes	No		
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

ATTACHMENT N CATALOG OF FEDERAL DISASTER ASSISTANCE PROGRAMS

Table N.1: Catalog of Federal Disaster Assistance Programs

Federal Emergency Management Agency (FEMA)	
Program	Public Assistance (PA) Grant Program
Program Mission	The mission of the FEMA PA Grant Program is to provide assistance to state and local governments and certain types of private nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President.
Eligible Applicant	<ul style="list-style-type: none"> • State government agencies • Local governments and special districts • Private nonprofit organizations • Federally recognized Native American tribes
Eligibility Requirements	<ul style="list-style-type: none"> • Eligible facilities must: <ul style="list-style-type: none"> ○ Be the responsibility of an eligible Applicant. ○ Be located in a designated disaster area. ○ Not be under the specific authority of another federal agency. ○ Be in active use at the time of the disaster. • Eligible work must: <ul style="list-style-type: none"> ○ Be required as the result of a major disaster incident. ○ Be located within a designated disaster area. ○ Be the legal responsibility of an eligible Applicant. • Eligible costs must: <ul style="list-style-type: none"> ○ Be reasonable and necessary to accomplish the work. ○ Be compliant with federal, state, and local requirements for procurement. ○ Be reduced by all applicable credits, such as insurance proceeds and salvage values.
Program Link	http://www.fema.gov/public-assistance-local-state-tribal-and-nonprofit
Program	Individual Assistance Grant Program
Program Mission	Disaster assistance is financial or direct assistance to individuals and families whose property has been damaged or destroyed as a result of a federally declared disaster, and whose losses are not covered by insurance. It is meant to help individuals with critical expenses that cannot be covered in other ways. This assistance is not intended to restore the individual's damaged property to its condition before the disaster.
Eligible Applicant	Applicant must be a U.S. citizen, non-citizen national, or qualified alien who meets the eligibility requirements.
Eligibility Requirements	<ul style="list-style-type: none"> • Eligible applicants must: <ul style="list-style-type: none"> ○ Have losses in an area that has been declared a disaster by the President of the United States. ○ Have disaster-related damage to their primary residence. ○ Have a primary residence that is uninhabitable or inaccessible. ○ Have a disaster-caused need that cannot be met through other forms of disaster assistance or insurance. ○ Have insufficient or no insurance. • Eligible activities include: <ul style="list-style-type: none"> ○ <i>Temporary Housing (a place to live for a limited period of time):</i> Financial assistance may be available to rent a different place to live or a government housing unit may be provided when rental properties are not available.

Federal Emergency Management Agency (FEMA)	
	<ul style="list-style-type: none"> ○ <i>Repair:</i> Financial assistance may be available to homeowners to repair damage from the disaster to their primary residence that is not covered by insurance. The goal is to make the damaged home safe, sanitary, and functional. ○ <i>Replacement:</i> Financial assistance may be available to homeowners to replace their home destroyed in the disaster that is not covered by insurance. The goal is to help the homeowner with the cost of replacing their destroyed home. ○ <i>Permanent or Semi-Permanent Housing Construction:</i> Direct assistance or money for the construction of a home. This type of assistance is available only in insular areas or other locations specified by FEMA, where no other type of housing assistance is possible. ○ <i>Money for necessary expenses and serious needs caused by the disaster.</i> This includes: <ul style="list-style-type: none"> ▪ Disaster-related medical and dental expenses ▪ Disaster-related funeral and burial expenses ▪ Clothing, household items (room furnishings, appliances), tools (specialized or protective clothing and equipment) required for your job, necessary educational materials (computers, school books, supplies) ▪ Fuels for primary heat source (heating oil, gas) ▪ Clean-up items (wet/dry vacuum, dehumidifier) ▪ Disaster-related damage to a vehicle ▪ Moving and storage expenses related to the disaster (moving and storing property to avoid additional disaster damage while disaster-related repairs are being made to the home) ▪ Other necessary expenses or serious needs as determined by FEMA ▪ Other expenses that are authorized by law
Program Link	http://www.disasterassistance.gov/
Program	FEMA Hazard Mitigation Grant Program (HMGP)
Program Mission	The HMGP provides funds to states, territories, Indian tribal governments, local governments, and eligible private nonprofits (PNPs) following a presidential disaster declaration. The key purpose of HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster.
Eligible Applicant	<ul style="list-style-type: none"> ● Eligible applicants (grantee) <ul style="list-style-type: none"> ○ Emergency management agency or a similar state office of the 50 United States ● Eligible sub applicants <ul style="list-style-type: none"> ○ State agencies ○ Local governments/communities ○ PNP organizations ○ Federally recognized Native American tribes
Eligibility Requirements	<ul style="list-style-type: none"> ● Eligible activities include: <ul style="list-style-type: none"> ○ Mitigation projects ○ Hazard mitigation planning ○ Management costs ● Eligible work must: <ul style="list-style-type: none"> ○ Be feasible and effective at mitigating the risks of the hazard(s) for which the project was designed. ○ Conform with accepted engineering practices, established codes, standards, modeling techniques, or best practices. ● Eligible applicants must: <ul style="list-style-type: none"> ○ Have a FEMA-approved state or Indian tribal (standard or enhanced) mitigation plan at the time of the disaster declaration and at the time HMGP funding is obligated to the grantee to receive an HMGP award. ● Eligible costs must:

Federal Emergency Management Agency (FEMA)	
	<ul style="list-style-type: none"> ○ Be reasonable, allowable, allocable, and necessary as required. ● Cost Share: <ul style="list-style-type: none"> ○ Mitigation activity: 75% federal/25% non-federal ○ Grant management costs: 100% federal/0% non-federal ○ Subgrantee management cost: Subapplicants should consult their state hazard mitigation officer for the amount or percentage of HMGP subgrantee management cost funding their state has determined to be passed through to subgrantees.
Program Link	http://www.fema.gov/hazard-mitigation-grant-program https://www.fema.gov/hazard-mitigation-assistance
Program	FEMA Fire Management Assistance Grant Program (FMAGP)
Program Mission	The Fire Management Assistance declaration process is initiated when a state submits a request for assistance to the FEMA Regional Director at the time a "threat of major disaster" exists. The entire process is accomplished on an expedited basis and a FEMA decision is rendered in a matter of hours.
Eligible Applicant	<ul style="list-style-type: none"> ● States and Indian tribal governments may act as the grantee. ● State, Indian tribal and local entities may apply to the grantee for subgrants.
Eligibility Requirements	<ul style="list-style-type: none"> ● Eligible states must: <ul style="list-style-type: none"> ○ Demonstrate that total eligible costs for the declared fire meet or exceed either the individual fire cost threshold, which applies to single fires, or the cumulative fire cost threshold, which recognizes numerous smaller fires burning throughout a state. ● FMAGP eligible work directly related to the declared fire is documented into two general categories: <ul style="list-style-type: none"> ○ Category B – (Emergency Protective Measures): Limited assistance provided under Section 403 of the Stafford Act ○ Category H – (Firefighting Activities): Eligible work associated with fire-related activities provided under Section 420 of the Stafford Act ● Eligible work performed must: <ul style="list-style-type: none"> ○ Be the legal responsibility of the Applicant, whether it was performed by the Applicant's own agents or through a secondary party as described in the preceding paragraphs. ○ Be required as a result of the declared fire. ○ Be located within the designated area. ● Eligible costs include, but are not limited to the following: <ul style="list-style-type: none"> ○ Equipment and supplies ○ Labor costs ○ Travel and per diem ○ Temporary repairs of damage caused by firefighting activities ○ Mobilization and demobilization ○ Limited pre-positioning costs approved by the Regional Administrator ● Cost Share Requirements: <ul style="list-style-type: none"> ○ The FMAGP provides a 75 percent federal cost share and the state pays the remaining 25 percent for actual costs.
Program Link	http://www.fema.gov/fire-management-assistance-grant-program
Program	FEMA Flood Mitigation Assistance (FMA)
Program Mission	<p>The FMA program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended (NFIA), 42 U.S.C. 4104c, with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP).</p> <p>The National Flood Insurance Fund (NFIF) provides the funding for the FMA program. FMA programs are subject to the availability of appropriation funding as well as any program-specific directive or restriction made with respect to such funds.</p>

Federal Emergency Management Agency (FEMA)	
Eligible Applicant	<ul style="list-style-type: none"> • Eligible applicants <ul style="list-style-type: none"> ○ Emergency management agency or a similar office of the 50 states • Eligible sub applicants <ul style="list-style-type: none"> ○ State agencies ○ Indian tribal governments ○ Local governments/communities
Eligibility Requirements	<ul style="list-style-type: none"> • Eligible activities include: <ul style="list-style-type: none"> ○ Mitigation projects ○ Hazard mitigation planning ○ Management costs • Eligible work must: <ul style="list-style-type: none"> ○ Be feasible and effective at mitigating the risks of the hazard(s) for which the project was designed. ○ Conform with accepted engineering practices, established codes, standards, modeling techniques, or best practices. ○ Be reviewed to determine if they are in the floodplain or a wetland. <ul style="list-style-type: none"> ▪ Funds shall only be used to support the flood hazard portion of state, Indians, or local mitigation plans to meet the criteria specified in 44 CFR Part 201. Funds are only available to support these activities in communities participating in the NFIP. • Eligible applicants must: <ul style="list-style-type: none"> ○ Have a FEMA-approved state or tribal (standard or enhanced) mitigation plan by the application deadline and at the time of obligation of the grant funds. The only exception is for a sub application for a state (standard or enhanced) mitigation plan. • Eligible subapplicants must: <ul style="list-style-type: none"> ○ Have a FEMA-approved local mitigation plan by the application deadline and at the time of obligation of grant funds. • Cost Share: <ul style="list-style-type: none"> ○ FEMA may contribute up to 100 percent federal cost share for severe repetitive loss properties or the expected savings to the NFIF for acquisition or relocation activities. The greatest savings to the fund value for property acquisition may be offered to the property owner if the project is not cost-effective using pre-event or current market value. ○ FEMA may contribute up to 90 percent federal cost share for repetitive loss properties. ○ FEMA may contribute up to 75 percent federal cost share for NFIP-insured properties.
Program Link	http://www.fema.gov/flood-mitigation-assistance-program

Small Business Administration (SBA)	
Program	SBA Home and Property Disaster Loans
Program Mission	SBA provides low interest disaster loans to homeowners, renters, businesses of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.
Eligible Applicant	<ul style="list-style-type: none"> • Homeowners • Renters • Personal property owners
Eligibility Requirements	<ul style="list-style-type: none"> • Homeowners may apply for up to \$200,000 to replace or repair their primary residence. The loans may not be used to upgrade homes or make additions, unless required by local building code. If the individual makes improvements that help prevent the risk of future

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	<p>property damage caused by a similar disaster, you may be eligible for up to a 20 percent loan amount increase above the real estate damage, as verified by the SBA.</p> <ul style="list-style-type: none"> • In some cases, SBA can refinance all or part of a previous mortgage when the Applicant does not have credit available elsewhere and has suffered substantial disaster damage not covered by insurance. • Renters and homeowners may borrow up to \$40,000 to replace or repair personal property — such as clothing, furniture, cars and appliances — damaged or destroyed in a disaster. • Secondary homes or vacation properties are not eligible for these loans. However, qualified rental properties may be eligible for assistance under the SBA business disaster loan program. • Proceeds from insurance coverage on your home or property will be deducted from the total damage estimate to determine the eligible loan amount. The SBA is not permitted to duplicate any benefits. • For applicants unable to obtain credit elsewhere, the interest rate will not exceed 4 percent. For those who can obtain credit elsewhere, the interest rate will not exceed 8 percent. The SBA will determine whether an Applicant can obtain credit elsewhere. SBA disaster loans are offered with up to 30-year terms. • Loans for more than \$14,000 must be secured with collateral to the extent possible. The SBA will ask the Applicant available collateral, but will not decline a loan for lack of collateral. A first or second mortgage on the damaged real estate is commonly used as collateral for an SBA disaster loan.
Program Link	http://www.sba.gov/content/home-and-personal-property-loans
Program	SBA Disaster Assistance Loans
Program Mission	SBA provides low interest disaster loans to homeowners, renters, businesses of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.
Eligible Applicant	<ul style="list-style-type: none"> • Business owners in a presidentially declared disaster area
Eligibility Requirements	<ul style="list-style-type: none"> • SBA makes physical disaster loans of up to \$2 million to qualified businesses or most private nonprofit organizations. These loan proceeds may be used for the repair or replacement of the following: <ul style="list-style-type: none"> ○ Real property ○ Machinery ○ Equipment ○ Fixtures ○ Inventory ○ Leasehold improvements • The SBA Business Physical Disaster Loan covers disaster losses not fully covered by insurance. If you are required to apply insurance proceeds to an outstanding mortgage on the damaged property, you can include that amount in your disaster loan application. • If you make improvements that help reduce the risk of future property damage caused by a similar disaster, you may be eligible for up to a 20 percent loan amount increase above the real estate damage, as verified by the SBA. • You may not use the disaster loan to upgrade or expand a business, except as required by building codes. A business of any size or most private nonprofit organizations that are located in a declared disaster area and have incurred damage during the disaster may apply for a loan to help replace damaged property or restore its pre-disaster condition. • The interest rate will not exceed 4 percent if the Applicant cannot obtain credit elsewhere. For businesses and nonprofit organizations with credit available elsewhere, the interest rate will not exceed 8 percent. SBA determines whether the Applicant has credit available

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	elsewhere. Repayment terms can be up to 30 years, depending on your ability to repay the loan.
Program Link	http://www.sba.gov/content/business-physical-disaster-loans
Program	SBA Economic Injury Disaster Loans
Program Mission	Substantial economic injury means the business is unable to meet its obligations and to pay its ordinary and necessary operating expenses. Economic Injury Disaster Loans (EIDL) provide the necessary working capital to help small businesses survive until normal operations resume after a disaster.
Eligible Applicant	<ul style="list-style-type: none"> • Small business • Small agricultural cooperative • Most private nonprofit organizations
Eligibility Requirements	<ul style="list-style-type: none"> • The SBA can provide up to \$2 million to help meet financial obligations and operating expenses that could have been met had the disaster not occurred. • The loan amount will be based on actual economic injury and the company's financial needs, regardless of whether the business suffered any property damage. • The interest rate on EIDLs will not exceed four percent per year. The term of these loans will not exceed 30 years. The repayment term will be determined by your ability to repay the loan. • EIDL assistance is available only to small businesses when SBA determines they are unable to obtain credit elsewhere. • A business may qualify for both an EIDL and a physical disaster loan. The maximum combined loan amount is \$2 million.
Program Link	http://www.sba.gov/content/economic-injury-disaster-loans
Program	SBA Military Reservist Economic Injury Disaster Loans (MREIDL)
Program Mission	The MREIDL provides funds to help an eligible small business meet its ordinary and necessary operating expenses that it could have met, but is unable to because an essential employee was called-up to active duty in his or her role as a military reservist. The purpose of MREIDL loans is not to cover lost income or lost profits. MREIDL funds cannot be used in lieu of regular commercial debt, to refinance long-term debt, or to expand the business.
Eligible Applicant	<ul style="list-style-type: none"> • Small businesses with essential employees serving in the military reserves
Eligibility Requirements	<ul style="list-style-type: none"> • The maximum MREIDL loan amount is \$2 million. The amount of each loan is limited to the actual economic injury as calculated by SBA. The amount is also limited by business interruption insurance and whether the business and/or its owners have sufficient funds to operate. If a business is a major source of employment, SBA has authority to waive the \$2 million statutory limit. • Businesses with the financial capacity to fund their own recovery are not eligible for MREIDL assistance. Federal law requires SBA to determine whether a business has credit available elsewhere— that is, if credit in an amount needed to accomplish full recovery is available from non-government sources without creating an undue financial hardship. • The filing period for MREIDL assistance begins on the date the essential employee receives a notice of expected call-up and ends one year after the essential employee is discharged or released from active duty. • Collateral is required for all MREIDL loans more than \$50,000. SBA accepts real estate as collateral when it is available. SBA will not decline a loan for lack of collateral, but will require the borrower to pledge collateral that is available. • The MREIDL interest rate is 4 percent and has loan repayment terms up to 30 years. SBA determines the term of each loan in accordance with the borrower's ability to repay.

Small Business Administration (SBA)	
Program Link	http://www.sba.gov/content/military-reservists-economic-injury-loans

United States Department of Labor	
Program	US Department of Labor Disaster Unemployment Assistance (DUA)
Program Mission	DUA provides financial assistance to individuals whose employment or self-employment has been lost or interrupted as a direct result of a major disaster and who are <u>not</u> eligible for regular unemployment insurance benefits.
Eligible Applicant	<ul style="list-style-type: none"> Unemployed workers in a disaster area who meet the grant eligibility requirements
Eligibility Requirements	<ul style="list-style-type: none"> Eligible individuals include: <ul style="list-style-type: none"> Any unemployed worker or self-employed individual who lived, worked, or was scheduled to work in the disaster area at the time of the disaster; and due to the disaster: <ul style="list-style-type: none"> No longer has a job or a place to work; Cannot reach the place of work; Cannot work due to damage to the place of work; or Cannot work because of an injury caused by the disaster. An individual who becomes the head of household and is seeking work because the former head of household died as a result of the disaster may also qualify for DUA benefits. Benefits Requirements: <ul style="list-style-type: none"> Benefits are available only for weeks of unemployment in the Disaster Assistance Period (DAP). The DAP begins with the first day of the week following the date the major disaster began and continues for up to 26 weeks after the date the disaster was declared by the President. The maximum weekly benefit amount payable is determined under the provisions of the state law for unemployment compensation in the state where the disaster occurred. However, the minimum weekly benefit amount payable is half (50%) of the average benefit amount in the state.
Program Link	http://workforcesecurity.doleta.gov/unemploy/disaster.asp
Program	US Department of Labor Disaster National Emergency Grants (NEG)
Program Mission	NEGs temporarily expand the service capacity of Workforce Investment Act (WIA) Dislocated Worker training and employment programs at the state and local levels by providing funding assistance in response to large, unexpected economic events which cause significant job losses. NEGs generally provide resources to states and local workforce investment boards to quickly reemploy laid-off workers by offering training to increase occupational skills.
Eligible Applicant	Eligible applicants are generally limited to states, Native American tribal organizations and local boards that are established through WIA.
Eligibility Requirements	<p>Disaster NEGs require that the FEMA has declared a disaster area eligible for PA and is only available to states.</p> <ul style="list-style-type: none"> Eligible applicants must: <ul style="list-style-type: none"> Be subject to all administrative system requirements that apply to the use of WIA formula funds for dislocated workers, except as otherwise provided in these instructions or a grant award document. Eligible work must: <ul style="list-style-type: none"> Be a disaster project whose primary purpose is to create temporary employment to assist with clean-up activities. The initial award will restrict the clean-up period to six months from the date of grant award, until there is a subsequent modification (e.g., fully documented plan or other request) that justifies a longer clean-up period.

United States Department of Labor	
Program Link	http://www.doleta.gov/neg/Disaster.cfm

Internal Revenue Service	
Program	IRS Disaster Assistance and Emergency Relief for Individuals and Businesses
Program Mission	Special tax law provisions may help taxpayers and businesses recover financially from the impact of a disaster, especially when the federal government declares their location to be a major disaster area. Depending on the circumstances, the IRS may grant additional time to file returns and pay taxes. Both individuals and businesses in a federally declared disaster area can get a faster refund by claiming losses related to the disaster on the tax return for the previous year, usually by filing an amended return.
Eligible Applicant	<ul style="list-style-type: none"> • Individuals
Eligibility Requirements	<ul style="list-style-type: none"> • Eligible applicants must: <ul style="list-style-type: none"> ○ Have filed all required tax return(s)
Program Link	http://www.irs.gov/Businesses/Small-Businesses-&Self-Employed/Disaster-Assistance-and-Emergency-Relief-for-Individuals-and-Businesses-1

United States Department of Agriculture (USDA)	
Program	USDA Farm Service Agency (FSA): USDA FSA Supplemental Revenue Assistance Payments (SURE) Program
Program Mission	The SURE Program was authorized by the Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) to provide assistance to producers suffering crop losses due to natural disasters. SURE is available for crop losses due to natural disasters occurring through Sept. 30, 2011.
Eligible Applicant	<ul style="list-style-type: none"> • Eligible producers
Eligibility Requirements	<ul style="list-style-type: none"> • Eligible producers must meet all of the following criteria: <ul style="list-style-type: none"> ○ Produce in a disaster county or contiguous to a disaster county, or ○ Suffer a 50 percent production loss ○ Suffer a 10 percent production loss ○ Satisfy the Risk Management Purchase Requirements (RMPR) ○ Comply with other general eligibility requirements • Qualifying Crops: <ul style="list-style-type: none"> ○ Eligible crops include the initial planting of Federal Crop Insurance Corporation insured crops and crops covered by NAP, excluding acreage intended for grazing. Subsequently planted crops are eligible for areas in which multiple-cropping is a normal practice. Crops that are not grown commercially are not eligible for the SURE Program payments. An example of a non-commercial crop is one produced in a home garden. Producers may not receive payments for losses of volunteer stands of crops. ○ All crops for which a policy or plan of crop insurance or NAP coverage is available are eligible for production quantity losses. Most crops are also eligible for quality losses, except for aquaculture, floriculture, mushrooms, ginseng root, ornamental nursery, Christmas trees, turf grass sod, honey, and maple sap.
Program Link	http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=sure
Program	USDA FSA Emergency Assistance for Livestock, Honey Bees, and Farm-Raised Fish Program
Program Mission	This grant program provides emergency relief to producers of livestock, honeybees, and farm-raised fish. Covers losses from disaster such as adverse weather or other conditions, such as blizzards and wildfires not adequately covered by any other disaster program.

United States Department of Agriculture (USDA)	
Eligible Applicant	<ul style="list-style-type: none"> Livestock producers
Eligibility Requirements	<ul style="list-style-type: none"> Eligible producers must: <ul style="list-style-type: none"> Have suffered livestock grazing losses due to qualifying drought or fire <ul style="list-style-type: none"> For drought, the losses must have occurred on land that is native or improved pastureland with permanent vegetative cover or is planted to a crop planted specifically for grazing for covered livestock due to a qualifying drought during the normal grazing period for the County. For fire, the grant provides payments to eligible livestock producers that have suffered grazing losses on rangeland managed by a federal agency if the eligible livestock producer is prohibited by the federal agency from grazing the normal permitted livestock on the managed rangeland due to a qualifying fire.
Program Link	http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=elap
Program	USDA FSA Tree Assistance Program (TAP)
Program Mission	USDA FSA TAP provides financial assistance to qualifying orchardists and nursery tree growers to replant or rehabilitate eligible trees, bushes, and vines damaged by natural disasters occurring on or after Jan. 1, 2008, and before Oct. 1, 2011. TAP was authorized by the 2008 Farm Bill and is funded through the Agricultural Disaster Relief Trust Fund.
Eligible Applicant	<ul style="list-style-type: none"> Orchardists and nursery tree growers
Eligibility Requirements	<ul style="list-style-type: none"> Eligible Tree Types: <ul style="list-style-type: none"> Eligible trees, bushes, and vines are those from which an annual crop is produced for commercial purposes. Nursery trees include ornamental, fruit, nut, and Christmas trees produced for commercial sale. Trees used for pulp or timber are ineligible. Eligible orchardists and nursery tree growers must: <ul style="list-style-type: none"> Suffer qualifying tree, bush or vine losses in excess of 15 percent (adjusted for normal mortality) from an eligible natural disaster for the individual stand Have owned the eligible trees, bushes and vines when the natural disaster occurred; however, eligible growers are not required to own the land on which eligible trees, bushes and vines are planted Replace eligible trees, bushes and vines within 12 months from the date the application is approved
Program Link	http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=tap
Program	USDA FSA Emergency Forest Restoration Program (EFRP)
Program Mission	<p>The EFRP helps the owners of nonindustrial private forests restore forest health damaged by natural disasters. The EFRP does this by authorizing payments to owners of private forests to restore disaster-damaged forests.</p> <p>The local FSA County Committee implements EFRP for all disasters with the exceptions of drought and insect infestations. In the case of drought or an insect infestation, the national FSA office authorizes EFRP implementation.</p>
Eligible Applicant	<ul style="list-style-type: none"> Owners of nonindustrial private forests
Eligibility Requirements	<p>The FSA County Committee inspects the damage to determine if forest land is eligible for EFRP. For land to qualify for EFRP funds, the damage from the natural disaster must create new conservation problems that if not dealt with would:</p> <ul style="list-style-type: none"> Harm the natural resources on the land. Significantly affect future land use. <p>Only owners of nonindustrial private forests with tree cover existing before the natural disaster occurred are eligible to apply. The land must be owned by a private individual, group, association, corporation, or other private legal entity that has decision-making authority on the land and does not use the land for business purposes.</p>

United States Department of Agriculture (USDA)	
	Funding for EFRP is determined by Congress. Up to 75% of the cost to implement emergency conservation practices can be provided, however the final amount is determined by the committee reviewing the application. The FSA County Committee is able to approve applications up to \$50,000 while \$50,000 to \$100,000 requires state committee approval. Amounts over \$100,000 require the approval of the national FSA office. Additionally, a limit on payments of \$500,000 per person or entity per disaster applies.
Program Link	http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=efrp
Program	USDA FSA Noninsured Crop Disaster Assistance Program
Program Mission	Provides financial assistance to producers of noninsurable crops when low yields, loss of inventory, or prevented planting occurs due to natural disasters.
Eligible Applicant	<ul style="list-style-type: none"> • A landowner, tenant, or sharecropper who shares in the risk of producing an eligible crop and is entitled to an ownership share of that crop.
Eligibility Requirements	<p>Notification Requirements When a crop or planting is affected by a natural disaster, producers must notify the FSA office where their farm records are maintained and complete Part B, (the Notice of Loss portion) of Form CCC-576, Notice of Loss and Application for Payment. This must be completed within 15 calendar days of whichever occurs earlier:</p> <ul style="list-style-type: none"> • Natural disaster occurrence • Final planting date if planting was prevented by a natural disaster • Date damage to the crop or loss of production became apparent • The normal harvest date <p>The natural disaster must have either:</p> <ul style="list-style-type: none"> • Reduced the expected unit production of the crop by more than 50 percent, or • Prevented the producer from planting more than 35 percent of the intended crop acreage. <p>Expected production is the amount of the crop produced in the absence of a natural disaster. FSA compares expected production to actual production to determine the percentage of crop loss.</p> <p>Eligible Producers An eligible producer is a land-owner, tenant, or sharecropper who shares in the risk of producing an eligible crop and is entitled to an ownership share of that crop. As authorized by the Food, Conservation, and Energy Act of 2008 (2008 Act), an individual's or entity's average nonfarm adjusted gross income limitation cannot exceed \$500,000 to be eligible for NAP.</p> <p>Eligible Crops Eligible crops must be commercially produced agricultural commodity crops for which the catastrophic risk protection level of crop insurance is not available and be any of the following:</p> <ul style="list-style-type: none"> • Crops grown for food • Crops planted and grown for livestock consumption, including, but not limited to grain and forage crops, including native forage • Crops grown for fiber, such as cotton and flax (except for trees) • Crops grown in a controlled environment, such as mushrooms and floriculture • Specialty crops, such as honey and maple sap • Value loss crops, such as aquaculture, Christmas trees, ginseng, ornamental nursery and turf grass sod • Sea oats and sea grass • Seed crops where the propagation stock is produced for sale as seed stock for other eligible NAP crop production <p>Eligible Natural Disaster An eligible natural disaster is any of the following:</p>

United States Department of Agriculture (USDA)	
	<ul style="list-style-type: none"> • Damaging weather, such as drought, freeze, hail, excessive moisture, excessive wind or hurricanes, • An adverse natural occurrence, such as earthquake or flood; A condition related to damaging weather or an adverse natural occurrence, such as excessive heat, plant disease, volcanic smog, insect infestation, or • Any combination of these conditions. <p>The natural disaster must occur during the coverage period, before or during harvest and must directly affect the eligible crop</p>
Program Link	http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=nap
Program	USDA FSA Livestock Indemnity Program (LIP)
Program Mission	<ul style="list-style-type: none"> • Specific provisions for the LIP will be implemented through separate rulemakings and announced at a later date.
Eligible Applicant	<ul style="list-style-type: none"> • To be eligible for LIP, a livestock producer must have legally owned the eligible livestock on the day the livestock died.
Eligibility Requirements	<p>Eligible Livestock Owners To be eligible for LIP, an owner's livestock must:</p> <ul style="list-style-type: none"> • Have died as a direct result of an eligible adverse weather incident occurring: • On or after Jan. 1, 2008, and before Oct. 1, 2011; and • No later than 60 calendar days from the ending date of the applicable adverse weather incident. <p>In the calendar year for which benefits are requested, an owner's livestock must:</p> <ul style="list-style-type: none"> • Have been maintained for commercial use as part of a farming operation on the day they died; and • Not have been produced for reasons other than commercial use as part of a farming operation. <p>Excluded livestock includes wild free roaming animals, pets or animals used for recreational purposes, such as hunting, roping or for show.</p> <p>Eligible Livestock Contract Growers To be eligible for LIP, a contract grower must have had the following on the day the livestock died:</p> <ul style="list-style-type: none"> • Possession and control of the eligible livestock and; • A written agreement with the eligible livestock owner setting the specific terms, conditions and obligations of the parties involved regarding the production of livestock. <p>To be eligible for LIP, a contract grower's livestock also must have met the following conditions. The livestock must:</p> <ul style="list-style-type: none"> • Have been poultry or swine; • Have died as a direct result of an eligible adverse weather incident occurring; <ul style="list-style-type: none"> ○ On or after Jan. 1, 2008, and before Oct. 1, 2011, and; ○ No later than 60 calendar days from the ending date of the adverse weather event(s) and; ○ In the calendar year for which benefits are requested. • Have been maintained for commercial use as part of a farming operation on the day they died; and • Not have been produced for reasons other than for commercial use as part of a farming operation. This includes wild free roaming animals, pets, or animals used for recreational purposes, such as hunting or for show.
Program Link	http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=lip
Program	USDA FSA Emergency Farm Loans

United States Department of Agriculture (USDA)	
Program Mission	<p>USDA's FSA provides emergency loans to help producers who own or operate located in a county declared by the President or designated by the secretary of agriculture as a primary disaster area or quarantine area. All counties contiguous to the declared designated, or quarantined primary counties also are eligible for emergency loans.</p> <p>Emergency loan funds may be used to:</p> <ul style="list-style-type: none"> • Restore or replace essential property. • Pay all or part of production costs associated with the disaster year. • Pay essential family living expenses. • Reorganize the farming operation. • Refinance certain debts, excluding real estate. <p>The maximum loan amount for an emergency loan is \$500,000.</p>
Eligible Applicant	<ul style="list-style-type: none"> • Farmers and ranchers
Eligibility Requirements	<p>Eligible Applicants</p> <p>Emergency loans may be made to farmers and ranchers who:</p> <ul style="list-style-type: none"> • Own or operate land located in a county declared by the President or designated by the secretary of agriculture as a primary disaster area or quarantine area. All counties contiguous to the declared designated, or quarantined primary counties also are eligible for emergency loans. A disaster designation by the FSA administrator authorizes emergency loan assistance for physical losses only in the designated and contiguous counties. • Are established family farm operators and have sufficient farming or ranching experience. • Are citizens or permanent residents of the United States. • Have suffered at least a 30 percent loss in crop production or a physical loss to livestock, livestock products, real estate or chattel property. • Have an acceptable credit history. • Are unable to receive credit from commercial sources. • Can provide collateral to secure the loan. • Have repayment ability. <p>Loan Requirements</p> <p>FSA loan requirements are different from those of other lenders. Some of the more significant differences are the following:</p> <ul style="list-style-type: none"> • Borrowers must keep acceptable farm records; • Borrowers must operate in accordance with a farm plan they develop and agree to with local FSA staff and; • Borrowers may be required to participate in a financial management training program and obtain crop insurance.
Program Link	http://www.fsa.usda.gov/FSA/webapp?area=home&subject=fmlp&topic=efl
Program	USDA FSA Livestock Forage Disaster Program (LFP)
Program Mission	This program provides financial assistance to producers who suffered grazing losses due to drought or fire on or after January 1, 2008, and before October 1, 2011, during the calendar year in which the loss occurs. Fire losses must have occurred on federally managed lands.
Eligible Applicant	<ul style="list-style-type: none"> • Livestock producers
Eligibility Requirements	<p>Eligible Counties for Drought</p> <p>An eligible livestock producer that owns or leases grazing land or pastureland physically located in a county rated by the U.S. Drought Monitor as having a severe drought.</p> <p>A map of eligible counties for LFP drought may be found at http://disaster.fsa.usda.gov.</p> <p>Eligible Livestock</p>

United States Department of Agriculture (USDA)	
	<p>Eligible livestock types under LFP include alpacas, beef cattle, buffalo, beefalo, dairy cattle, deer, elk, emus, equine, goats, llamas, poultry, reindeer, sheep or swine that have been or would have been grazing the eligible grazing land or pastureland:</p> <ul style="list-style-type: none"> • During the normal grazing period for the specific type of grazing land or pastureland for the County; or • When the federal agency excluded the livestock producer from grazing the normally permitted livestock on the managed rangeland due to fire. <p>Eligible livestock must:</p> <ul style="list-style-type: none"> • Have been owned, purchased or entered into a contract to purchase during the 60 days prior to the beginning date of a qualifying drought or fire condition; • Have been held by a contract grower or sold or otherwise disposed of due to a qualifying drought condition during the current production year or one or both of the two production years immediately preceding the current production year; • Have been maintained for commercial use as part of a farming operation on the beginning date of the eligible drought or fire condition; • Not have been produced and maintained for reasons other than commercial use as part of a farming operation. (Such excluded uses include, but are not limited to, wild free roaming animals or animals used for recreational purposes such as pleasure, hunting, pets, roping or for show); and • Not have been livestock that were or would have been in a feedlot on the beginning date of the qualifying drought or fire as part of the normal business operation of the producer. <p>Eligible Producers To be eligible for LFP, producers must:</p> <ul style="list-style-type: none"> • Own, cash or share lease, or be a contract grower of covered livestock during the 60 calendar days before the beginning date of a qualifying drought or fire. • Provide pastureland or grazing land for covered livestock, including cash-rented pastureland or grazing land that is either: <ul style="list-style-type: none"> ○ Physically located in a county affected by a qualifying drought during the normal grazing period for the county; ○ Rangeland managed by a federal agency for which the otherwise eligible livestock producer is prohibited by the federal agency from grazing the normally permitted livestock because of a qualifying fire; or ○ Certify that they have suffered a grazing loss because of a qualifying drought or fire.
Program Link	http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=lfp

Federal Highway Administration (FHWA)	
Program	FHWA Emergency Relief (ER) Program
Program Mission	<p>Congress authorized in Title 23, United States Code, Section 125, a special program from the Highway Trust Fund for the repair or reconstruction of federal aid highways and roads on federal lands which have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause. This program, commonly referred to as the emergency relief or ER program, supplements the commitment of resources by states, their political subdivisions, or other federal agencies to help pay for unusually heavy expenses resulting from extraordinary conditions.</p> <p>The applicability of the ER program to a natural disaster is based on the extent and intensity of the disaster. Damage to highways must be severe, occur over a wide area, and result in unusually high expenses to the highway agency. Applicability of ER to a catastrophic failure due to an external cause is based on the criteria that the failure was not the result of an inherent flaw in the facility but was sudden, caused a disastrous impact on transportation services, and resulted in unusually high expenses to the highway agency.</p>

Federal Highway Administration (FHWA)	
Eligible Applicant	<ul style="list-style-type: none"> • States
Eligibility Requirements	<ul style="list-style-type: none"> • Eligibility Requirements <ul style="list-style-type: none"> ○ Roads and bridges on federal aid highways as a direct result of a natural disaster or a catastrophic failure ○ Federal aid highways are public roads classified as arterial, urban collectors and major rural collectors ○ At least \$700,00 (federal share) in eligible damage ○ A minimum \$5,000 in repair costs per site ○ Generally provides for repair and restoration of highway facilities to pre-disaster conditions • Eligible Activities <ul style="list-style-type: none"> ○ Engineering and right-of-way ○ Indirect costs ○ Detours and temporary substitute highway traffic service* ○ Traffic damage ○ Overlays ○ Raising grades ○ Slides ○ Work on active construction projects* ○ Toll facilities* ○ Traffic control devices ○ Landscaping* ○ Roadside appurtenances* ○ Timber and debris removal* ○ Transportation System Management Strategies ○ Projects and project features resulting from the National Environmental Policy Act (NEPA) process ○ Outside of the highway right-of-way* ○ Administrative expenses ○ Supplies and materials ○ Equipment ○ Catastrophic failure from external cause <p>*Program changes as of May 31, 2013 resulting from the Moving Ahead for Progress in the 21st Century Act (MAP-21) (P.L. 112-141)</p>
Program Link	http://www.fhwa.dot.gov/programadmin/erelief.cfm

United States Department of Housing and Urban Development (HUD)	
Program	Community Development Block Grant (CDBG) Disaster Recovery Assistance
Program Mission	HUD provides flexible grants to help cities, counties, and states recover from Presidentially declared disasters, especially in low-income areas subject to availability of supplemental appropriations.
Eligible Applicant	CDBG Disaster Recovery funds are made available to states, units of general local governments, Native American Indian tribes and insular areas designated by the President of the United States as disaster areas. These communities must have significant unmet recovery needs and the capacity to carry out a disaster recovery program (usually these are governments that already receive HOME or CDBG allocations). At times, supplemental appropriations restrict funding solely to states rather than the local cities and/or counties.
Eligibility Requirements	<p>Eligible Activities</p> <p>Grantees may use CDBG Disaster Recovery funds for recovery efforts involving housing, economic development, infrastructure, and prevention of further damage to affected areas, if</p>

United States Department of Housing and Urban Development (HUD)	
	<p>such use does not duplicate funding available from the Federal Emergency Management Agency, the Small Business Administration, and the U.S. Army Corps of Engineers.</p> <ul style="list-style-type: none"> • Examples of these activities include: <ul style="list-style-type: none"> ○ Buying damaged properties in a flood plain and relocating residents to safer areas; ○ Relocation payments for people and businesses displaced by the disaster; ○ Debris removal not covered by FEMA; ○ Rehabilitation of homes and buildings damaged by the disaster; ○ Buying, constructing, or rehabilitating public facilities such as streets, neighborhood centers, and water, sewer and drainage systems; ○ Code enforcement; ○ Homeownership activities such as down payment assistance, interest rate subsidies and loan guarantees for disaster victims; ○ Public services (generally limited to no more than 15 percent of the grant); ○ Helping businesses retain or create jobs in disaster-impacted areas; and ○ Planning and administration costs (limited to no more than 20 percent of the grant).
Program Link	http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs/drsi

Natural Resource Conservation Services (NRCS)	
Program	Emergency Watershed Protection Program
Program Mission	The purpose of the Emergency Watershed Protection program is to undertake emergency measures, including the purchase of flood plain easements, for runoff retardation and soil erosion prevention to safeguard lives and property from floods, drought, and the products of erosion on any watershed whenever fire, flood or any other natural occurrence is causing or has caused a sudden impairment of the watershed.
Eligible Applicant	All projects undertaken must be sponsored by a political subdivision of the state, such as a city, county, general improvement district, or conservation district.
Eligibility Requirements	<ul style="list-style-type: none"> • Eligible Activities <ul style="list-style-type: none"> ○ Providing financial and technical assistance to remove debris from streams ○ Protecting destabilized stream banks ○ Establishing cover on critically eroding lands ○ Repairing conservation practices ○ Purchasing of flood plain easements <p>Contact the local USDA Service Center or NRCS Field Office or NRCS State Office for assistance.</p> <p>To be eligible for assistance, Applicant must have pre-approval from NRCS prior to starting the work.</p>
Program Link	http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/ewp/

ATTACHMENT O FEMA PA GRANT PROGRAM PROCESS OVERVIEW

FEMA PA Grant Program Process Overview¹⁰

Preliminary Damage Assessment

The preliminary damage assessment (PDA) is a joint assessment used to determine the magnitude and impact of an event's damage. A team of representatives from FEMA, the State of Oregon and the local jurisdiction will visit local sites and view the damage first-hand to assess the scope of damage and estimate repair costs. The State of Oregon uses the results of the PDA to determine if the situation is beyond the combined capabilities of the state and local resources and to verify the need for supplemental federal assistance. The PDA also identifies any unmet needs that may require immediate attention.

Governor's Request

The Stafford Act requires that: "All requests for a declaration by the President that a major disaster exists shall be made by the Governor of the affected State."

The Governor's request is made through the regional FEMA office. State and federal officials conduct a PDA to estimate the extent of the disaster and its impact on individuals and public facilities. This information is included in the Governor's request to show that the disaster is of such severity and magnitude that effective response is beyond the capabilities of the state and the local governments and that federal assistance is necessary. Normally, the PDA is completed prior to the submission of the Governor's request. However, when an obviously severe or catastrophic event occurs, the Governor's request may be submitted prior to the PDA. Nonetheless, the Governor must still make the request.

As part of the request, the Governor must take appropriate action under state law and direct execution of the State of Oregon's emergency plan. The Governor will provide the following information:

- Information on the nature and amount of state and local resources that have been or will be committed to alleviating the results of the disaster
- An estimate of the amount and severity of damage and the impact on the private and public sector
- An estimate of the type and amount of assistance needed under the Stafford Act

In addition, the Governor will need to certify that, for the current disaster, state and local government obligations and expenditures (of which state commitments must be a significant proportion) will comply with all applicable cost-sharing requirements.

Disaster Declaration and Initiation of Federal Programs

Based on the Governor's request, the President may declare that a major disaster or emergency exists, thus activating an array of federal programs to assist in the response and recovery effort. Not all programs, however, are activated for every disaster. The determination of which programs are activated is based on the needs found during damage assessment and any subsequent information that may be discovered.

Some declarations will provide only FEMA Individual Assistance or only PA Hazard mitigation opportunities are assessed in most situations.

Applicants' Briefing

¹⁰ FEMA Public Assistance Program and Policy Guide, FP 104-009-2, January 2016

The Applicants' Briefing is a meeting conducted by the State of Oregon to inform prospective applicants of available assistance and eligibility requirements for obtaining federal assistance under the declared event. The meeting is held as soon as practicable following the President's declaration.

During the briefing, the State of Oregon will present the incident period and a description of the declared event. Applicant, work, and cost eligibility will be reviewed and the project formulation process will be introduced. The State will also discuss funding options, record keeping and documentation requirements, and special consideration issues.

Typically, applicants will prepare and submit their Requests for PA form during the briefing.

Request for PA

The Request for PA is FEMA's official application form that public and PNP organizations use to apply for disaster assistance. It is a simple, short form with self-contained instructions. "The Request" (FEMA Form 90-49) asks for general information which identifies the applicant, starts the grant process, and opens the Case Management File, which contains general claim information as well as records of meetings, conversations, phone messages and any special issues or concerns that may affect funding.

The request must be submitted to the regional administrator within 30 days after designation of the area where the damage occurred. The form may be delivered in person at the Applicants' Briefing, sent by mail, or faxed.

Kickoff Meeting

The first meeting between the applicant, the State Public Assistance Coordinator (PAC) and State Applicant Liaison is called the kickoff meeting. A kickoff meeting is held with each applicant to assess the applicant's individual needs, discuss disaster-related damage, and set forth a plan of action for repair of the applicant's facilities. The liaison will provide the state-specific details on documentation and reporting requirements. Both the PAC and Liaison help in identifying special considerations.

Project Formulation and Cost Estimating

Project formulation is the process of documenting the damage to a facility, identifying the eligible scope of work and estimating the costs associated with that scope of work for each of the applicant's projects.

Project formulation allows applicants to administratively consolidate multiple work items into single projects in order to expedite approval and funding, and to facilitate project management. A project is a logical method of performing work required as a result of the declared event. More than one damage site may be included in a project.

Project information is collected in a form called a PW, which is used to document the disaster damage and develop the scope of work for repair.

Project Review and Validation

The purpose of validation is to confirm the eligibility, compliance, accuracy, and reasonableness of small projects formulated by an applicant, and to ensure that the applicant receives the maximum amount of assistance available under the law.

The validation process reviews approximately 20 percent of the small projects formulated by the applicant. This 20 percent sampling applies to all small projects, including emergency work, permanent work, and small projects with special considerations. All aspects of the projects are reviewed including the sites, estimating methods, and documentation related to the project.

The process of approval, as outlined above, begins with the PAC's review of PWs for completeness. Once the PWs are reviewed and processed through validation and special considerations review as appropriate, the PWs are ready for approval and funding.

The PAC has the authority to approve projects up to \$100,000. Therefore, any project below this threshold will be approved by the PAC and forwarded for funding. The PAC will forward projects over this threshold to the FEMA Public Assistance Officer (PAO) with a recommendation for approval. Once the PAO has approved the PW, it will then be forwarded for funding.

Obligation of Federal Funds and Disbursement to Subgrantees

FEMA and the grantee share responsibility for making PA Program funds available to the subgrantees. FEMA is responsible for approving projects and making the federal share of the approved amount available to the grantee through a process called obligation.

Through obligation, FEMA notifies the grantee that the federal funds are available but reside in a federal account until the grantee is ready to award grants to the appropriate subgrantees. The grantee is responsible for providing the grantee portion of the non-federal share of the grant amount and for notifying the subgrantee that funds are available.

Payment for small projects is made on the basis of the estimate prepared at the time of project approval. The grantee is required to make payment of the federal share to the subgrantee as soon as practicable after FEMA has obligated the funds.

Large projects are funded on documented actual costs. Because of the nature of most large projects, work typically is not complete at the time of project approval; therefore, FEMA will obligate grants based on an estimated cost. Such monies may not be immediately drawn down by the grantee. Instead, progress payments are made to the applicant as actual costs are documented.

Upon completion of a large project, an applicant must submit documentation to account for all incurred costs to the grantee. The grantee is responsible for ensuring that all incurred costs are associated with the approved scope of work and for certifying that work has been completed in accordance with FEMA standards and policies. The grantee then submits documentation of project costs to FEMA for review. FEMA may conduct a final inspection as part of this review. Once the review is complete, FEMA determines whether funds should be obligated or deobligated for the project.

Appeals and Closeout

The appeals process is the opportunity for applicants to request reconsideration of decisions regarding the provision of assistance. There are two levels of appeal. The first level appeal is to the FEMA Regional Director. The second level appeal is to the Assistant Director at FEMA Headquarters. The applicant must file an appeal with the grantee within 60 days of receipt of a notice of the action that is being appealed. The applicant must provide documentation to support the appeal. This documentation should explain why the applicant believes the original determination is wrong and the amount of adjustment being requested.

The purpose of closeout is to certify that all recovery work has been completed, appeals have been resolved, and all eligible costs have been reimbursed. Closeout is an important last step in the PA Program process. This step can take months or years to complete. It is important to keep well-organized records and documentation throughout the closeout process.

ATTACHMENT P MULTNOMAH FORCE ACCOUNT RESOURCE CALCULATOR

Estimated Days to Completion Using Force Account	
Estimated Cubic Yards	20,000.00
<i>Input the estimated cubic yards of debris generated by the disaster event.</i>	
Average Hauling Unit Size	15
<i>Input the units to be assigned to debris removal on the "Hauling Equipment" worksheet. The average hauling unit size will populate from the inputs.</i>	
Number of Units Working	1
<i>Input the units to be assigned to debris removal on the "Hauling Equipment" worksheet. The inputs provided will be assumed as assigned to debris removal and used in the calculations.</i>	
Impacted Area	Rural
<i>Select an impacted area. For the purposes of calculating the days to completed it is assumed that urban areas will have more traffic congestion and results in fewer loads per day.</i>	
Estimated Loads Per Day	6
<i>Estimated loads per day are based on the selected "impact area"</i>	
<u>Day to Completion:</u>	<u>278</u>

ATTACHMENT Q POTENTIAL VENDORS LIST

Arrow Sanitary

12820 NE Marx St.
Portland, OR 97230

Corbett Garbage Service

38123 E. Hist Col Riv Hwy
Corbett, OR 97019

ECR/Resource Recovery

12409 NE San Rafael St.
Portland, OR 97230

Gresham Sanitary Service

2131 NW Birdsdales Ave.
Gresham, OR 97030

Hoodview Disposal

PO Box 1110
Canby, OR 97013

MVS Recycling-Rockwood Solid Waste

2550 NW Burnside Ct.
Gresham, OR 97030

Recology Portland

9345 N. Harborgate St.
Portland, OR 97203

Twelve-Mile Disposal Service

2430 NW Marine Dr.
Troutdale, OR

Walker Garbage Service, Inc.

21845 NW Cherry Ln.
Hillsboro, OR 97124

Waste Management of Oregon

5330 NE Skyport Way
Portland, OR 97218

ATTACHMENT R DEBRIS REMOVAL EQUIPMENT

Indicates Emergency Debris Equipment							
1-Ton Truck		Trucks		VMS			
P-17		T-4	Vactor	U-1	D-1	Light Plant	
P-25		T-21	Volvo	U-12	D-4	U-15	Yeon
P-103		T-23	Volvo	U-14	D-4	U-16	D-1
P-50		T-44	Volvo	U-29	D-4	U-17	Yeon
P-111	Fuel	T-46	Volvo	U-4	D-1		
P-32		T-47	International	U-6	Bridge	Crack Sealer	
P-36	Sign Van	T-40	Flusher			N-1	
P-41		T-28	FWD	Mower		N-11	
P-47	Crew	T-30	FWD	M-10			
P-48	Emergency	T-32	Striper	M-7		Tarpot	
P-51						N-15	
P-52						N-16	
P-57	Crew	Brooms		Chipper			
P-58	Crew	B-8	Elgin	CH-3			
P-72		B-9	Superior	CH-5		Trailer	
P-73		B-10	Superior			J-23	
P-74				Compressor		J-24	
P-75		Rollers		U-28		J21	
P-93		R-10	Cat	U-11			
P-104		R-13	Cat				
P-105		R-14	Pneumatic				
P-106		R-2	Pneumatic	Chainsaw			
P-107							
P-108		Mini					
P-109		H-10	Excavator				
		H-11	Excavator				
HEO		Loader					
H-12	Spreader	L-5					
H-2	Backhoe	L-11					
H-9	Grinder	L-12					

ATTACHMENT S DISASTER DEBRIS MANAGEMENT FRAMEWORK EXISTING TOOLS AND RESOURCES

LIST OF MUTUAL AID AGREEMENTS

Agreement	Type (e.g., MAA, MOU,	Participants	Participation Required (e.g., voluntary)	Service Requirement	How Activated	Types of Resources Available
Emergency Management Assistance Compact	MAA	All 50 U.S. States	Voluntary	Assistance is obligatory "provided that it is understood that the state rendering aid may withhold resources to	Governor proclaims state of emergency, resources requested through WAEMD or OEM.	All types of resources, including debris clearance equipment and staff
Portland Metropolitan Area Transportation (PMAT)	IA	Clackamas, Columbia, Multnomah, and Washington Counties	Voluntary			Equipment and services
Oregon Public Works Cooperative Assistance Agreement	CAA	Clackamas, Columbia, Multnomah, and Washington Counties	Voluntary			
Emergency Transportation Route	MOU	Clackamas, Clark, Columbia, Multnomah, and Washington	Voluntary			

ATTACHMENT T DISASTER DEBRIS MANAGEMENT FRAMEWORK DEBRIS CLEARANCE AND REMOVAL MATERIALS

RIGHT-OF-ENTRY PERMIT

Please use ballpoint or rollerball pens and print clearly.

<u>For FEMA/State/local/Tribal Use Only:</u>			
ROE No.:	Age of Structure:		
GPS Location – Long:	Lat:		
Remarks:			
Owner Name:			
Insurance Company; Policy No. and Claim No.:			
Owner's FEMA Individual Assistance Registration Number:			
Street Address:			
City/Town:			
County:			
Phone – Primary:		Alternate:	

The undersigned, (“Owner”), hereby unconditionally authorizes the City/Town/County in which the above property is located (City/Town/County), the State in which the above property is located (State), tribal governments, the United States of America including the Federal Emergency Management Agency (FEMA) , and participating Voluntary Organizations Active in Disaster (VOAD), and their respective assigns, employees, agents, and contractors (collectively, with FEMA, the “Assistance Providers”) to have the right of access and to enter in and onto the property described above for the purpose of performing inspections and/or emergency protective measures resulting from _____ at no expense to Owner for purposes of participating in the Sheltering and Temporary Essential Power (STEP) Assistance Program. It is fully understood that this Right of Entry Permit (ROE) does not create any obligation on the part of the Assistance Providers to perform inspections or undertake emergency protective measures to the Property. Owner understands that no emergency protective measures will be performed until this ROE is completed in full.

1. Time Period: The ROE shall expire 90 days after this form is signed, unless sooner cancelled according to the terms herein.

2. Inspection/Emergency Protective Measures Authorized: The ROE authorizes inspection, and emergency protective measures to the Property. Owner understands that the Government, its employees, agents, contractors and/or representatives shall, in their sole discretion, determine the extent of the required emergency protective measures. If Owner disagrees with the nature or extent of proposed actions, Owner may refuse any additional work and cancel this ROE at any time.

Debris Clearance and Removal Materials

Owner: _____	Property _____
<i>Page 2</i>	Address: _____

3. Disclosures: By signing this ROE, Owner acknowledges that none, some, or all of the following work may be performed pursuant to this ROE and FEMA policy. Owner further acknowledges that work may involve the use of raw, unfinished materials to provide only emergency protective measures.

- 1) Repairs to storm-damaged electrical meters (consisting of the weather head, service cable, meter socket, and meter box) necessary for a utility to re-energize the residence;
- 2) Measures necessary to provide essential electrical supply, heat, and hot water;
- 3) Disconnecting damaged portions of the residential electrical system not essential to restoring electrical supply to the meter and into the residential unit;
- 4) Securing broken windows, covering damaged exterior walls and roofs, and patching or otherwise securing damaged exterior doors; and/or
- 5) Inspections necessary to complete the aforementioned work

4. Local, State, Federal, and Tribal Governments and VOADS Held Harmless: The Owner acknowledges that the Government's decisions on whether, when, where, and how to provide disaster relief to Owner's property are discretionary functions. Owner recognizes that 42 USC § 5148 states: "The Federal Government shall not be liable for any claim based upon the exercise or performance of or the failure to exercise or perform a discretionary function or duty on the part of a Federal agency or an employee of the Federal Government in carrying out the provisions of this chapter." Additionally, the undersigned will indemnify and hold harmless the Assistance Providers for any and all liability, loss, damage, or destruction of any type whatsoever to the above described property or to personal property and fixtures situated thereon, or for bodily injury or death to persons on the property, and hereby releases, discharges and waives any and all liability, claims, demands, damages, injuries, losses, penalties, fines, costs, causes of action, judgments, expenses, as well as any and all actions, either legal or equitable, which the undersigned has, or that might arise, of any nature whatsoever and by whomever made, or may have, by reason of or incident to any action of aforesaid Assistance Providers taken to accomplish the aforementioned purpose.

5. Miscellaneous:

- a. Owner represents and warrants that Owner has full power and authority to execute and fully perform Owner's obligations under this ROE. If Owner is an entity, Owner also represents and warrants that Owner has such power and authority pursuant to its governing instruments, without the need for any further action, and that the person(s) executing this ROE on behalf of Owner are the duly designated agents of Owner and are authorized to do so. Owner expressly represents and warrants that fee title to the Premises is vested solely in Owner.
- b. This ROE includes the right of ingress and egress on other lands of the Owner not described above, provided such ingress and egress is necessary and not otherwise conveniently available to the Assistance Providers. All tools, equipment, and other property taken upon or placed upon the property by the Assistance Providers shall remain the property of the Assistance Providers and may be removed by the Assistance Providers at any time within a reasonable period after the expiration of this ROE, if necessary.

Debris Clearance and Removal Materials

Owner: _____	Property _____
Page 3	Address: _____

- c. Owner understands that any individual who fraudulently or willfully misstates any fact in connection with this ROE shall be subject to a fine as provided under 18 U.S.C. § 1001 or imprisoned for not more than five years or both.

Privacy Act Statement:

- a. Legal Authority: 10 U.S.C. § 3013; The Robert T. Stafford Disaster Relief and Emergency Assistance Act as amended, 42 U.S.C. §§ 5121-5207; 4 U.S.C. §§ 2904 and 2906; 4 C.F.R. § 206.2(a)(27).
- b. Information Sharing: Information is collected to make it possible for the Government, its employees, agents, contractors and/or representatives to enter your property, inspect for damage, and/or undertake emergency protective measures. Information submitted will be shared with other government agencies, Federal and nonfederal, their contractors, subcontractors and employees, as well as with voluntary agencies performing inspections and/or emergency protective, for official use only in accordance with the purposes stated in this ROE.
- c. Whether Disclosure is Mandatory or Voluntary: Disclosure is voluntary; however, failure to disclose the information will make it impossible for us to inspect your property, or undertake emergency protective measures may delay or prevent the individual from provision of disaster services and/or assistance.

Signature(s) and Witness

For the considerations and purposes set forth herein, I/we hereby set my/our hand(s) and seal(s) this _____ day of _____, 2012.

Owner Signature	Co-Owner Signature (if applicable)
Date	Date
Phone Number	Phone Number
Owner's FEMA Registration Number (if applicable)	WITNESS

ATTACHMENT U DRAFT SCOPE OF WORK

DEBRIS MANAGEMENT APPROACH

Multnomah County's approach to disaster debris management aligns with County and industry standards and principals. The goals of disaster debris management operations are to: 32.4.1 Protect the life, health, safety, and welfare of impacted citizens by debris removal and remediation efforts for hazardous debris.

- Ensure that debris clearance and removal efforts are coordinated, efficient, effective, environmentally sound, and are conducted in a cost effective and safe manner.
- Expedite economic and community recovery efforts in the impacted area.
- Eliminate any threat of significant damage to improved public or private property.

The primary objectives during a debris management effort are to:

- Clear debris from public right-of-ways that is hindering emergency response operations (typically beginning with emergency transportation routes). Once transportation routes fully allow emergency response operations, clear debris from high volume / critical routes to promote ingress / egress to critical facilities / infrastructure and essential governmental facilities.
- Ensure efficient infrastructure restoration efforts and reinstatement of essential government services by prioritizing debris removal operations that supports county / incident command identified disaster recovery objectives.
- Conduct debris removal operations in a manner that aligns with the waste management hierarchy: reuse, recycle, compost, energy recovery, and disposal. The county will utilize the current waste management infrastructure whenever possible.
- Promote safety for all debris management personnel through regular inspections and oversight of work sites.
- Ensure efficient and cost effective debris management operations through use of a robust monitoring program.

Assumptions include:

- The hazard profile associated with Multnomah County shows that large-scale catastrophic disasters are possible, which are capable of generating overwhelming volumes of debris. The following assumptions shape the current needs and capabilities for debris management operations in Multnomah County:
- A natural disaster that produces debris on public and potentially private lands and waters could occur at any time.
- The amount of debris resulting from an event or disaster could exceed the County's ability to dispose of it.
- Assistance may be available from within or outside the county through mutual aid and other existing agreements; however, the scope and magnitude of the event may cause these resources to be scarce or unavailable requiring state and federal support.
- During a large-scale disaster, the state may request a federal disaster declaration from Federal Emergency Management Agency (FEMA).

- During a catastrophic disaster, the County may request Direct Federal Assistance to manage debris operations.
- Existing solid waste processing facilities may be impacted by the disaster resulting in reduced or diminished operational capacity.
- Sufficient equipment and personnel will not be available to manage the county's disaster-related debris collection, removal, and disposal during a large-scale debris generating event.
- Private contractors will likely play a significant role in the debris removal, collection, reduction, and disposal process during a large-scale event.
- Although private citizens and businesses are expected to remove disaster-related debris from their own properties, both groups are likely to aggressively seek assistance from local government.
- Non-profit, volunteer organizations and convergent volunteers often provide assistance with debris removal from private property.

PURPOSE

The County seeks to establish a list of qualified, experienced and financially capable firms for Management of disaster generated FEMA eligible disaster debris and other emergency clearance activities associated with a natural or manmade disaster.

The County will use the information gained in this process to build and maintain an inventory of firms with whom it may offer future procurement. Work under a resulting contract may consist of clearing and removing any and all "eligible" debris as defined by all applicable State and Federal Guidance and policies.

Work may include evaluation of debris types, volumes, and locations to determine eligibility for reimbursement under FEMA Public Assistance program, loading the eligible debris and transporting it to an approved Temporary Debris Storage and Reduction (TDSR) site or approved final disposal facility as directed by the County.

Debris not defined as eligible by FEMA Publication 325 or State or Federal Disaster Specific Guidance or policies will not be cut, loaded, hauled, or dumped under the contract unless written instructions are given to the contractor by the County.

It shall be the contractor's responsibility, if specified in a pursuant contract, to cut, load, and transport any and all disaster generated debris resulting from an event, unless otherwise directed by the County.

Multnomah County will only make awards to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

(SAMPLE SCOPE OF WORK)

1 Disaster Debris Clearance and Removal Management firm shall be able to provide:

1.1 Debris identification. All debris identified in writing by the County will be required to be removed. The removal of ineligible debris that has not been identified by the County is strictly prohibited. The Contractor will make clearance or removal passes through the County, removing all debris along each street right-of-way (ROW) per the following:

1.1.1 It is at the County's discretion to require as many passes as may be required to remove all eligible debris. Partial removal of debris piles will be strictly prohibited.

1.1.2 The Contractor will not be authorized to move from one designated work area to another designated work area without prior approval from the County.

1.1.3 Any eligible debris, such as fallen trees, which extend onto the ROW from private property, will be cut at the point where it enters the ROW, and that part of the debris which lies within the ROW will be removed.

1.1.4 The Contractor will not be authorized to enter onto private property during the performance of a resulting contract unless specifically authorized by the County in writing and have an executed Right of Entry from the property owner.

1.2 Emergency ROW Clearance. Under a resulting contract, all work will consist of all labor, equipment, fuel and miscellaneous costs necessary to clear, only to the extent required, debris from eligible County roadways making them passable for emergency vehicular traffic, clear areas at critical facilities only to the extent required to provide access by emergency vehicles and essential personnel and drainage structure obstructions that are an obvious factor in flooding improved property and causing damage to roadways and bridges.

1.2.1 All County designated roadways will be passable, critical facilities accessible and drainage structures opened within seventy (70) working hours of the issuance of a Task Order from the County to conduct Emergency Clearance work. This may include roadways, critical facilities and drainage structures in the county.

1.2.2 The Contractor will be compensated based on the hourly rates submitted in response to a formal request for a bid. A maximum time limit of seventy (70) hours, seven ten hour days or any combination of hours/day that adds up to seventy hours of eligible work and is approved by the County, will be allowed for the emergency clearance mission, under any contract resulting from this solicitation.

1.3 Eligible ROW Vegetative Debris Removal. Current debris forecasting shows that during a catastrophic earthquake scenario, debris volumes generated could reach or exceed 1,000,000 cubic yards. The actual volume of debris to be disposed of during recovery operations is to be negotiated by the County and firm.

1.3.1 **Hazardous Trees.** Under the contract, work shall consist of all labor, equipment, fuel, maintenance of traffic costs and other associated costs necessary to remove all Eligible hazardous trees six (6) inches or greater in diameter, measured at breast height (4.5 feet) from the base of the tree existing on the County ROW.

1.3.2 **Hazardous Limbs.** Under the contract, work shall consist of all labor, equipment, fuel, maintenance of traffic costs and other associated costs necessary to remove Eligible Hazardous Limbs. Eligible hazardous limbs will be identified by the County or its authorized representative for removal.

1.3.3 **Hazardous Stumps.** Under the contract, work shall consist of all labor, equipment, fuel, maintenance of traffic costs, stump void backfill and other associated costs necessary to remove, and transport all eligible hazardous uprooted stumps greater than twenty-four (24) inches in diameter, measured twenty-four (24) inches from the base of the tree originating on the County ROW.

1.3.4 **Tree stumps that are not attached to the ground.** Under the contract, will be considered normal vegetative debris and subject to removal under the terms and conditions of scope of services in Section 4.2. The County or its authorized representative will measure and certify all eligible stumps prior to removal. The County's preference is to have FEMA personnel pre-validate Eligible Hazardous Stumps prior to removal.

1.4 Eligible ROW Construction and Demolition ("C&D") Debris Removal. Under the contract, work shall consist of all labor, equipment, fuel and miscellaneous costs to pick up and transport C&D debris existing in the County ROW to a County approved C&D TDSR or other County approved final disposal facility.

1.4.1 **C&D Debris Removal with Asbestos Containing Waste Material.** Any asbestos-containing waste materials (ACWM) that is discovered will need to be immediately segregated with minimal handling (to prevent releases of asbestos fibers). Operators must take care to keep non-friable asbestos in the non-friable state. Prior to removal, debris should be evaluated to identify any ACWM.

The Contractor shall use the services of State licensed asbestos contractors. Known or suspect ACWM should be disposed of by a licensed asbestos contractor. ACWM shall be disposed of in a landfill licensed to accept and dispose of ACWM.

1.4.2 Eligible ROW White Goods Removal. Under the contract, work shall consist of all labor, equipment, fuel, maintenance of traffic and miscellaneous costs associated with the removal of, transportation and recycling of White Goods existing on the County ROW. White Goods containing refrigerants will be hauled to a County approved staging area where certified technicians will remove the refrigerants.

1.4.3 Eligible ROW Soil, Sand and Mud Removal. Under the contract, work shall consist of all labor, equipment, fuel, maintenance of traffic and miscellaneous costs associated with the removal and transportation of soil, sand and mud existing on the County ROW. Soil, sand and mud will be hauled to a County approved site.

1.4.4 Eligible ROW Abandoned Vehicle Removal. Under the contract, work shall consist of all labor, equipment, fuel, traffic control costs and other associated costs necessary for the removal and haul off of Eligible abandoned vehicles in areas identified and approved by the County. The removed Eligible vehicles will be hauled to a County approved staging area and subsequently disposed of by the appropriate regulatory agency.

1.4.5 Eligible ROW Putrescent Debris Removal. Under the contract, work shall consist of the removal of animal carcasses in areas identified and approved by the County and organic debris removed from collected eligible white goods. The carcasses will be collected and disposed of in accordance with Natural Resource and Conservation (NRCS) specific guidelines.

1.4.6 Eligible ROW Electronic Waste Removal. Under the contract, work shall consist of removal; transportation to a County approved staging area for electronic components removed from the ROW.

1.4.7 Eligible Demolition, Removal, Loading and Transport of Structures. Under the contract, work shall consist of all labor, equipment, fuel and miscellaneous costs necessary to demolish structures on public property and under authorization by the Federal Contracting Officer (FCO) private property within the jurisdictional limits of the County. Further, debris generated from the demolition of structures, as well as scattered C&D debris on private property, will be transported to a County approved TDSR or final disposal facility.

1.4.8 Debris Volume Estimates. Current debris quantity forecasting relies upon United States Army Corps of Engineers (USACE) Hurricane debris forecasting methods. This model was chosen due to a lack of forecasting techniques and historical data based on the types of events likely to occur in within the region. It is currently estimated that large scale debris generating events that would require clearance and removal contracting could range in size from 50,000 cubic yards to 1,000,000 cubic yards. More robust forecasting estimates are currently being explored; however this data is not yet available.

1.5 Technical Specifications:

1.5.1 Debris Removal. All debris identified by the County or its authorized representative will be removed. The Contractor will make the necessary passes through the County, removing all debris along each street ROW. Partial removal of debris piles is strictly prohibited. The Contractor shall not move from one designated work area to another designated work area without prior approval from the County or its representative.

The Contractor will deliver eligible disaster debris designated to a County approved TDSR or final disposal facility permitted to receive disaster generated debris and in compliance with all federal, state, and local regulations. All debris will be mechanically loaded. Hauling vehicles that are hand-loaded or that require mechanical assistance for dumping will not be permitted, unless approved in advance by the County or its authorized representative.

1.5.2 **Disposal.** The Contractor may be responsible for identifying three potential final disposal sites and associated tipping fees and three potential recycling facilities and associated fees and will report this information to the County. Both in-state and out-of-state facilities must meet all applicable environmental standards and regulations. The County will have final approval for the ultimate disposal location of disaster debris. Disposal tip fees will be submitted to the County for reimbursement as a pass through cost if accrued by the contractor.

1.5.3 **Project Management.** Contractor will provide an on-site Project Manager to the County or its authorized representative. The Project Manager will be expected to have daily meetings with the County or its authorized representative.

1.5.4 **Reports.** A written Daily Report will be submitted to the County or its authorized representative each morning prior to the meeting. Project Manager must be available twenty-four (24) hours-day, or as required by the County or its authorized representative.

1.5.5 **Use of Local Resources.** Pursuant to Section 307 of the Stafford Act communities are required to give preference to local firms in the award of contracts in major disasters and emergencies to the extent it is feasible and practicable. The Contractor will take this requirement into consideration in its use of local sub-contractors. The Contractor is urged to consider utilization of minority, women-owned, and Labor Surplus Area businesses and firms into consideration when procuring supplies and equipment, as well as awarding subcontracts and employing people.

1.6 **Worker Safety.** The Contractor shall supervise and direct all work related to both debris clearance and removal, ensuring skilled labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the Contractor. The Contractor (s) shall designate in writing the individual responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work to be performed.

1.7 **Work Hours.** Monday through Saturday, the Contract work hours shall only be during daylight hours between 7:00am and 7:00pm, or as otherwise directed by the County. No work outside these hours shall be allowed unless approved in advance by the County.

1.8 **Equipment.** All trucks and other equipment must be in compliance with all applicable local, state, and federal rules and regulations. Any truck used to haul debris must be capable of rapidly dumping its load without the assistance of other equipment, be equipped with a tailgate that will effectively contain the debris during transport and permit the truck to be filled to capacity.

1.8.1 Trucks or equipment designated for use under the contract will not be used for any other work during the contract. The Contractor shall not solicit work from private citizens or others to be performed in the designated work area during the period of the contract. Under no circumstances will the Contractor mix debris hauled for others with debris hauled under the contract. Equipment used under the contract shall be rubber tired and sized properly to fit loading conditions.

1.9 **Traffic Control.** The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs and other traffic control devices at all Contractor work areas in compliance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All work shall be done in conformity with all applicable Federal, State and local laws, regulations, and ordinances governing personnel, equipment and work place safety.

1.9.1 Contractor shall provide qualified flag personnel, as described in the MUTCD, where necessary to direct the traffic and shall take all necessary precautions for the protection of the work, and the safety of the public. Highways, streets or parts of the work closed to through traffic shall be protected by effective barricades, and obstructions shall be illuminated during the hours from sunset to sunrise. The expense incurred by the Contractor for Traffic Control shall be included within the submitted rates on final bid sheet. No additional compensation for traffic control will be made.

1.10 **Damage to Public or Private Property**

1.10.1 Contractor is responsible for all damage, injury or loss to any property.

1.10.2 Contractor will restore all disturbed areas to their original condition, including permanent grass and any other means determined to be necessary.

1.11 Existing Utilities

1.11.1 Some trees and debris which are to be removed under the contract may be blocked or entangled with overhead power, telephone, and television cables. In this case, it shall be Contractor's responsibility to coordinate directly with the utility owners to arrange for the removal of the debris without damage to the overhead and underground utility lines. The Contractor is responsible for all damages incurred to utility infrastructure during debris removal operations. The Contractor is responsible for coordinating debris removal operations with the owners / operators of the utility infrastructure.

1.12 Environmental Protection

1.12.1 All chemicals of whatever nature used during project construction or furnished for project operation must show EPA or USDA approval certification. Their use and disposal of all residues shall be in strict compliance with instructions.

1.12.2 The Contractor shall, at its own expense, ensure that noise and dust pollution is minimized to comply with all Local and State ordinances and the County or its authorized representative.

1.13 Documentation and Measurement

1.13.1 **Truck Certification.** Prior to beginning any work, the County, or its representative, will clearly number each truck hauling debris or piece of equipment loading debris. All vehicles must be certified by the County, or its representative, prior to debris collection.

1.13.2 **Subcontractors.** Contractor will be responsible for ensuring that all sub-contractors maintain valid driver's licenses and equipment legally fit for travel on the road.

1.13.3 **Load Tickets.** Five (5) part Load Tickets will be provided by the Contractor for use by the County or its representative for recording volumes of debris removal. The Contractor's Load Tickets shall meet FEMA 325 recommendations. Electronic load tickets may be implemented at the County's discretion.

1.13.4 **Reports.** The Contractor shall submit a report each day. The report should accurately document the Contractor's resources and progress on debris removal operations, outstanding issues and provide coordination with the County and the County's representatives.

1.14 Termination and Cancellation

1.14.1 Notwithstanding any provisions in the Contract, the County reserves the right to terminate the Contract whenever the County makes a written determination that such termination is in the best interests of the County.

1.15 Invoice and Payment

1.15.1 **Invoicing.** The County, or its authorized representative, will monitor, verify and document with load tickets or unit rate tickets the completion of all work, as defined in the scope of work.

1.15.2 **Submittal.** Invoices will be submitted for thirty (30) day work periods, no later than the fifteen (15) days after of the last invoiced day. County records are the basis of all payment approvals. The County reserves the right to request additional invoice separation by debris type (C&D, ROW Vegetative Debris, Hazardous Limb, Hazardous Tree, and Hazardous Stump, etc.), program (private property debris removal, etc.) and/or applicant(s) (parks and facilities located within the County).

o All invoices will have the name of the County employee who requested the service. In the case of scheduled maintenance, a County employee will be contacted at least one week prior to the scheduled service and that County employee's name will be on the invoice.

o When applicable, labor hours will be itemized on the invoice with the amount of hours, the hourly rate, and the total dollar amount. In the case of more than one hourly rate, all hourly rates will be itemized.

o When applicable, all materials will be itemized by quantity of each item and the cost of each item.

1.16 Retainage. A 5 to 10 percent retainage may be required in the final contract be held until the end of the project. Portions of the retainage may be held by the County to repair damages caused by the Contractor to public or private property.

1.17 Mobilization and Demobilization. No separate payment will be made for mobilization and demobilization operations. These costs are to be included in the respective unit prices bid for debris removal and will not be adjusted based on the total amount of debris actually removed in the contract.

1.18 Disposal Costs. Payment for disposal cost incurred by the Contractor at TDSR(s) or permitted final disposal facilities will be made at the cost incurred by the Contractor as a “pass through cost” without mark up. Contractor must submit a copy of the invoice received by the disposal facility, an electronic copy tabulating all scale or load tickets issued by the receiving TDSRs or final disposal facilities and correlated to County representative's completed load tickets, and proof of Contractor payment to the TDSRs or final disposal facilities.

1.19 Final Invoice. Contractor must submit the final invoice within thirty (30) days of completion of scope of work authorized by the County's final Task Orders. Completion of scope of work will be acknowledged, in writing, by the County or its authorized representative.

1.20 PRICING

1.20.1 Sample pricing for Debris Clearing will be determined on a case-by-case basis, as needed, per the following Exhibits:

- Exhibit A: Example Bid Sheet – 50,000 CY Event
- Exhibit B: Example Bid Sheet – 100,000 CY Event
- Exhibit C: Example Bid Sheet – 500,000 CY Event
- Exhibit D: Example Bid Sheet – 1,000,000 CY Event

1.20.2 The County intends to award to multiple contractors, depending upon the ability to provide Disaster Debris Clearance and Removal Management coordination.

1.20.3 County does not guarantee any amount of work needed, or that contracted firms will be utilized at all.

1.21 COST ANALYSIS

In order to comply with 44 CFR §13.36 during the initial phase of a disaster, the County shall:

1.21.1 Conduct a Cost Analysis of two or more prequalified firms, unless an emergency situation exists that requires prompt execution of a contract to remedy the situation.

1.21.2 All contract amendments and modifications will be in writing.

1.21.3 Additional work after the initial situation has been remedied will also be solicited per County rules and regulations.

1.22 Labor Rate Analysis. County shall determine the reasonableness of labor rates by:

1.22.1 Comparing the proposed labor category rates with labor rates in another contract that was competitively bid;

1.22.2 Match rates for labor categories to an acceptable source (e.g. RS Means);

1.22.3 Verify the classification of each worker and skill level to ensure they are reasonable and necessary for the scope of work.

1.22.4 Verify number of labor hours are reasonable for scope of work.

1.23 **Equipment Rate Analysis.** County shall determine the reasonableness of equipment rates by:

1.23.1 Comparing proposed rates with another contract that was competitively bid

1.23.2 Comparing rates to FEMA's Schedule of Equipment Rates, available at www.fema.gov

1.23.3 Match prices of each piece of equipment to an acceptable source.

1.23.4 Verify equipment was reasonable and necessary for the scope of work.

1.23.5 Verify number of units (hours) was necessary to complete work.

1.23.6 Verify there are no Mobilization or Standby costs.

1.24 **Unit Rate Analysis.** Verify the reasonableness of unit rates by:

1.24.1 Comparing unit of measures to Volume estimates provided.

1.24.2 Comparing unit rates in another contract that was competitively bid.

Example Bid Sheet – 50, 000 CY Event

Section	Description	Units	Origination Point	Measure	Unit Price
N/A	Project Management	Administrative fee per tiered debris causing event (50,000; 100,000; 500,000; 1,000,000 CY/Ton)	N/A	50,000 CY/Ton	Lump Sum
2.1	Operations: <i>Emergency Clearance (limited to 70 hours of work)</i>	Hourly Rate (no origination point)	Bobcat Loader, 60 Hp, w/grapple or similar w/operator		/hr
			Bucket Truck or similar w/operator		/hr
			Crash Truck w/Impact Attenuator or similar w/operator		/hr
			Dozer, Tracked, D5 or similar w/operator		/hr
			Dozer, Tracked, D6 or similar w/operator		/hr
			Dozer, Tracked, D7 or similar w/operator		/hr
			Dozer, Tracked, D8 or similar w/operator		/hr
			Dump Truck, 18 CY – 20 CY w/CDL Driver		/hr
			Dump Truck, 21 CY – 30 CY w/CDL Driver		/hr
			Dump Truck, 31 CY – 70 CY w/CDL Driver		/hr
			Dump Truck, 70 CY – 110 CY w/CDL Driver		/hr
			Generator/Light Plant w/fuel and maintenance (Specify KW)		/hr
			Grader w/12' Blade or similar w/operator		/hr
			Hydraulic Excavator, 1.5 CY or similar w/operator		/hr
			Hydraulic Excavator, 2.5 CY or similar w/operator		/hr
			Knuckle boom Loader, 10,000 lb. Capacity or similar w/operator		/hr
			Lowboy Trailer w/Tractor w/CDL driver		/hr
Pickup Truck, .5 Ton w/operator		/hr			

			Pickup Truck, 1.0 Ton w/operator		/hr
			Truck, Flatbed w/operator		/hr
			Water Truck, 3,000 – 5,000 gal or similar w/CDL Driver		/hr
			Wheel Loader, 2.5 CY – 4 CY, 950 or similar w/operator		/hr
			Wheel Loader, 4.5 CY, 966 or similar w/operator		/hr
			Wheel Loader-Backhoe, 1.0 – 1.5 CY or similar w/operator		/hr
			Operations (Project) Manager w/communications and Pickup		/hr
			Crew Foreman w/communications and Pickup		/hr
			Certified Tree Climber w/Chainsaw		/hr
			Certified Chainsaw Operator		/hr
			Laborer w/small tools, traffic control, or flag person		/hr
2.2	Operations: <i>Removal of eligible vegetative debris.</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY /Ton
				16-30 miles	/CY /Ton
				31-60 miles	/CY /Ton
				61-120 miles	/CY /Ton
				121-220 miles	/CY /Ton
				221-320 miles	/CY /Ton
				320-420 miles	/CY /Ton
				> 421 miles	/CY /Ton
2.2.1	Operations: <i>Removal of hazardous trees (leaners).</i>	Each	In R.O.W.	6" - 12" DBH	/each
				12.1" - 24" DBH	/each
				24.1" - 48" DBH	/each
				> 48.1" DBH	/each

2.2.2	Operations: <i>Removal of hazardous limbs (hangers).</i>	Each	In R.O.W.	N/A		/each
2.2.3	Operations: <i>Removal of hazardous stumps.</i>	Each	In R.O.W.	> 24 " diameter		/each
2.3	Operations: <i>Removal of eligible C&D debris (non-asbestos containing).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.3	Operations: <i>Removal of eligible C&D debris (asbestos containing).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton

2.4	Operations: <i>Removal of eligible white goods.</i>	Each per mileage intervals	From R.O.W.	0-15 miles		/each
				16-30 miles		/each
				31-60 miles		/each
				61-120 miles		/each
				121-220 miles		/each
				221-320 miles		/each
				320-420 miles		/each
				> 421 miles		/each
2.5	Operations: <i>Removal of eligible soil, sand and mud removal (uncontaminated).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.5	Operations: <i>Removal of eligible soil, sand and mud removal (contaminated).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton

2.6	Operations: <i>Removal of eligible abandoned vehicles.</i>	Each vehicle (cars, light trucks, trucks, tractor trailers) per mileage intervals.	From R.O.W.	0-15 miles	/each	
				16-30 miles	/each	
				31-60 miles	/each	
				61-120 miles	/each	
				121-220 miles	/each	
				221-320 miles	/each	
				320-420 miles	/each	
				> 421 miles	/each	
2.7	Operations: <i>Removal of eligible putrescent waste (including animal carcasses)</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.8	Operations: <i>Removal of eligible electronic waste.</i>	Tons per mileage intervals.	From R.O.W.	0-15 miles	/Ton	
				16-30 miles	/Ton	
				31-60 miles	/Ton	
				61-120 miles	/Ton	
				121-220 miles	/Ton	
				221-320 miles	/Ton	
				320-420 miles	/Ton	
				> 421 miles	/Ton	

2.9	Operations: <i>Demolition, removal, loading and transport of structures.</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton

Example Bid Sheet – 100,000 CY Event

Section	Description	Units	Origination Point	Measure	Unit Price
N/A	Project Management	Administrative fee per tiered debris causing event (50,000; 100,000; 500,000; 1,000,000 CY/Ton)	N/A	100,000 CY/Ton	Lump Sum
2.1	Operations: <i>Emergency Clearance (limited to 70 hours of work)</i>	Hourly Rate (no origination point)	Bobcat Loader, 60 Hp, w/grapple or similar w/operator		/hr
			Bucket Truck or similar w/operator		/hr
			Crash Truck w/Impact Attenuator or similar w/operator		/hr
			Dozer, Tracked, D5 or similar w/operator		/hr
			Dozer, Tracked, D6 or similar w/operator		/hr
			Dozer, Tracked, D7 or similar w/operator		/hr
			Dozer, Tracked, D8 or similar w/operator		/hr
			Dump Truck, 18 CY – 20 CY w/CDL Driver		/hr
			Dump Truck, 21 CY – 30 CY w/CDL Driver		/hr
			Dump Truck, 31 CY – 70 CY w/CDL Driver		/hr
			Dump Truck, 70 CY – 110 CY w/CDL Driver		/hr
			Generator/Light Plant w/fuel and maintenance (Specify KW)		/hr
			Grader w/12' Blade or similar w/operator		/hr
			Hydraulic Excavator, 1.5 CY or similar w/operator		/hr
			Hydraulic Excavator, 2.5 CY or similar w/operator		/hr
			Knuckle boom Loader, 10,000 lb. Capacity or similar w/operator		/hr
			Lowboy Trailer w/Tractor w/CDL driver		/hr
Pickup Truck, .5 Ton w/operator		/hr			
Pickup Truck, 1.0 Ton w/operator		/hr			

			Truck, Flatbed w/operator		/hr
			Water Truck, 3,000 – 5,000 gal or similar w/CDL Driver		/hr
			Wheel Loader, 2.5 CY – 4 CY, 950 or similar w/operator		/hr
			Wheel Loader, 4.5 CY, 966 or similar w/operator		/hr
			Wheel Loader-Backhoe, 1.0 – 1.5 CY or similar w/operator		/hr
			Operations (Project) Manager w/communications and Pickup		/hr
			Crew Foreman w/communications and Pickup		/hr
			Certified Tree Climber w/Chainsaw		/hr
			Certified Chainsaw Operator		/hr
			Laborer w/small tools, traffic control, or flag person		/hr
2.2	Operations: <i>Removal of eligible vegetative debris.</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY /Ton
				16-30 miles	/CY /Ton
				31-60 miles	/CY /Ton
				61-120 miles	/CY /Ton
				121-220 miles	/CY /Ton
				221-320 miles	/CY /Ton
				320-420 miles	/CY /Ton
				> 421 miles	/CY /Ton
2.2.1	Operations: <i>Removal of hazardous trees (leaners).</i>	Each	In R.O.W.	6" - 12" DBH	/each
				12.1" - 24" DBH	/each
				24.1" - 48" DBH	/each
				> 48.1" DBH	/each

2.2.2	Operations: <i>Removal of hazardous limbs (hangers).</i>	Each	In R.O.W.	N/A			/each
2.2.3	Operations: <i>Removal of hazardous stumps.</i>	Each	In R.O.W.	> 24 " diameter			/each
2.3	Operations: <i>Removal of eligible C&D debris (non-asbestos containing).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton	
				16-30 miles	/CY	/Ton	
				31-60 miles	/CY	/Ton	
				61-120 miles	/CY	/Ton	
				121-220 miles	/CY	/Ton	
				221-320 miles	/CY	/Ton	
				320-420 miles	/CY	/Ton	
				> 421 miles	/CY	/Ton	
2.3	Operations: <i>Removal of eligible C&D debris (asbestos containing).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton	
				16-30 miles	/CY	/Ton	
				31-60 miles	/CY	/Ton	
				61-120 miles	/CY	/Ton	
				121-220 miles	/CY	/Ton	
				221-320 miles	/CY	/Ton	
				320-420 miles	/CY	/Ton	
				> 421 miles	/CY	/Ton	

2.4	Operations: <i>Removal of eligible white goods.</i>	Each per mileage intervals	From R.O.W.	0-15 miles		/each
				16-30 miles		/each
				31-60 miles		/each
				61-120 miles		/each
				121-220 miles		/each
				221-320 miles		/each
				320-420 miles		/each
				> 421 miles		/each
2.5	Operations: <i>Removal of eligible soil, sand and mud removal (uncontaminated).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.5	Operations: <i>Removal of eligible soil, sand and mud removal (contaminated).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton

2.6	Operations: <i>Removal of eligible abandoned vehicles.</i>	Each vehicle (cars, light trucks, trucks, tractor trailers) per mileage intervals.	From R.O.W.	0-15 miles	/each	
				16-30 miles	/each	
				31-60 miles	/each	
				61-120 miles	/each	
				121-220 miles	/each	
				221-320 miles	/each	
				320-420 miles	/each	
				> 421 miles	/each	
2.7	Operations: <i>Removal of eligible putrescent waste (including animal carcasses)</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.8	Operations: <i>Removal of eligible electronic waste.</i>	Tons per mileage intervals.	From R.O.W.	0-15 miles	/Ton	
				16-30 miles	/Ton	
				31-60 miles	/Ton	
				61-120 miles	/Ton	
				121-220 miles	/Ton	
				221-320 miles	/Ton	
				320-420 miles	/Ton	
				> 421 miles	/Ton	

2.9	Operations: <i>Demolition, removal, loading and transport of structures.</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton

Example Bid Sheet – 500,000 CY Event

Section	Description	Units	Origination Point	Measure	Unit Price
N/A	Project Management	Administrative fee per tiered debris causing event (50,000; 100,000; 500,000; 1,000,000 CY/Ton)	N/A	500,000 CY/Ton	Lump Sum
2.1	Operations: <i>Emergency Clearance (limited to 70 hours of work)</i>	Hourly Rate (no origination point)	Bobcat Loader, 60 Hp, w/grapple or similar w/operator		/hr
			Bucket Truck or similar w/operator		/hr
			Crash Truck w/Impact Attenuator or similar w/operator		/hr
			Dozer, Tracked, D5 or similar w/operator		/hr
			Dozer, Tracked, D6 or similar w/operator		/hr
			Dozer, Tracked, D7 or similar w/operator		/hr
			Dozer, Tracked, D8 or similar w/operator		/hr
			Dump Truck, 18 CY – 20 CY w/CDL Driver		/hr
			Dump Truck, 21 CY – 30 CY w/CDL Driver		/hr
			Dump Truck, 31 CY – 70 CY w/CDL Driver		/hr
			Dump Truck, 70 CY – 110 CY w/CDL Driver		/hr
			Generator/Light Plant w/fuel and maintenance (Specify KW)		/hr
			Grader w/12' Blade or similar w/operator		/hr
			Hydraulic Excavator, 1.5 CY or similar w/operator		/hr
			Hydraulic Excavator, 2.5 CY or similar w/operator		/hr
			Knuckle boom Loader, 10,000 lb. Capacity or similar w/operator		/hr
			Lowboy Trailer w/Tractor w/CDL driver		/hr
Pickup Truck, .5 Ton w/operator		/hr			
Pickup Truck, 1.0 Ton w/operator		/hr			

			Truck, Flatbed w/operator		/hr
			Water Truck, 3,000 – 5,000 gal or similar w/CDL Driver		/hr
			Wheel Loader, 2.5 CY – 4 CY, 950 or similar w/operator		/hr
			Wheel Loader, 4.5 CY, 966 or similar w/operator		/hr
			Wheel Loader-Backhoe, 1.0 – 1.5 CY or similar w/operator		/hr
			Operations (Project) Manager w/communications and Pickup		/hr
			Crew Foreman w/communications and Pickup		/hr
			Certified Tree Climber w/Chainsaw		/hr
			Certified Chainsaw Operator		/hr
			Laborer w/small tools, traffic control, or flag person		/hr
2.2	Operations: <i>Removal of eligible vegetative debris.</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY /Ton
				16-30 miles	/CY /Ton
				31-60 miles	/CY /Ton
				61-120 miles	/CY /Ton
				121-220 miles	/CY /Ton
				221-320 miles	/CY /Ton
				320-420 miles	/CY /Ton
				> 421 miles	/CY /Ton
2.2.1	Operations: <i>Removal of hazardous trees (leaners.</i>	Each	In R.O.W.	6" - 12" DBH	/each
				12.1" - 24" DBH	/each
				24.1" - 48" DBH	/each
				> 48.1" DBH	/each
2.2.2	Operations: <i>Removal of hazardous limbs (hangers.</i>	Each	In R.O.W.	N/A	/each

2.2.3	Operations: <i>Removal of hazardous stumps.</i>	Each	In R.O.W.	> 24 " diameter	/each
2.3	Operations: <i>Removal of eligible C&D debris (non-asbestos containing).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY /Ton
				16-30 miles	/CY /Ton
				31-60 miles	/CY /Ton
				61-120 miles	/CY /Ton
				121-220 miles	/CY /Ton
				221-320 miles	/CY /Ton
				320-420 miles	/CY /Ton
				> 421 miles	/CY /Ton
2.3	Operations: <i>Removal of eligible C&D debris (asbestos containing).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY /Ton
				16-30 miles	/CY /Ton
				31-60 miles	/CY /Ton
				61-120 miles	/CY /Ton
				121-220 miles	/CY /Ton
				221-320 miles	/CY /Ton
				320-420 miles	/CY /Ton
				> 421 miles	/CY /Ton
2.4	Operations: <i>Removal of eligible white goods.</i>	Each per mileage intervals	From R.O.W.	0-15 miles	/each
				16-30 miles	/each
				31-60 miles	/each
				61-120 miles	/each
				121-220 miles	/each
				221-320 miles	/each
				320-420 miles	/each
				> 421 miles	/each

2.5	Operations: <i>Removal of eligible soil, sand and mud removal (uncontaminated).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.5	Operations: <i>Removal of eligible soil, sand and mud removal (contaminated).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.6	Operations: <i>Removal of eligible abandoned vehicles.</i>	Each vehicle (cars, light trucks, trucks, tractor trailers) per mileage intervals.	From R.O.W.	0-15 miles		/each
				16-30 miles		/each
				31-60 miles		/each
				61-120 miles		/each
				121-220 miles		/each
				221-320 miles		/each
				320-420 miles		/each
				> 421 miles		/each

2.7	Operations: <i>Removal of eligible putrescent waste (including animal carcasses)</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.8	Operations: <i>Removal of eligible electronic waste.</i>	Tons per mileage intervals.	From R.O.W.	0-15 miles		/Ton
				16-30 miles		/Ton
				31-60 miles		/Ton
				61-120 miles		/Ton
				121-220 miles		/Ton
				221-320 miles		/Ton
				320-420 miles		/Ton
				> 421 miles		/Ton
2.9	Operations: <i>Demolition, removal, loading and transport of structures.</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton

Example Bid Sheet – 1,000,000 CY Event

Section	Description	Units	Origination Point	Measure	Unit Price
N/A	Project Management	Administrative fee per tiered debris causing event (50,000; 100,000; 500,000; 1,000,000 CY/Ton)	N/A	500,000 CY/Ton	Lump Sum
2.1	Operations: <i>Emergency Clearance (limited to 70 hours of work)</i>	Hourly Rate (no origination point)	Bobcat Loader, 60 Hp, w/grapple or similar w/operator		/hr
			Bucket Truck or similar w/operator		/hr
			Crash Truck w/Impact Attenuator or similar w/operator		/hr
			Dozer, Tracked, D5 or similar w/operator		/hr
			Dozer, Tracked, D6 or similar w/operator		/hr
			Dozer, Tracked, D7 or similar w/operator		/hr
			Dozer, Tracked, D8 or similar w/operator		/hr
			Dump Truck, 18 CY – 20 CY w/CDL Driver		/hr
			Dump Truck, 21 CY – 30 CY w/CDL Driver		/hr
			Dump Truck, 31 CY – 70 CY w/CDL Driver		/hr
			Dump Truck, 70 CY – 110 CY w/CDL Driver		/hr
			Generator/Light Plant w/fuel and maintenance (Specify KW)		/hr
			Grader w/12' Blade or similar w/operator		/hr
			Hydraulic Excavator, 1.5 CY or similar w/operator		/hr
			Hydraulic Excavator, 2.5 CY or similar w/operator		/hr
			Knuckle boom Loader, 10,000 lb. Capacity or similar w/operator		/hr
			Lowboy Trailer w/Tractor w/CDL driver		/hr
			Pickup Truck, .5 Ton w/operator		/hr
Pickup Truck, 1.0 Ton w/operator		/hr			

			Truck, Flatbed w/operator		/hr
			Water Truck, 3,000 – 5,000 gal or similar w/CDL Driver		/hr
			Wheel Loader, 2.5 CY – 4 CY, 950 or similar w/operator		/hr
			Wheel Loader, 4.5 CY, 966 or similar w/operator		/hr
			Wheel Loader-Backhoe, 1.0 – 1.5 CY or similar w/operator		/hr
			Operations (Project) Manager w/communications and Pickup		/hr
			Crew Foreman w/communications and Pickup		/hr
			Certified Tree Climber w/Chainsaw		/hr
			Certified Chainsaw Operator		/hr
			Laborer w/small tools, traffic control, or flag person		/hr
2.2	Operations: <i>Removal of eligible vegetative debris.</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY /Ton
				16-30 miles	/CY /Ton
				31-60 miles	/CY /Ton
				61-120 miles	/CY /Ton
				121-220 miles	/CY /Ton
				221-320 miles	/CY /Ton
				320-420 miles	/CY /Ton
				> 421 miles	/CY /Ton
2.2.1	Operations: <i>Removal of hazardous trees (leaners.</i>	Each	In R.O.W.	6" - 12" DBH	/each
				12.1" - 24" DBH	/each
				24.1" - 48" DBH	/each
				> 48.1" DBH	/each
2.2.2	Operations: <i>Removal of hazardous limbs (hangers.</i>	Each	In R.O.W.	N/A	/each

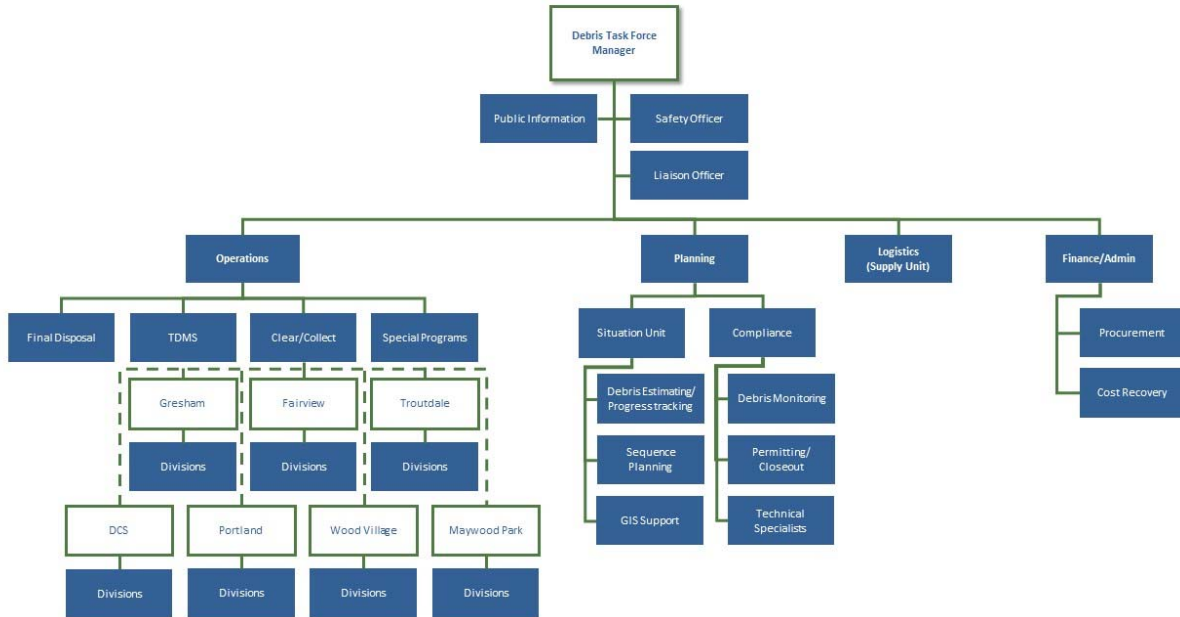
2.2.3	Operations: <i>Removal of hazardous stumps.</i>	Each	In R.O.W.	> 24 " diameter		/each
2.3	Operations: <i>Removal of eligible C&D debris (non-asbestos containing).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
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				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.3	Operations: <i>Removal of eligible C&D debris (asbestos containing).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
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2.4	Operations: <i>Removal of eligible white goods.</i>	Each per mileage intervals	From R.O.W.	0-15 miles		/each
				16-30 miles		/each
				31-60 miles		/each
				61-120 miles		/each
				121-220 miles		/each
				221-320 miles		/each
				320-420 miles		/each
				> 421 miles		/each

2.5	Operations: <i>Removal of eligible soil, sand and mud removal (uncontaminated).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.5	Operations: <i>Removal of eligible soil, sand and mud removal (contaminated).</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
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				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.6	Operations: <i>Removal of eligible abandoned vehicles.</i>	Each vehicle (cars, light trucks, trucks, tractor trailers) per mileage intervals.	From R.O.W.	0-15 miles		/each
				16-30 miles		/each
				31-60 miles		/each
				61-120 miles		/each
				121-220 miles		/each
				221-320 miles		/each
				320-420 miles		/each
				> 421 miles		/each

2.7	Operations: <i>Removal of eligible putrescent waste (including animal carcasses)</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton
2.8	Operations: <i>Removal of eligible electronic waste.</i>	Tons per mileage intervals.	From R.O.W.	0-15 miles		/Ton
				16-30 miles		/Ton
				31-60 miles		/Ton
				61-120 miles		/Ton
				121-220 miles		/Ton
				221-320 miles		/Ton
				320-420 miles		/Ton
				> 421 miles		/Ton
2.9	Operations: <i>Demolition, removal, loading and transport of structures.</i>	CY/Ton per mileage intervals	From R.O.W.	0-15 miles	/CY	/Ton
				16-30 miles	/CY	/Ton
				31-60 miles	/CY	/Ton
				61-120 miles	/CY	/Ton
				121-220 miles	/CY	/Ton
				221-320 miles	/CY	/Ton
				320-420 miles	/CY	/Ton
				> 421 miles	/CY	/Ton

ATTACHMENT V DEBRIS MANAGEMENT TASK FORCE

Disaster Debris Management Task Force Organizational Chart



Disaster Debris Management Task Force Roles and Responsibilities

Role	Responsibilities
Command Staff	
Debris Task Force Manager	<p>Provide planning, coordination, administration, management and control authority for countywide disaster debris management operations. Debris Task Force Manager will report to ESF 3. Upon assuming management authority, responsibilities may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Demonstrate clear authority and knowledge of Multnomah County disaster debris management policies and procedures. • Establish the size of Debris Management Task Force organization needed and monitor the effectiveness of that organization. • Initiate, maintain, and control the communications process within the Debris Management Task Force organization. • Work collaboratively with Task Force Management Staff to determine debris mission objectives and strategies and establish immediate priorities. • Analyze information provided by Task Force Management staff daily and respond accordingly. • Manage planning meetings as required. • Authorize the release of debris management information through the Public Information Officer. • In collaboration with the Safety Officer, ensure operation-wide compliance with all safety policies and procedures. • Ensure operation-wide compliance with all reporting requirements. • Approve requests for resources.

Role	Responsibilities
	<ul style="list-style-type: none"> • Approve the use of volunteers, auxiliary personnel, and contractors. • Order demobilization of the Task Force when appropriate. • Facilitate the resolution of policy level decisions related to debris management operations
Public Information Officer	<p>Manage all interaction between Multnomah County and the media and/or public regarding the disaster debris management operation. Responsibilities may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Lead and coordinate the development and distribution of information regarding the situation and response efforts (press releases, public notices, etc.) • Serve as the debris management liaison to the Joint Information Center (if established by ESF #14: Public Information) or other established media center. • Lead and collaborate with other public information officers representing municipalities, regional authorities, special districts, or other jurisdictions affected by a countywide, multijurisdictional debris-generating incident. • Collaborate with other Task Force Management Staff as required. • Inform the Debris Task Force Manager of status of public information-related activities and make recommendations as required.
Safety Officer	<p>Monitor health and safety conditions regarding all aspects of the disaster debris management operation. Responsibilities may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Monitor compliance with all policies and procedures established to protect the safety of all assigned personnel, including contractors and volunteers (if any). • Identify any safety concerns for citizens and escalate concerns to the Debris Task Force Manager. • Identify, address, and monitor safety issues that may affect eligibility for reimbursement. • Oversee TDMS safety auditing and reporting activities. • Address any field issues in collaboration with municipalities, regional authorities, special districts, or other jurisdictions affected by a countywide, multijurisdictional debris-generating incident and other responsible parties. • Collaborate with other Task Force Management Staff as required. • Inform the Debris Task Force Manager of status of safety-related activities and make recommendations as required.
Liaison Officer	<p>Serve as the on-scene contact point for representatives of jurisdictions affected by the debris-generating incident or assisting agencies assigned to the disaster debris management operation. Responsibilities may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Coordinate and/or attend all meetings with local, state, and federal authorities associated with the operation. • Facilitate information flow and coordination with external entities, including municipalities, regional authorities, special districts, or other jurisdictions affected by a countywide, multijurisdictional debris-generating incident and other responsible parties. • Establish contacts and maintain current contact information for external entities. • Resolve issues related to TDMS and any joint usage agreements, as appropriate. • Route certain tasks to the EOC for consideration or review. • Respond to elected officials and senior management of municipalities, public and community groups, state and federal officials, and similar stakeholders with concerns regarding the debris management process. • Collaborate with other Task Force Management Staff as required. • Inform the Debris Task Force Manager of status of liaison-related activities and make recommendations as required.

Role	Responsibilities
General Staff	
Operations Section Lead	<p>Oversee and manage the tactical operations directed through the Disaster Debris Task Force and coordinate with all jurisdictional debris task force leaders. Responsibilities may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Following a disaster debris-generating incident, the Operations Section may activate four branches: <ul style="list-style-type: none"> ○ Final Disposal –Responsible for final disposal of debris at landfills and end-use facilities. ○ TDMS – Responsible for coordination of operations at TDMS. ○ Clear/Collect – Representatives from each task force member jurisdiction will be responsible for emergency road clearance and collection of debris on the roads for which they have the maintenance authority. ○ Special Programs – Responsible for the coordination of special debris programs that task force member jurisdiction may not have the resources to handle on their own i.e. HHW • Oversee debris damage assessments and estimates. • Oversee management of project consultants and debris contractors. • Oversee identification, preparation, and restoration of TDMS. • Ensure Operations Section personnel comply with all safety policies and procedures. • Ensure interagency coordination and collaboration. • Maintain close contact with subordinate branches and positions. • Request additional resources to support tactical operations. • Approve release of resources from active assignments. • Collaborate with other Task Force Management Staff as required. • Inform the Debris Task Force Manager of status of operations-related activities and make recommendations as required.
Planning Section Lead	<p>The planning section will be responsible for overall planning of debris operations including planning for TDMS and reduction, recycling and final disposal as applicable. The Planning Section will also obtain and process information and data related to debris removal operations as well as the progress of debris collection and management. Responsibilities may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Following a disaster debris-generating incident, the Operations Section may activate two branches: <ul style="list-style-type: none"> ○ Situation – Responsible for operational planning and progress tracking. The Situation Branch also oversees the following units: <ul style="list-style-type: none"> - Debris Estimating/Progress Tracking – Responsible for updated debris estimating throughout the project and progress tracking to informing scheduling and public information requests. - Sequence Planning – Responsible for taking the information from the Progress Tracking Unit and using it to supply an updated plan and schedule for debris operations. - GIS Support – Responsible for supporting the Progress Tracking Unit, the Sequence Planning Unit and any other need for GIS data within the Debris Task Force. May also assist with coordination of municipal GIS coordinators supporting municipal debris operations. ○ Compliance – Responsible for ensuring compliance of debris operations with federal, state and local guidelines. The Compliance Branch also oversees the following units: <ul style="list-style-type: none"> - Debris Monitoring – Responsible for overseeing the monitoring and documentation of debris operations. This could include overseeing load site and disposal monitors. - Permitting/Closeout – Responsible for ensuring all appropriate permits are in place for all debris operations, particularly TDMS

Role	Responsibilities
	<p>and ensuring all TDMS are properly closed-out and remediated at the end of project operations.</p> <ul style="list-style-type: none"> - Technical Specialists – Responsible for providing technical expertise for debris operations as necessary. • Develop debris management action plans using information from all four sections (Operations Section, Planning Section, Logistics Section, and Finance and Administration Section) and obtain the approval of the Debris Task Force Manager for its implementation. • Analyze and disseminate information regarding the status of resources and operations and report to the Task Force Management Staff. • Review and validate data to be presented in FEMA Project Worksheets. • Oversee technical specialists assigned to specific problems or tasks (e.g. environmental testing, hazmat handling, etc.). • Establish information requirements and reporting schedules for resources and collaborating organizations. • Determine need for any specialized resources in support of debris operations. • Supervise preparation of a debris mission demobilization plan. • Inform the Debris Task Force Manager of status of planning-related activities and make recommendations as required.
Logistics Section Lead	<p>Manage resources, services, and support to the disaster debris management operation. Responsibilities may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Ensure adequate resources, including personnel, equipment, and supplies, are mobilized and deployed for debris collection and processing from the unincorporated areas of the County. • Assist local jurisdictions with securing additional or specialized resources for their operations. • Coordinate with EOC Logistics Section through ESF3 to acquire additional resources as necessary. • Coordinate receiving and storing incident supplies, maintaining a supply inventory, and servicing supplies and equipment. • Oversee set up, maintenance, and demobilization of all temporary facilities. • Collaborate with other Task Force Management Staff as required. • Inform the Debris Task Force Manager of status of logistics-related activities and make recommendations as required.
Finance/Administration Section Lead	<p>Manage financial and administrative actions necessary to support the disaster debris management operation. Responsibilities may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Following a disaster debris-generating incident, the Finance/Administration Section may activate two branches: <ul style="list-style-type: none"> ○ Procurement <ul style="list-style-type: none"> - Emergency contracts, work authorizations, not to exceed limits - Commercial site agreements (via quotation process) - Private property license agreements - Temporary labor agreements (accountants, clerks, etc.) And/or short-term alignment of unassigned staff ○ Cost Recovery <ul style="list-style-type: none"> - Project Worksheet actions - Invoice processing - All records documentation - Force account labor documentation - Contractor documentation • Collaborate with other Task Force Management Staff as required. • Inform the Debris Task Force Manager of status of finance and administration-related activities and make recommendations as required. • Support PA applicants with Category A submissions.