

APPENDIX 1 TO ANNEX L

DEBRIS MANAGEMENT

Planning for debris management operations is a function of the Incident Commander (IC), Pleasants County Emergency Operations Center (EOC) staff, the Solid Waste Authority, and public works organizations. The public works representative in the EOC should coordinate the debris removal and disposal operations from either the EOC or a specially-established “debris management center”.

Pleasants County may execute one (but reserves the right to execute more than one) debris removal and disposal contract on a contingency basis for the purpose of having contractor(s) immediately available and committed to assisting the county in the aftermath of a major disaster.

When a declared major disaster occurs or is imminent (see Appendix 1 of the Basic Plan), the Operations Section Chief or public works representative in the EOC may contact firm(s) listed in the county’s resource manual to advise them of the situation. If contracts have been negotiated, EOC staff may notify either the Executive Section in the EOC or the county commission to notify those with whom agreements have been negotiated to place them on stand-by. Debris removal will generally be limited to debris in, upon, or brought to public road rights-of-way, municipal properties and facilities, and other public sites. Any contractor, in coordination with any on-scene public works personnel coordinating debris removal, should be responsible for determining the method and manner of debris removal and lawful disposal operations, consistent with incident and/or public safety objectives. Disposal, recycling or reuse of debris and related by-products may require written approval of the Executive Section in the EOC (or the applicable governmental jurisdiction). The contractor should be responsible for the lawful disposal of all debris and debris-reduction by-products generated at all Temporary Debris Storage and Reduction (TDSR) sites.

The general concept of debris removal operations includes multiple, scheduled passes of each site, location, or right-of-way. This should allow residents to return to their property and bring debris to the right-of-way as recovery progresses. The EOC (or

debris management center) should determine the schedule to be used after ascertaining the scope and nature of the disaster's impact due to preliminary damage assessments.

TDSR sites should be identified for the temporary staging and reduction of vegetative and woody debris only. EOC and/or field staff should (coordinate to) identify additional TDSR sites as needed. These may include "homeowner drop-off sites".

The applicable entity (i.e. Waste Management or Solid Waste Services) should operate the TDSR sites and only contractor or county/city vehicles (or others specifically authorized by the county or city) should be allowed to use the sites. Additional sites may become available as plans develop.

Curbside segregation of debris and disaster-generated or related wastes should be an element of Pleasants County's disaster recovery program. Debris removal and disposal personnel may be required to aid in the segregation and waste stream management processes. Waste and debris should be classified into the following five (5) categories, with responsibility as shown.

- **Household trash and garbage:** Waste Management and Solid Waste Services per regular schedules (to the extent possible)
- **Leaves and lawn litter, placed in plastic bags, placed by curb or shoulder of road:** Waste Management and Solid Waste Services per regular schedules (to the extent possible)
- Vegetative and clean, woody debris, suitable for chipping, grinding or burning, should be loosely stacked and placed by curb or road shoulder.
 - This may include logs, stumps, root balls, limbs, branches, or complete trees.
 - Any reduction of size of woody debris to make suitable for chipping, grinding or burning should be part of the contractor's responsibility for removal and disposal (on the assumption that emergencies causing this amount of debris will likely require the services of debris removal contractors).
- **Construction and Demolition (C&D) debris, furniture, furnishings, appliances, etc. suitable for being land filled or recycled, stacked by curb or shoulder:** If applicable, it should be the contractor's responsibility for removal

and disposal, including ensuring that all C&D debris is directly hauled to the nearest landfill. Depending on the scope of the emergency, this type of debris may be handled by Waste Management and Solid Waste Services per regular scheduled bulk-pickups.

- **Household Hazardous Waste (HHW) – including televisions, home computers and CRTs, separated from all other types of waste and debris, placed at curb or road shoulder:** Resources procured by the EOC (or debris management center) may be granted the responsibility for the removal and collection of this household hazardous waste. Services, if necessary, should be requested by an approved task order.

Citizens should be advised to separate all waste and debris, to the extent practicable, into the above categories. Failure by the citizens to perform this separation does not relieve the county (or its agents or contractors) of its curbside separation responsibilities, to the extent practicable.

Any HHW mixed in with other debris and collected during the debris removal should be removed and set aside at the TDSR site. EOC staff may designate HHW drop-off locations for use by residents. The following items are considered HHW and may be collected at drop-off locations:

- Cleaning products,
- Batteries,
- Workshop/Painting supplies,
- Aerosol spray cans,
- Indoor pesticides,
- Lawn and garden products,
- Automotive products,
- Fluorescent light bulbs,
- Propane tanks and other compressed gas cylinders,
- Flammable products, and
- Home-office electronics (such as computers, TV's, monitors, lithium, and cadmium batteries).

Personnel collecting debris should set up a lined containment area and separate any HHW inadvertently delivered to a TDSR site.

Commercial and industrial hazardous waste such as chemicals, gas containers, transformers, and any other form of hazardous or toxic matter should be set aside for collection and disposal by the WV Department of Environmental Protection (WVDEP) or a licensed clean-up contractor (see Annex N: Hazardous Materials).

LIST OF ATTACHMENTS

Attachment 1: Right of Entry / Hold Harmless Agreement

Attachment 2: Temporary Debris Staging and Reduction Site Locations and Landfills

Attachment 3: Debris Estimation

Attachment 1

RIGHT OF ENTRY / HOLD HARMLESS AGREEMENT

RIGHT OF ENTRY PERMIT NO. _____ **DATE** _____

PROPERTY ADDRESS / DESCRIPTION

NAME (OWNER'S OR OWNER'S AUTHORIZED AGENT)

RIGHT OF ENTRY: I certify that I am the owner or the owner's authorized agent of the above-described property. I grant freely and without coercion the right of access and entry to said property to representatives of the Federal Emergency Management Agency (FEMA), the U.S. Army Corps of Engineers (USACE) and the USDA Forest Service to inspect the property for purposes of determining whether disaster-generated debris is eligible for removal under FEMA'S programs and to monitor that removal, and to (eligible applicant) _____, its agents, contractors and subcontractors for the purpose of removing and/or clearing that disaster-generated debris from that property.

HOLD HARMLESS: I understand that this permit is not an obligation upon the government to perform debris removal. I agree to hold harmless the United States Government, FEMA, USACE, the USDA Forest Service, (eligible applicant) _____ and any of their agencies, agents, contractors, and subcontractors, for damages of any type whatsoever, either to the above-described property, or to persons situated thereon. I release, discharge, and waive any action, either legal or equitable, that might arise by reason of any action of the above entities while removing disaster-generated debris from the property. I will mark sewer lines, septic tanks, water lines and utilities located on the property.

DUPLICATION OF BENEFITS: Most homeowner's insurance policies have coverage to pay for removal of storm-generated debris. I understand that federal law (42 U.S. C. 5155 *et seq.*) requires me to reimburse (eligible applicant) _____ the cost of removing the storm-generated debris to the extent covered in my insurance policy. I also understand that I must provide a copy of the proof/statement of loss from my insurance company to (eligible applicant) _____. If I have received payment, or when I receive payment, for debris removal from my insurance company or any other source, I agree to notify and send payment and proof/statement of loss to (eligible applicant) _____. I understand that all disaster-related funding, including that for debris removal from private property, is subject to audit.

SWORN & ATTESTED
All owners/agents must sign below.

WITNESSED:

Printed Name: _____ **Printed Name:** _____

Signature: _____
Signature: _____

Name of Insurance Co. Policy No. _____

Attachment 2

Pleasants County

**Potential Temporary Debris Staging and Reduction (TDSR) Site Locations
and Landfills**

TDSRs

- Name:
- Address:
- Coordinates:

- Name:
- Address:
- Coordinates:

- Name:
- Address:
- Coordinates:

- Name:
- Address:
- Coordinates:

Landfills

- Name: Landfill
- 1) Address:
 - 2) Operated by:

**ATTACHMENT 3 (DEBRIS ESTIMATION)
ESTIMATING DEBRIS QUANTITY**

CF = cubic feet & CY = cubic yards

WORKSHEET 1			
Sector:			
Description:		N = Number	M = Multiplier
A. Homes (1800-2000 square feet)			CY = (N x M)
B. Mobile Homes			

C. Other Buildings	L = Length/ft	W = Width/ft	H = Height/ft	CF = (L x W x H)	CY = (CF/27) x .33
Subtotal [sum the right column]					

D. Debris Piles	L = Length/ft	W = Width/ft	H = Height/ft	CF = (L x W x H)	CY (CF/27)
Subtotal [sum the right column]					

Notes:

1. H = Households. If you do not know the number of households, estimate the number by dividing the population of the area by 3.

2. B = Business/Commercial/Residential	Density	B =
Density Multiplier	Light	1.0
	Medium	1.2
	Heavy	1.3

WORKSHEET 2	Sector A	Sector B	Sector C	Sector D
<i>Debris Volume Estimate (cubic yards/CY)</i>				
A. Homes [from Worksheet 1]				
B. Mobile Homes [from Worksheet 1]				
C. Other Buildings [from Worksheet 1]				
SD = Structural debris (A + B + C)				
V = Vegetation Multiplier [see note]				
ST = Subtotal (SD x V)				
D. Debris Piles [from Worksheet 1]				
E. SV = Sector Volume (ST + D)				
TOTAL [add entries in row E above]				

Note:

V= Vegetative Multiplier:	<u>Vegetative Cover</u>	<u>V =</u>
	None	1
	Light	1.1
	Medium	1.3
	Heavy	1.5

ESTIMATING DEBRIS REMOVAL TIME

WORKSHEET 3	A. Truck Capacity (CY)	B. Units Available	C. Group Capacity (AxB)
<i>Equipment</i>			
Dump Truck, Light			
Dump Truck, Medium			
Dump Truck, Heavy			
Capacity Per Cycle (CY) [sum the right column]			

ESTIMATING REQUIREMENTS FOR TEMPORARY DEBRIS SITES

It assumes that:

1. Debris will be stacked 10 feet high.
2. 40 percent of a site will be used for storage; 60 percent will be used for sorting areas, separation between debris piles, roads, site buffers, and burn pits

WORKSHEET 4		
A. Debris Volume in cubic yards (CY) [From Worksheet 2 or 5]		
B. CY per acre assuming 10' stack height ¹		
C. Acres for debris storage only (A/B)		
D. Multiplier for processing, roads, & buffers		
E. Required facility area in acres ²		

Notes:

1. If you plan to use a stack height other than the typical 10 feet, use the following formula to compute CY per acre:

$$CY = (\text{stack height in feet} / 3) \times 4840$$

2. Where the area requirement is large, the requirement is generally satisfied by establishing several sites that, taken collectively, provided the needed area.

ESTIMATING HURRICANE DEBRIS QUANTITY

Worksheet 7 may be used to estimate the quantity of debris that must be removed. This worksheet uses the formula $Q = H \times C \times V \times B \times S$, where:

- Q = the quantity of debris in cubic yards (CF)
- H = the number of households
- C = the storm factor in CY:
- V = the vegetation characteristic multiplier:
- B = the business/commercial use multiplier
- S = the storm precipitation characteristic multiplier

WORKSHEET 5	Sector A	Sector B	Sector C	Sector D
<i>Debris Volume Estimate - Hurricane</i>				
1. H = households				
2. C = Storm category				
3. V = Vegetation multiplier				
4. B = Business/commercial multiplier				
5. S = Storm precipitation multiplier				
6. $Q = H \times C \times V \times B \times S$				
TOTAL (add columns in item 6 above)				

Notes:

1. H = Households. If you do not know the number of households, estimate the number by dividing the population of the area by 3.

2. C = Hurricane Category	<u>Category</u>	<u>C =</u>
	1	2
	2	8
	3	26
	4	50
	5	80

3. V = Vegetative Multiplier	<u>Vegetative Cover</u>	<u>V =</u>
	None	1
	Light	1.1
	Medium	1.3
	Heavy	1.5

4. B = Business/Commercial Density Multiplier	<u>Density</u>	<u>B =</u>
	Light	1.0
	Medium	1.2
	Heavy	1.3

5. S = Storm Precipitation Multiplier	<u>Precipitation</u>	<u>S =</u>
	None to Light	1.0
	Medium to Heavy	1.3