Clarion County, Pennsylvania

Debris Management Plan

February, 2017

Debris Management Plan
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Appendices

1. Purpose and Scope

A. Purpose

1) The Debris Management Plan describes the policies, procedures, responsibilities, and strategies associated with the collection and disposal of disaster debris to ensure that Clarion County is better prepared to respond to and recover from debris-generating events.

   a. Provide the organizational structure and guidelines for the clearance, removal, staging, reduction, recycling, processing, and disposal of disaster debris.
   b. Establish guidelines for the rapid, safe, and cost-effective handling of debris.
   c. Ensure debris activities comply with all environmental and historical regulations.
   d. Maximize reimbursement opportunities through FEMA Public Assistance by ensuring debris management operations are conducted in accordance with program guidelines.
   e. Outline processes to inform members of the public about their role in debris management activities.

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

3) To coordinate partnerships for debris management through communications and pre-planning with local municipal agencies, PEMA, FEMA and private non-governmental agencies.

B. Scope

1) The Clarion County Debris Management Plan is an umbrella plan that encompasses the local municipalities and Clarion University. Debris Management begins at the local level, in communities, boroughs, and townships where impacts of damaging events are first felt.

2) Debris Management support entails removing debris from public property and rights-of-way, enabling vehicle access and re-instituting traffic patterns, minimizing health risks that might result from disaster debris, and disposing of debris in the most efficient, effective, and permissible manner.

3) Debris Management activities include: clearing roadway systems and waterways, establishing and maintaining temporary storage sites, segregating debris, establishing and managing disposal sites, demolishing condemned property, and monitoring operations and sites for compliance with state, county and federal regulations. Debris management operations can last days, months, and sometimes years. Numerous factors—the nature of the disaster, quantity and type of debris generated, and geographic area—will inform the selection of specific operations and guide decisions concerning the need for additional resources.

2. Situation and Assumptions

A. Situation

1) Debris and wreckage clearance is normally accomplished by the affected municipal government per state and federal requirements regulating disposition. State and local governments may need to enter private property to demolish private structures made unsafe by disasters to eliminate immediate threats to life, public health, and safety. In some cases, the costs of performing demolition of private structures may be eligible for Public Assistance grant funding.

2) The extent of damage and the peculiarities of the transportation network in the incident area will influence the strategy developed by the debris management team.

3) Generally, debris removal from private property following a disaster is the responsibility of the property owner. However, large-scale disasters may deposit enormous quantities of debris on private property over a large area resulting in widespread immediate threats to the public-at-large. In these cases, the State or local government may need to enter private property to remove debris to: eliminate immediate threats to life, public health, and safety; eliminate immediate threats of significant damage to improved property; or ensure economic recovery of the affected community to the benefit of the community-at-large (see Appendix 3).

4) Following disasters that result in significant debris, pre-existing disposal sites likely may not represent effective debris management solutions because of capacity limitations and continuous, regular solid waste management operations.

5) To be eligible for reimbursement from FEMA through the Public Assistance Program, debris management operations must be completed no later than 180 days from the date of the disaster declaration. Additionally, the following criteria must be met:

   a. The debris was generated by the major disaster event;
   b. The debris is located within a designated disaster area on an improved property or rights-of-way; and
   c. The debris removal is the legal responsibility of the applicant.

B. Assumptions

1) A natural or human-caused disaster that requires, in the public interest, the removal of wreckage and debris from public or private lands and waters could occur in Clarion County at any time.

2) The amount of debris and wreckage resulting from a disaster or emergency may exceed the ability of affected jurisdictions to dispose of it.

3) The County EMA will coordinate mission assignments and the use of personnel, when required.

4) The debris may be equally heavy in both urban and rural areas depending on the magnitude of the tree blow-down and associated structural damage such as homes, businesses, utilities, signs, etc. Debris removal, regardless of source, becomes a high

priority following a disaster as it is a visible sign of action and helps to restore a sense of normalcy to a shocked and stunned population. Removal often represents the first visible step towards recovery. In developing a management strategy for our debris removal operation, the operation should be divided into two phases.

a) **Phase I** consist of the clearance of the debris that hinders immediate life-saving actions being taken within the disaster area and the clearance of that debris which poses an immediate threat to public health and safety. This is normally completed by local government employees and emergency services personnel.

b) **Phase II** operations consist of the removal and disposal of that debris which is determined necessary to ensure the orderly recovery of the community and to eliminate less immediate threats to health and safety.

5) Transportation routes may be damaged or destroyed requiring close coordination between municipal police, state police and Pennsylvania Department of Transportation.

6) The amount of debris that is generated by an event can be estimated by several methods. One method is to accomplish a drive-through “windshield” damage assessment and estimate the amount of debris visually with the drive through. Another method that can be used is an aerial assessment by flying over the area using State Police and/or National Guard helicopters and Civil Air Patrol (CAP) reconnaissance flights. The damaged area can be assessed either visually or using aerial photography. Once the area has been assessed, the amount of debris may be estimated using a modeling methodology that was developed by the US Army Corps of Engineers (USACE).

3. Concept of Operations

A. General

1) Debris, wreckage and damaged facilities can be a threat to the general health; safety and welfare.

2) Clarion County will coordinate disaster debris and wreckage clearance operations, in accordance with state and federal regulations.

3) Municipal Governments have primary responsibility for disaster debris clearance and emergency repair at property and facilities under their jurisdiction. County EMA will coordinate the actions with federal, state and county agencies, as appropriate.

4) When disaster debris clearance or access involves private property and there is a need to eliminate an immediate threat to public health, life or safety, the jurisdiction concerned will obtain a right-of-entry from the owner for the municipal, county, state or federal agency concerned.

5) Disaster debris and wreckage clearance will be in accordance with specific project priorities determined by the county and municipal governments. Highest priority will be to save lives, protect the public health and expedite rescue operations.

6) Debris and wreckage disposal efforts will have the objective of minimizing the impact on landfill capacity by utilizing other means of disposal whenever possible. The Department of Environmental Protection (DEP) will provide guidance and advice on disposal, including waivers and clearances from normal disposal practices, when appropriate, in accordance with the statutory mandates cited in Title 25 and/or regulatory constraints derived there from.

7) Segregating debris and wreckage by type (e.g., wood, concrete, bricks, vegetation, and appliances) before pickup expedites disposal.

8) Hazardous materials, including the large volume of household hazardous materials that may be generated, will be disposed of by hazardous materials cleanup contractors in accordance with Title 25, Article VII.

9) It is anticipated that much of the overall disposal effort will be handled by contractors.

10) The municipality will remove debris transferred from private property to public rights-of-way or curbsides; however, county resources will not be used or expended to remove debris from private property.

11) Disaster Response:

a. Damage Assessment and Needs Assessment

(1) Practical and effective methods, including aerial reconnaissance, will be used to assess damage and determine debris estimates with input from local officials (see Appendix 7).

(2) Estimation and planning activities will include assumptions about supplemental debris, such as dead animals, sunken boats, sandbags, and construction materials generated from restoration activity, which also will need to be removed.

(3) Special attention will be given by damage assessment staff to identifying power lines and other potentially harmful wires and cables so that emergency responders can recover or otherwise isolate such debris from public contact.

(4) There are different types of debris that can be generated and require special considerations with handling and/or disposal (see Appendix 8).

b. Information Management and Documentation

All departments and agencies involved in emergency debris management operations will maintain accurate and thorough records or labor, equipment, and materials expenses.

c. Staging and Reduction Site Operations

Federal, State, County, and local laws and regulations will serve as the fundamental basis for operating staging, storage, and disposal sites, in lieu of event-specific decrees or guidance.

B. Planning

1) Debris Generating Hazards

Clarion County is susceptible to a range of natural and man-made hazards capable of generating widespread damage and large debris streams. These hazards include flooding, winter weather and tornados/high winds (see Appendix 9). Detailed information, including definitions and past occurrences, for each hazard can be found in the Hazard Mitigation Plan.

2) Annual Debris Removal

The following charts shows amount of debris generated **by tons** annually in Clarion County.

Municipal	Residual	Sewage/Sludge	Construction	Ash Residual	Total Tons
38,176.3	29,731.6	276.3	497.7	83.7	68,765.6

This information was provided by Department of Environmental Protection based on the year of 2014.

Aluminum Cans	Aluminum Scrap	Batteries Lead-Acid	Cardboard	E-Waste Includes TVs	Ferrous Metal	Total Tons
6.0	5.0	3.6	182.3	0.2	0.2	197.3

This information was provided by Department of Environmental Protection based on the year of 2013.

3) Debris Management Impact

a. Low-impact events are localized emergencies that require minimal to moderate interagency coordination and resource support. Response and recovery operations can be supported with existing resources. Most interagency coordination occurs in the field. Examples of these events are our high wind, ice storms and annual flooding events.

b. High-impact events require a high degree of interagency coordination as well as external assistance. These events are characterized by the insufficiency of existing resources to respond efficiently or effectively to debris generated by the event. Thus, contracted resources will be needed to conduct debris removal and monitoring. Examples of these events would be large tornados or 500-year flood events.

4) Debris Collection Plan

a. Priorities
   (1) Removal operations will be prioritized as follows:
      i. any situation posing a threat to lives
      ii. emergency access roads to fire, police, EMS services, health care facilities and from critical roadway systems (see Appendix 11)
      iii. access roads to essential-service facilities, such as water and sewage treatment plants, utility stations and communication tower sites
      iv. American Red Cross shelters

v. waterways (blockages posing an imminent threat to lives or critical roadway systems receive higher priority)
vi. government facilities
vii. secondary Road systems
viii. public rights-of-ways

(2) Removal from private property and business locations is the responsibility of the property owner, in cooperation with respective insurance companies and the local jurisdiction in which the property is located.

5) Collection Method

a. Curbside collection is the desired method for debris removal (see Appendix 12)

b. Collection centers will be used on an as needed basis

6) Collecting Hazardous Waste and White Goods

Every effort will be made to segregate hazardous debris and especially handle or prepare it for appropriate disposal.

C. Debris Management Sites

1) Site Management

a. Site Manager
b. Monitoring Staff and Assignments
c. Safety Personnel

2) Establishment and Operations Planning

a. Permits

(1) Reasonable efforts will be made to expedite the permitting process.

(2) Waivers of environmental regulations will be considered under special circumstances, in accordance with federal and state laws and regulations.

b. Locations

(1) Baseline Data for each location provides guidance and will decide concerning debris removal, staging, and monitoring at dump sites (see Appendix 13).

i. Federal, state, and local laws and regulations will serve as the fundamental basis for operating staging, storage, and disposal sites, in lieu of event-specific decrees or guidance.

ii. Reasonable efforts will be made to expedite approval of an emergency site for debris storage or disposal, in accordance with federal and state laws and regulations.

iii. Jurisdictions will be encouraged to consider sites that have been pre-identified as contingency areas in formal master planning documents (see Appendix 14).

iv. Factors considered by the State when seeking to obtain a parcel of land either for emergency storage or disposal of debris will include: access, environmental use, cost, proximity to debris, size, and neighboring community patterns.

v. State parks will be used for temporary debris storage as a last resort and only for segregated, "green" debris, such as trees.

vi. State departments and local jurisdictions with contracts to dispose of debris at sites out-of-state are encouraged to continue operations per those agreements. Ingress/egress for sites.

vii. Efforts will be made to grant debris hauling vehicles intermittent priority on certain routes to facilitate orderly and timely transit of such vehicles from removal areas to storage and disposal sites.

c. Site Layouts

(1) The site should be designed to keep a constant flow of vehicles to appropriate debris sites (see Appendix 15).

(2) Debris should not be allowed to accumulate at site, due to health, environmental and safety concerns.

d. Volume Reduction Methods

(1) Whenever possible, debris will be sorted both as it is removed and at temporary storage sites to ensure efficient and cost-effective disposal solutions.

(2) Some number of public drop-off sites will be designated for "green" waste.

(3) Operations will occur to reduce segregated debris into conditions that make storage and disposal easier and more efficient, such as chipping, mulching, grinding, and crushing.

(4) The specific effects of the incident to the animal population will help determine the method for disposal of deceased animals, typically burial, burning, or composting.

(5) Incineration

i. Non-sanctioned open burning of debris by private citizens will be discouraged, in accordance with state and local laws and regulations.

ii. Managed burning by state or contracted personnel will be conducted in air-curtain pits whenever possible, in accordance with state and local laws and regulations.

(6) Grinding and Chipping

Reduce materials by mechanical means into smaller pieces. Debris can be reduced in volume by approximately 75%.

(7) Land Filling

i. Regular, private solid-waste-management operations that involve landfill sites will proceed per any agreement between the organization and the site operator.

ii. State agencies responsible for debris management will utilize pre-existing landfill sites as necessary.

iii. New landfill sites approved for emergency operations because of a disaster will operate in accordance with federal, state, and local laws and regulations.

e. Recycling

(1) Agreements will be sought with business enterprises that will take ownership of segregated materials and process them into reusable substances.

(2) Every reasonable proposal for efficiently disposing of recycled woody debris, concrete, soil, tires, metal, and bricks will be considered.

(3) Metals, white goods and electronic waste will be taken to recycling centers.

f. Reclamation

Any segregated debris deemed to have salvage value will be offered for bid, in accordance with state laws and regulations.

g. Resource Recovery

Every effort will be made to segregate unstable or hazardous debris, such as Freon or propane, and specially handle or prepare it for reclamation or appropriate disposal.

h. Environmental Monitoring Program

(1) Any action to remove, store, or dispose of debris will be consistent with federal, state, and local laws and regulations regarding air quality.

(2) State agencies will cooperate with local jurisdictions to ensure that loads of debris hauled on any roadway system in the State is properly contained and otherwise comply with transportation regulations.

(3) Landfill construction and operations will be conducted in a manner that mitigates any contamination of underlying soil at the site.

i. Site Closure

Site close-outs will be conducted in accordance with existing federal, state, and local laws and regulations for respective sites.

D. Contracted Services

1. Emergency Contracting/Procurement Procedures

A method for overseeing contracted projects awarded by the Municipalities and County will be implemented to ensure compliance with pertinent regulations and fee agreements.

2. General Contract Provisions

Contracting expenses submitted for reimbursement through state or federal programs are subject to audit for eligibility and accuracy of costs, as necessary

3. Qualification Requirements

Contractors must meet state licensing standards to be eligible for project assignments (see Appendix 16).

4. Solicitation of Contractors

Contactors may be solicited prior to incidents to establish eligibility and obtain contact information. One or more vendors will be contracted to coordinate specific aspects of debris management operations (e.g., clearance, estimation, removal, storage and reduction, monitoring, or other debris management activities).

E. Private Property Debris Removal and Condemnation Criteria

1. Private Property Debris Removal

When disaster debris clearance or access involves private property and there is a need to eliminate an immediate threat to public health, life or safety, the jurisdiction concerned will obtain a right-of-entry from the owner for the municipal, county, state or federal agency concerned (see Appendix 4).

2. Condemnation Criteria

a. Buildings deemed inhabitable or not suitable for business use will be condemned and demolished, as appropriate (see Appendix 6).

b. Owners of demolished property will be responsible for the disposal of debris that results from such action.

c. A salvage program will be implemented to collect and temporarily hold certain damaged private property that has been relocated because of the incident, such as cars and boats, so that rightful owners have an opportunity to re-claim their property.

F. Public Information Plan

A redundant and continual campaign will be implemented to advise and inform citizens in an affected area about health and safety hazards, especially concerning spoiled food, contaminated water, unrestrained animals, debris clean-up process, including providing instructions on the proper methods and options of disposing of disaster debris and debris removal operations and schedules, including the need to keep debris separate from normal household solid waste. News releases will be distributed to newspapers, radio stations, TV stations and provided to municipalities. Releases will also be distributed via social media.

G. Environmental/Historical Requirements

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

All debris related activities shall be coordinate with Federal, State, and local agencies, including but not limited to EPA and the Historic Preservation Office to ensure compliance with environmental and historic preservation laws/regulations/policies and determining environmental monitoring and reporting requirements.

The agency shall also maintain records for historical purposes.

4. Responsibilities

A. Command Group:

1. Elected Officials

   a. Issue declarations of disaster emergency if the situation warrants; and
   b. Apply for federal post-disaster funds, as available.

2. Office of Emergency Services (OES) EMA Coordinator/Designee

   a. Maintain coordination with the local municipal EMA as well as PEMA
   b. Identify hazards and vulnerabilities that may affect the county or its political subdivisions in coordination with the municipal EMAs;
   c. Identify resources within the County that can be used for debris removal
   d. Coordinate debris operations with the municipalities

3. Public Information Officer (External Affairs ESF #15)

   a. Advise elected officials and the County EOC Manager/EMC about Public Information activities;
   b. Develop and release public information for debris removal

4. County Department Heads/County Agency Directors

   a. Provide staff support and resources;
   b. Provide guidance, direction and authority to agency/department personnel who support debris removal.

5. Liaison Officers

    a. Identify agencies and other organizations that may be needed for debris removal
    b. Establish communication with affected local municipalities and with other agencies that are assisting with debris removal.

6. Agency Representatives (from PEMA, PSP, Penn DOT, National Guard, Schools, local municipalities, etc.)

    a. Serve as the liaison between their respective agencies and the County EOC, also requests and/or coordinate resources

    b. Penn DoT
        1) Implement restrictions, detours, and/or closure of State-maintained roadways.
        2) Manage debris removal efforts along State-maintained roadways.
        3) Coordinate with Debris Group to ensure clearance and removal of debris along priority roadways.
        4) Issue debris hauling permits and provide emergency permitting waivers.
        5) Analyze debris hauler routes and provide guidance to haulers on bridge and weight restrictions along State-maintained infrastructure.

    c. Pennsylvania State Police
    Assist with hauler escorts for overweight/oversized vehicles.

    d. Pennsylvania Department of Environmental Protection (PADEP)
        1) Issue hauling permits for hazardous waste.
        2) Consider waiving restrictions on capacity and hours of operation at transfer stations and landfills.
        3) Monitor debris management operations for compliance with all environmental regulations concerning reduction, storage, hauling, and disposal.
        4) Coordinate with EMA to activate and close-out debris management site operations.
        5) Conduct environmental reviews of debris operations.

    e. Pennsylvania Emergency Management Agency (PEMA)
        1) Provide resources to assist with debris management operations.
        2) Provide guidance on private property debris removal eligibility.
        3) Coordinate environmental and historical reviews for debris operations.
        4) Request disaster declaration on behalf of Clarion County.
        5) Coordinate Public Assistance program with FEMA if disaster declaration is granted.

7. Safety Officer

    a. Identifies monitors and assesses hazardous and unsafe situations;
    b. Develop measures to ensure personnel safety;
    c. Correct unsafe acts or conditions as warranted
    d. Develop measures to ensure personnel safety;
    e. Correct unsafe acts or conditions;
    f. Investigate accidents and prepare accident report; and

B. Operations Section:

1. EOC Operations Section Chief
   a. Solicit periodic update briefings from the individual staff of the Operations functions
   b. Provide periodic updates and briefings to Command.

2. Communications (ESF # 2)
   a. Ensure the ability to communicate among the County EOC, field operations and the local municipal EMAs.
   b. Coordinate communication operations for debris removal

3. Firefighting (ESF # 4)
   a. Assist with opening roadways
   b. Assist with Incineration operations, if requested

4. Public Health and Medical Services (ESF # 8)
   a. Monitor health issues from debris operation
   b. Coordinate provision of inoculations for the prevention of disease

5. Oil and Hazardous Materials (ESF # 10):
   a. Coordinate hazardous materials activities during debris operations
   b. Interface with the State Certified - County Hazardous Materials team
   c. Notify and Coordinate with the Department of Environmental Protection (DEP) as required

6. Public Safety and Security: (ESF #13)
   a. Coordinate security and law enforcement services during debris operations
   b. Establish security and protection of debris management sites
   c. Coordinate traffic control in and around affected areas

C. Planning Section:

1. EOC Planning Section Chief
   Incorporate GIS to provide graphical representations of the extent of the emergency and to provide information on affected facilities.

2. Emergency Management (ESF #5)
   a. Consolidate debris information received from political subdivisions
   b. Facilitate communication and resource requests among agencies through coordination with the Logistics Section.
   c. Coordinate with PEMA on resource requests, hauling permits, and debris management site approvals with PADEP.
   d. Coordinate with state and federal agencies to conduct appropriate environmental and historical reviews of private property demolitions.
   e. Manage the Public Assistance grant program for the county.

D. Logistics Section:

1. EOC Logistics Section Chief
   a. Act as the coordinating agent for all debris operations

2. Transportation (ESF #1)
   a. Coordinate the supply of transportation resources within the County
   b. Assist with the movement of debris removal staff, as required

3. Public Works and Engineering (ESF # 3)
   a. Coordinate debris management
   b. Maintain a listing of Public Works assets and resources.
   c. Coordinate the assignment of Public Works resources;
   d. Provide information on water, sewerage, road construction and repair, engineering, building inspection and maintenance;

4. Logistics Management and Resource Support (ESF # 7)
   a. Maintain a listing of resources with contact information
   b. Develop procedures for rapidly ordering supplies and equipment and to track their delivery and use.
   c. Coordinate the provision of materials, services and facilities in support of debris operations

5. Agriculture and Natural Resources (ESF # 11)
   Coordinate the dissemination of information for disposal of food and deceased animals

6. Energy (ESF # 12):
   a. Serve as a liaison between the County and the energy suppliers
   b. Coordinate the dissemination of debris removal information to the energy suppliers within the County

E. Finance and Administration Section:

1. EOC Finance and Administration Section Chief
   a. Solicit periodic update briefings from the individual staff of the Finance and Administration functions
   b. Maintain oversight of all financial, cost and reimbursement activities associated with debris operations
   c. Track costs and personnel time records

5. Administration and Logistics

A. PEMA is responsible for administering any Commonwealth/Federal support provided for debris and wreckage removal.

B. The Clarion County EOC will coordinate all logistical support for the implementation of this plan.

6. Training and Exercises

Training will be conducted as needed, focusing on the operational strategies defined in the plan. Training will be provided to EOC staff responsible for coordinating debris management operations.

7. Plan Maintenance and Distribution

A. Plan Maintenance

1. This plan has been developed to support the Clarion County Emergency Operations Plan (EOP).

2. The County EMA will coordinate development and maintenance of this plan. The plan will be updated as necessary and reviewed at least annually. Whenever portions of this plan are implemented in an emergency event or exercise, a review will be conducted to determine if revisions are necessary.

B. Distribution

1. County Departments
2. County Municipalities
3. PEMA
4. FEMA

Appendices

1. Authority and References
2. Glossary
3. Documentation for Private Property Debris Removal
4. PEMA Right to Entry Form
5. State Historic Preservation Office Review Form
6. Demolition Checklist
7. Debris Estimation Calculation Sheet
8. Debris Types
9. Hazards with Debris Estimates
10. PADEP Strom Debris Fact Sheet
11. Critical Roadway Map
12. Example Curbside Collection Separation Diagram
13. Site Evaluation Worksheet
14. Debris Management Sites
15. Example Debris Management Site Layout Diagram
16. Debris Removal Contractors
17. Disposal Locations
18. Health and Safety Plan
19. Contracting Considerations
20. Monitoring Considerations
21. Temporary Debris Storage and Reduction (TDSR) Site
22. Temporary Construction and Demolition Staging/Transfer Site Guide
23. Organic Temporary Storage and Reduction Site Guidelines
24. County and Municipality Plan Adoption Chart
25. County Plan Promulgation

Appendix 1
Authority and References

1. The Stafford Act (Public Law 93-288, as amended)
2. 44 CFR Part 206
3. 35 Pa. C.S.A. 7303
4. Title 25
    1) Article VII, Hazardous Waste Management
    2) Article VIII, Municipal Waste
    3) Article IX, Residual Waste Management
5. FEMA Public Assistance Pilot Program
6. FEMA 325 Public Assistance Debris Management Guide, July 2007
7. FEMA 329 Debris Management Brochure, August 2007
8. Management of Fill, Department of Environmental Protection August 2010
9. FEMA, Sample State Administrative Plan, February 2, 2011
10. Clarion County Emergency Operations Plan
11. Clarion County Hazard Vulnerability Analysis
12. Clarion County Hazardous Mitigation Plan

Appendix 2
Glossary

Applicant
A State, local, Indian Tribal government, other legal entity, or certain private non-profit organizations that receive a sub grantee award and which is accountable to the Grantee for the use of the funds provided. Also, referred to as the Sub grantee

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

Chipping or Mulching
Reducing wood related material by mechanical means into small pieces to be used as mulch or fuel. Woody debris can be reduced in volume by approximately 75%. The terms “chipping” and “mulching” are often used interchangeably.

Clearance
A debris management operation in which major road arteries are quickly made accessible by pushing debris to the roadside to accommodate movement of vehicles engaged in response and restoration work.

Construction and Demolition Debris
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, furnishings, and fixtures.

Debris
Scattered items and materials that are broken, destroyed, or displaced by a natural disaster. Example: trees, construction and demolition material, personal property.

Debris Management Site
A location used to temporarily store, reduce, segregate, and/or process debris before it is hauled to its final disposition. These are typically employed to increase operational flexibility when landfill space is limited or when landfills are not near the debris removal area. They also facilitate quick and efficient debris removal from the right-of-way.

Electronic Waste
Also, known as e-waste, electronic waste refers to electronics that contain hazardous materials such as cathode ray tubes. Examples include computer monitors and televisions.

Emergency Work
Work which must be done before, during, and immediately after a disaster event to save lives and to protect improved property and public health and safety or to avert or lessen the threat of a major disaster. Emergency work frequently includes clearance and removal of debris and temporary restoration of public facilities and services. Under the FEMA Public Assistance Program, these are referred to as Category A (Debris Removal) and Category B (Emergency Protective Measures).

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

Force Account Labor
Local and State government employees and emergency services personnel engaged in debris removal activities within the County.

Garbage
Waste that is regularly picked up by Streets-Sanitation, such as food waste, plastics, wrapping, and papers

Hot Spots
Illegal dumpsites that may pose a threat to public health and safety

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

Improved Property
A structure, facility, or item of equipment that was built, constructed, or manufactured. Land used for agricultural purposes is not improved property.

Imminently Dangerous
A structure that is damaged to the extent that collapse is expected at any time. All building occupants must evacuate immediately.

Joint Field Office
A temporary facility established in a Presidentially declared disaster area to serve as the field headquarters for FEMA, other federal, and State recovery personnel, and as the focal point for disaster operation, direction, coordination and information.

Lump Sum Contract
A contract under which a vendor is paid a specified amount of money without having to provide a cost-breakdown for services performed.

Mission Assignments
A work order issued by FEMA to another federal agency, directing completion of a specific assignment in anticipation of, or in response to, a Presidential declaration of a major disaster or emergency.

Mitigation
Cost effective measures that reduces the potential for damage to a facility from a declared disaster event

Monitoring
Actions taken to ensure that a contractor complies with the contract scope of work.

Mutual Aid Agreement
A written understanding between communities or between states obligating assistance during a disaster

Private Property Debris Removal
Generally, debris removal from private property following a disaster is the responsibility of the property owner. However, large-scale disasters may deposit enormous quantities of debris on private property over a large area resulting in widespread immediate threats to the public-at-large. In these cases, the State or local government may need to enter private property to remove debris to: eliminate immediate threats to life, public health, and safety; eliminate immediate threats of significant damage to improved property; or ensure economic recovery of the affected community to the benefit of the community-at-large. In these situations, debris removal from private property may be in the public interest and thus may be eligible for reimbursement under the Public Assistance Program

Preliminary Damage Assessment
Commonly referred to as a PDA, this is a survey to determine the impact and magnitude of damage caused by the disaster and the resulting unmet needs of the public sector and the community at large. The PDA is the basis for estimating total disaster-related damage and evaluating the need to request a Presidential declaration of disaster.

Project Worksheet
A form used to document damage and develop a project scope of work and cost estimate.

Public Assistance
Supplementary federal assistance provided under the Stafford Act to state and local governments or certain private, non-profit organizations other than assistance for the direct benefit of individuals and families.

Recycling
The recovery and reuse of metals, soils, and construction materials that may have a residual monetary value

Removal
A debris management operation in which debris is collected and hauled to a temporary storage site or permanent landfill

Right-of-Way
The portions of land over which facilities, such as highways, railroads, or power lines are built. Includes land on both sides of the roadway up to the private property line. As a rule of thumb for residential areas, the back edge of the sidewalk marks the borderline between private property and the public right-of-way.

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

State Historic Preservation Officer
Responsible for directing and conducting a comprehensive statewide survey of historic properties and maintaining inventory of such properties. Federal agencies are directed in Section 110 of the National Historic Preservation Act to cooperate with and involve SHPOs in their undertakings.

Sweeps
The number of times a contractor passes through a community to collect all disaster-related debris from the rights-of-ways. Usually limited to three passes through the community.

Tare Weight
The weight of an empty vehicle or container.

Time and Materials Contract
A contract under which a vendor is paid based on actual work performed, usually in specified hourly rates.

Tipping Fee
A fee based on weight or volume of debris dumped that is charged by landfills or other waste management facilities to cover their operating and maintenance costs.

Transfer Station
Facility where municipal solid waste is sorted or recycled prior to being transferred to a permanent disposal location.

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

Unit Cost Contract
Contract by which the vendor is paid based upon a fixed amount per unit, for example, price per cubic yard or price per ton.

Vegetative Debris
Vegetative debris consists of whole trees, stumps, branches, trunks, and other leafy materials.

Volume Reduction Operations
Any of several processes used to reduce the volume of debris brought to a temporary debris storage and reduction site. These often include chipping and mulching of vegetative debris, shredding and baling of metals, air curtain burning, etc.

White Goods
Discarded household appliances, such as refrigerators, freezers, air conditioners, stoves, washers and dryers. Many white goods contain ozone-depleting refrigerants, mercury, or compressor oils that must be extracted by certified technicians before they are disposed of or recycled.

Appendix 3
Documentation for Private Property Debris Removal

If private property debris removal is authorized for Public Assistance grant funding, the municipality is required to properly document all processes used to gain access to private property, applicable scopes of work, and compliance with federal and State environmental and historic preservation review requirements.

EMA and the municipality should work with PEMA and FEMA prior to the commencement of any private property debris removal work to ensure that all legal, environmental, historic, and scope of work considerations are addressed. The municipality should address the following before conducting any operations on private property:

- Verification of ownership ensures that the site's owner is identified and that the owner is aware of the nature of the scheduled building assessment.

- Right-of-entry form allows the building official to enter the property to complete the assessment and should be signed by the property owner. It often contains a hold harmless agreement that documents the property owner's promise that he or she will not bring legal action against the municipality if there is damage or harm done to the property. A sample form can be found in Appendix 4**:** PEMA Right of Entry Form.

- Detailed damage assessment documents damage to the structure and the threat to public health and safety. This assessment documents the municipality Inspector's classification of the structure as Imminently Dangerous, Unsafe, or Safe.

- Verification of insurance information allows the municipality to pursue financial compensation if the property owner's homeowner insurance policy covers demolition and debris removal.

- Environmental review ensures that adverse impacts to protected environmental resources are minimized or avoided when removing debris from the proposed site.

- Historical review confirms that the Pennsylvania State Historic Preservation Office has been notified and correspondence has been received to absolve the area of any historic significance. (See Appendix 5: State Historic Preservation Office Review Form).

- Photos show the disaster-damaged condition of the property prior to the beginning of the demolition work. This is generally one or more labeled photographs that confirm the address and identified scope of work for the property.

Appendix 4
PEMA Right of Entry Form

PEMA DAP-22
Rev. 8/99

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY

RIGHT OF ENTRY AGREEMENT

I/We_____, the owner(s) of the property commonly identified as_____,
(Street)
_____, _____State of _____
(city/town) (county)
do hereby grant and give freely and without coercion, the right of access and entry to said property in the County/City of_____, to its agencies, contractors, and subcontractors thereof, for the purpose of removing and clearing any or all storm-generated debris of whatever nature form the above described property.

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

I/We (have_____, have not_____)(will_____, will not_____) received any compensation for debris removal from any other source including Small Business Administration (SBA), National Resource Conservation Service (NRCS), private insurance, individual and family grant program or any other public assistance program. I will report for this property any insurance settlements to me or my family for debris removal that has been performed at government expense. For the considerations and purposes set forth herein, I set my hand this _____ day of _____, 20___.

_____ _____
Witness Owner

_____
Owner

_____
Telephone No. and Address

Appendix 5
State Historic Preservation Office Review Form

Pennsylvania Historical & Museum Commission

State and Federal Undertakings

ER NUMBER:

REV: 5/2012

SECTION A: GENERAL PROJECT INFORMATION

Is this a new submittal? (•) YES ( ) NO OR ( ) This is additional information for ER Number:

Project Name — County

Project Address

City/State/ Zip — Municipality

SECTION B: PRIMARY CONTACT INFORMATION

Name — Phone

Company — Fax

Street/P.O. Box — Email

City/State/Zip

SECTION C: PROJECT DESCRIPTION

This project is located on: (check all that apply) ☐ Federal property ☐ State property ☐ Municipal property ☐ Private property

List all Federal and State agencies and programs (funding, permits, licenses) involved in this project	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)

Proposed Work – Attach project description, scope of work, site plans, and/or drawings

Project includes (check all that apply): ☐ Construction ☐ Demolition ☐ Rehabilitation ☐ Disposition

Total acres of project area: Total acres of earth disturbance:

Are there any buildings or structures within the project area? (•) Yes ( ) No Approximate age:

This project involves properties listed in or eligible for listing in the National Register of Historic Places, or designated as historic by a local government	Yes	No	Unsure	Name of historic property or historic districts	
	( )	( )	( )		

Please print and mail completed form and all attachments to:

PHMC
State Historic Preservation Office
400 North St.
Commonwealth Keystone Building, 2nd Floor
Harrisburg, PA 17120-0093

Attachments – Please include the following information with this form

- ☐ **Map** – 7.5' USGS quad showing project boundary and Area of Potential Effect
- ☐ **Description/Scope** – Describe the project, including any ground disturbance and previous land use
- ☐ **Site Plans/Drawings** – Indicate the location and age, if known, of all buildings in the project area
- ☐ **Photographs** – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan

SHPO DETERMINATION (SHPO USE ONLY) SHPO REVIEWER:

- ☐ There are **NO HISTORIC PROPERTIES** in the Area of Potential Effect
- ☐ The project will have **NO EFFECT** on historic properties
- ☐ The project will have **NO ADVERSE EFFECTS** on historic properties:
- ☐ The project will have **NO ADVERSE EFFECTS WITH CONDITIONS** (see attached)
- ☐ **SHPO REQUESTS ADDITIONAL INFORMATION** (see attached)

This form is accessible at: http://www.portal.state.pa.us/portal/server.pt/document/1266475/er_submission_form_pdf

Appendix 6
Demolition Checklist

FEMA 19 POINT DEMOLITION CHECKLIST

Property Address: _____ GPN: _____

Pre-Demolition

	Action	Initial	Date	Notes
1	Establish property management file for each parcel of private property. One (1) copy each for local and State records management			Take photographs before demolition
2	Provide Notice of Condemnation			
3	Complete Environmental and Historic Preservation Reviews			
4	Obtain Right of Entry and Hold Harmless Agreements			
5	Verify property description and ownership (i.e., tax assessment, legal description)			
6	Document property owner's insurance coverage for future recovery			
7	Notify lienholder(s) of intent to demolish, as needed			
8	Conduct building inspection, as needed			
9	Conduct public health inspection, as needed			
10	Conduct fire inspection, as needed			
11	Provide public notification of condemnation/ demolition			
12	Verify personal property removal			

I, the authorized applicant official, certify that the above items have been completed, and the corresponding documentation is contained in the Property Management File.

Name (Print) Title Signature Date

Demolition

13	Verify structure is unoccupied			
14	Cap well, water, sewer and septic lines. Disconnect electrical service. Remove propane tanks.			
15	Mark easements and underground utilities			
16	Identify/remove/dispose of asbestos, lead-based paints and other hazardous materials per State environmental and EPA requirements			
17	Identify/remove/dispose of all HHW per State environmental agency/EPA requirements			
18	Record GPS coordinates. Photograph site before and after demolition.			
19	Document actual demolition and removal of debris			

Complete documentation is compiled within the project file for each individual structure/property.

I, the authorized applicant official, certify that all processes and documentation referred to in this checklist are complete (except item 19) prior to the demolition of the referenced structure.

Name (Print) Title Signature Date

The checklist can be found in FEMA-325 Debris Management Guide, page 209.

Accessible at: http://www.fema.gov/pdf/government/grant/pa/demagde.pdf

Appendix 7
Debris Estimation Calculation Sheet

Typical Residence - Mixed Debris

Length x Width x Stories x 0.2 = _____ cubic yards of debris

Destroyed Home Estimation Calculation (height, width and length are unknown)

Average slab on grade home has 250-300 cubic yards per home
Average home with basement has 450-500 cubic yards per home

Mobile Homes - Mixed Debris

$\frac{L' \times W' \times H'}{27}$ = _____ cubic yards of debris

Treat mobile home as a cube

Destroyed Mobile Home Estimation Calculation (Height, width and length are unknown)

Single wide has 290 cubic yards of debris
Double wide has 415 cubic yards of debris

Piles of Debris

$\frac{L' \times W' \times H'}{27}$ = _____ cubic yards of debris

Treat pile as a cube

Appendix 8
Debris Types

The following chart shows the different types of debris that can be generated and special considerations with handling and/or disposal.

Construction & Demolition	
Debris	Building construction materials (wood, drywall, shingles, flooring, etc.); building contents and personal property (furnishings, clothing, personal items, tires, etc.); utility poles, wires, and equipment (telephone, electric, cable TV, etc.).
Considerations	Construction and demolition debris must be evaluated to consider the potential presence of asbestos and other potentially hazardous materials. If recycling is being performed, certain materials (e.g., metals, wood, concrete, tires, etc.) should be separated from the general construction and demolition debris.
Electronic Waste	
Debris	Computers, monitors, keyboards, wires, televisions, etc.
Considerations	Many consumer electronic products contain heavy metals such as lead, cadmium, and mercury as well as other materials that are harmful to the environment. The typical cathode ray tube computer monitor (non-flat screen model) contains four to seven pounds of lead. Landfills and other solid waste disposal facilities in Pennsylvania are not permitted to accept many electronic devices or their components. These devices must be separated from the debris stream for recycling.
Household/Industrial Hazardous Waste	
Debris	Paints, cleaners, oils, batteries, pesticides, propane tanks, tires etc.
Considerations	Hazardous waste items contain potentially dangerous ingredients that require specialized actions during collection, storage, and disposal. Improper disposal of these wastes can pollute the environment and pose a threat to human health. This waste should be separated at the source and managed separately to avoid contaminating non-hazardous debris. Certain types of waste may need to be hauled to a licensed hazardous waste treatment, storage, or disposal facility in accordance with applicable regulations.
Metal/White Goods	
Debris	Building and window frames, sheet metal siding and roofing, cast iron tubs / sinks, railings, metal furnishings (e.g., chairs, tables, file cabinets, etc.), appliances (e.g., washers, dryers, refrigerators, stoves, etc. – also known as “white metals” or “white goods”), bed frames, metal pipes, personal belongings made of metal (e.g., tools, picture frames, etc.), metal parts from vehicles and vessels, etc.
Considerations	Some metals might be suitable for recycling and should be separated. Care must be exercised to ensure that Freon is removed from cooling units of refrigerators and freezers.
Mud & Sediment	
Debris	Soil, sand, gravel, etc.
Considerations	Sediment can generally be separated and recycled
Putrescent	
Debris	Animal carcasses, organic matter, food, etc.
Considerations	Putrescent waste may be disposed of by landfilling, composting, or rendering
Vegetative	
Debris	Trees, tree limbs, brush, leaves, etc.
Considerations	Debris on the roadway must be cleared quickly to allow movement of emergency vehicles. Much of the clean vegetative debris can be re-used through grinding, chipping, shredding, composting, etc.

Appendix 9
Hazards with Debris Estimates

This table and descriptions below outline the variety of debris likely to be generated from such events

Hazard	Construction & Demolition	Electronic Waste	Hazardous Waste	Metals & White Goods	Mud & Sediment	Vegetative
Flooding	**X**	**X**	**X**	**X**	**X**	**X**
Winter weather	**X**					**X**
Tornados High winds	**X**	**X**	**X**	**X**		**X**

This table **estimates** the amount of debris (cubic yards) for each hazard based on High Impact incidents.

Hazard	Construction & Demolition	Electronic Waste	Hazardous Waste	Metals & White Goods	Mud & Sediment	Vegetative
Flooding	**81,000**	**7,000**	**1,000**	**50,000**	**30,000**	**20,000**
Winter weather	**100,000**	**0**	**0**	**0**	**0**	**10,000**
Tornados High winds	**330,000**	**45,000**	**8,000**	**120,000**	**0**	**10,000**

Appendix 10
PADEP Strom Debris Fact Sheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STORM RESPONSE: MANAGING DEBRIS

The Department of Environmental Protection (DEP) has implemented various procedures to facilitate the management of debris resulting from a major storm or flood.

Processing and Disposal Facilities:

At the request of a municipal waste processing or disposal facility (landfills, resource recovery facilities, transfer facilities), DEP regional offices may authorize the following, on a temporary basis, to expedite the disposal of flood and storm debris:

- extension of operating hours to accept and process flood and storm debris;
- increases to the daily volume of waste that may be received, processed or disposed at the facility;
- acceptance by facility operators of flood and storm debris from vehicles that do not have Act 90 authorizations. For vehicles hauling other municipal or residual waste, Act 90 requirements continue to apply;
- the waiver of tipping fees (25 cents, $2 and $4 per ton) for the processing or disposal of flood and storm debris. For all other municipal or residual waste that is received, processed or disposed at the facility, tipping fees continue to apply and payment must be made to the state in accordance with standard procedures; and
- the acceptance of flood and storm debris from counties that have not designated that processing or disposal facility in their particular county plan. This action does not, however, preclude the county from enforcing its plan. Facility owners and operators are encouraged to coordinate their proposed emergency response action with the host municipality and county.

Facility operators must maintain records of the amount of flood and storm debris accepted and shall distinguish the difference between the flood and storm debris from other wastes accepted at the facility. Wastes other than flood and storm debris shall continue to be reported in the usual manner.

Special-Handling Waste:

Debris received at processing or disposal facilities may contain household hazardous waste or special-handling waste, such as propane tanks, heating oil tanks, paint cans, refrigerators and electronic equipment. The condition of these wastes will determine whether proper management would include segregation of these wastes. A facility may conduct segregation of wastes, provided it is being done in a DEP-approved manner. For case-by-case guidance on special-handling waste, please contact the nearest DEP regional office.

Temporary Debris Staging Areas:

At the request of a processing or disposal facility or a local government, DEP's regional offices may approve temporary flood and storm debris staging areas. These requests should be directed to the nearest regional office.

Leachate Treatment:

In areas affected by storm events, DEP regional offices may approve alternative leachate storage and treatment management options until normal conditions return.

Questions?

For more information, visit www.dep.state.pa.us, keyword: Storm Debris or contact the nearest DEP regional office:

Northwest (Meadville)	814-332-6945	**Southwest (Pittsburgh)**	412-442-4000
North-central (Williamsport)	570-327-3636	**South-central (Harrisburg)**	717-705-4700
Northeast (Wilkes-Barre)	570-826-2511	**Southeast (Norristown)**	484-250-5900

FACT SHEET

Appendix 11

Clarion County, Pennsylvania

Major Traffic Routes

County of Clarion
Mapping & GIS Department
CHA

I-80
US-322
State Routes
Railroads
County Boundary
Township Boundaries
Towns

Appendix 12
Example Curbside Collection Separation Diagram

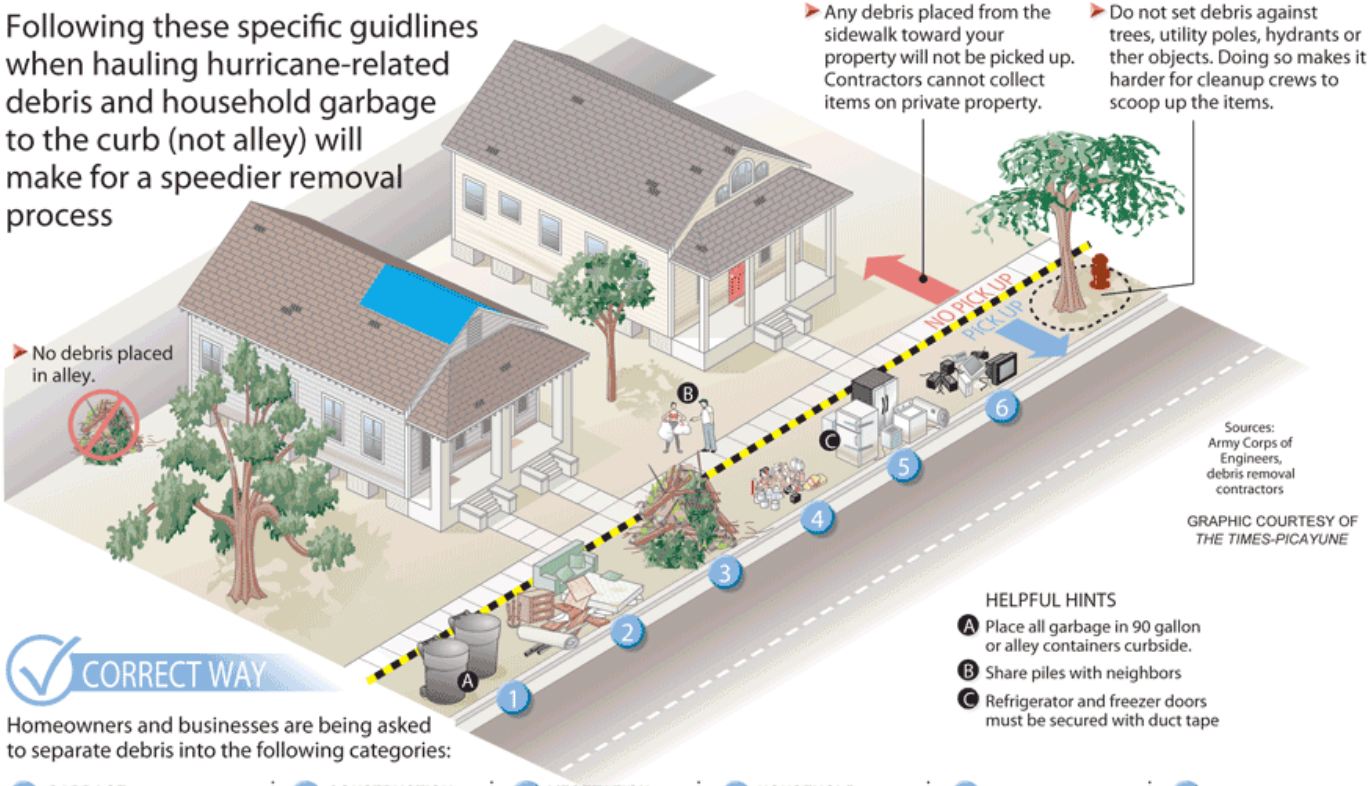
PICKING UP THE PIECES

Following these specific guidlines when hauling hurricane-related debris and household garbage to the curb (not alley) will make for a speedier removal process

WRONG WAY

CROSSING THE LINE
- Any debris placed from the sidewalk toward your property will not be picked up. Contractors cannot collect items on private property.

PROPPING UP
- Do not set debris against trees, utility poles, hydrants or ther objects. Doing so makes it harder for cleanup crews to scoop up the items.



Sources: Army Corps of Engineers, debris removal contractors

GRAPHIC COURTESY OF *THE TIMES-PICAYUNE*

HELPFUL HINTS
- A Place all garbage in 90 gallon or alley containers curbside.
- B Share piles with neighbors
- C Refrigerator and freezer doors must be secured with duct tape

CORRECT WAY

Homeowners and businesses are being asked to separate debris into the following categories:

1 GARBAGE CONTAINER
- Bagged trash
- Discarded food
- Packaging, papers
- All garbage should be placed curbside the night before the scheduled weekly pickup.

2 CONSTRUCTION DEBRIS
- Building materials
- Drywall
- Lumber
- Carpet
- Furniture
- Mattresses
- Plumbing

3 VEGETATION DEBRIS
- Tree branches
- Leaves
- Logs

4 HOUSEHOLD HAZARDOUS WASTE
- Oils
- Batteries
- Pesticides
- Paints
- Cleaning supplies
- Compressed gas

5 'WHITE' GOODS
- Refrigerators
- Washers, dryers
- Freezers
- Air conditioners
- Stoves
- Water heaters
- Dishwashers

6 ELECTRONICS
- Televisions
- Computers
- Radios
- Stereos
- DVD players
- Telephones

Appendix 13
Site Evaluation Sheet

Site Name _____ Contact _____

Site Location _____ Telephone # _____

Municipality _____ Address _____

7.5 Map Name: _____ Site Size: _____ Acre(s)

Latitude: _____ degrees _____ minutes _____ seconds

Longitude: _____ degrees _____ minutes _____ seconds

Intended Use of Site: (check all that apply)
□ Staging/Sorting/Storage for Removal
□ Staging/Sorting/Storage for Chipping
□ Staging/Processing

Type of Waste: (check all that apply)
□ Vegetative
□ Construction & Demolition (C&D)
□ White Goods
□ Municipal Solid Waste (MSW)
□ Household Hazardous Waste (HHW, may require special permitting)
□ Other _____

Buffers Required:
□ 100 feet from property boundaries and on-site structures
□ 100 feet from residences, private wells, and septic tanks
□ 100 feet from surface waters
□ 250 feet from public wells
□ 100 feet from wetlands

Specific Site Assessments:
□ YES □ NO Flood Plain or Flood Prone Areas
□ YES □ NO Wetlands, if YES then flagged and 100-foot buffer
□ YES □ NO Erosion Control
□ YES □ NO Access/Site Security
□ YES □ NO Safety Issues-power lines, traffic

Appendix 13 cont.

Issue	Consideration
Ownership	Publicly-owned land should be the primary option. Vacant lots, park land, and sports fields offer lessened repair costs. Certain existing disposal or recycling facilities may also be ideal locations. Privately-owned land should be considered only if no other options exist.
Size	Sites should be large enough to safely accommodate debris processing, heavy equipment storage, and maneuvering space for trucks and other large processing equipment. Typically, about 40% of the space is used for the debris pile and the remaining 60% is for roads, buffers, staging, and operations. As a rule, 100 acres is required to process one million cubic yards of debris stacked 10 feet high. Another method suggests that one acre is needed to handle 16,000 cubic yards of debris stacked 10 feet high.
Location	Sites should be established in an area that does not impede the flow of traffic along major corridors, disrupt local business operations, or cause dangerous conditions in residential areas or schools. Avoid locating sites near residential areas, schools, churches, hospitals, or other sensitive areas whenever possible. Around-the-clock noise and light, dust, runoff, and traffic are likely; these may not be tolerated by the public in certain areas of the County.
Access	Sites require good ingress/egress to accommodate heavy truck traffic. Easy access to haul routes should also be considered.
Environmental and Historical Compliance	Avoid environmentally or historically sensitive areas, such as wetlands, critical animal and plant habitats, historic districts, archeological sites, 100-year floodplains, and sites that would have disproportionately high impacts on minority or low-income populations.

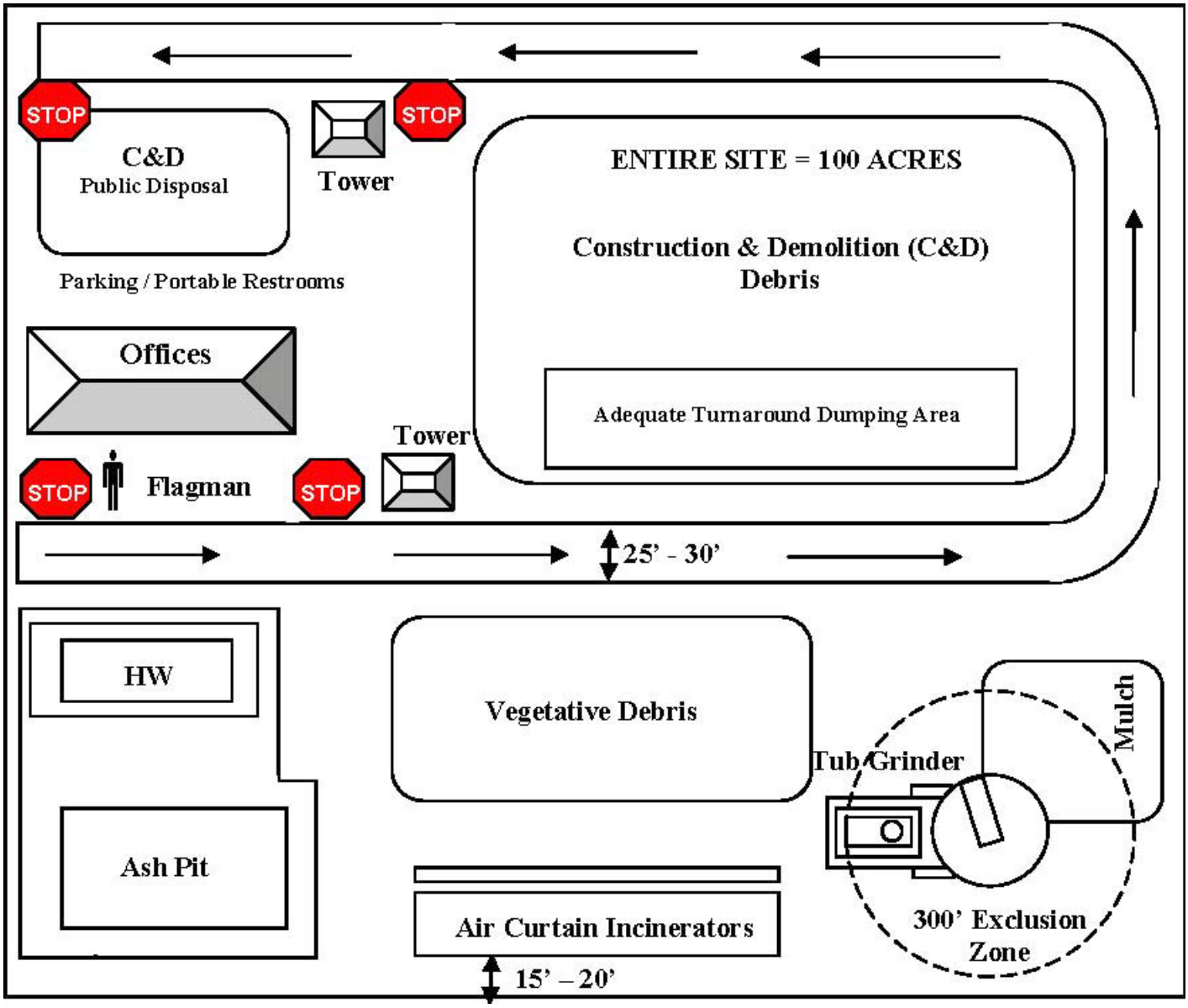
Permit/Approval	Agency	Approval / Considerations
Permit-By-Rule: Captive Processing Facility	PADEP	Notify PADEP of sites to be activated, and provide anticipated operations plan including debris types, hours, anticipated length of operation, contingency plans (e.g. spills, fires, etc.), and a plan for site remediation. PADEP does not issue permits for debris management sites, but will instead grant permission on a site-by-site basis.
Air Quality / Dust Control	PADEP	Air quality permits are required if any operation at the site involves processing (e.g. segregation, reduction, etc.) or might result in air pollution. Permits would be granted for 2-3-month periods at most, and extensions would have to be requested. The contractor is also required to submit a Dust Control Plan prior to beginning DMS operations.

Appendix 14
Debris Management Sites

Hazard	Location
Electronic Waste	Clarion County Park
Construction & Demolition	(Properties through) Reichard Contracting, Inc.
Mud & Sediment	(Properties through) Reichard Contracting, Inc.
Vegetative	(Properties through) Reichard Contracting, Inc.

Note: All debris management sites will need approval by Pa. Dept. of Environmental Protection at the time of incident.

Appendix 15
Example Debris Management Site Layout Diagram



Appendix 16
Prequalified Debris Removal Contractors

Hazard	Contractors
Construction & Demolition	Francis J. Palo
	Delta Contractors & Design
	Eagle Contracting, Inc.
Electronic Waste	Francis J. Palo
	Delta Contractors & Design
	Eagle Contracting, Inc.
Hazardous Waste* *Pennsylvania hazardous materials cleanup contractors in accordance with Title 25, Article VII.	McCutcheon Enterprises, Inc.
	Keystone Enviro-Vac Services
	Weavertown Environmental Group
	Minuteman Environmental Services
Metals & White Goods	Francis J. Palo
	Delta Contractors & Design
	Eagle Contracting, Inc.
Mud & Sediment	Francis J. Palo
	Delta Contractors & Design
	Eagle Contracting, Inc.
Vegetative	Cyphert's Tree Service
	Ochs Excavating
	Steve's Tree Service

Appendix 17
Disposal Locations

Hazard	Disposal Locations
Construction & Demolition	(Properties through) Reichard Contracting, Inc.
Electronic Waste	Environmental Coordination Services and Recycling
Hazardous Waste	Disposal locations will be determined on types of waste. Disposed of waste will be per EPA and the Pa. Dept. of Environmental Protection regulations. Waste will be handled by Pennsylvania hazardous materials cleanup contractors in accordance with Title 25, Article VII.
Metals & White Goods	Triple “S” Recycling
	P J Greco of Clarion Recycling
	Forest Recycling
Mud & Sediment	(Properties through) Reichard Contracting, Inc.
Vegetative	(Properties through) Reichard Contracting, Inc.

Note: All disposal locations will need approval by Pa. Dept. of Environmental Protection at the time of incident.

Appendix 18
Health and Safety Plan

Debris operations involve many of the same dangerous conditions as those on a construction site, such as falling materials, exposure to chemicals and other hazardous substances, heavy equipment, use of power tools, and lifting and straining. Personnel working in the field during and after a debris-generating event should maintain awareness of life and safety hazards, deferring to departmental procedures for guidance on working around each hazard.

Hazard	Description
Construction Debris	Many older buildings and structures were constructed using asbestos and/or lead. During demolition and debris removal these materials can become airborne and pose potential exposure hazards.
Downed Wires	Damaged electrical equipment, such as power lines (underground or aerial), transformers, and substations, may be energized and present risk of electrocution. Responders should contact appropriate utility company immediately to de-energize the line.
Explosions	Gas explosions can be caused by disrupted mains during a flood event. If responders suspect a gas leak, smell gas, or hear gas escaping, leave the area immediately and contact 911.
Falling Debris	Debris-causing events (e.g., high-winds) can disturb existing structures, such as buildings and trees. Responders must remain aware of the possibility of falling debris always and wear appropriate protective equipment.
Flooding	Each year, more deaths occur due to flooding than from any other severe weather-related hazard. Responders should take caution when driving or walking through flooded roadways and other areas.
Hazardous Chemicals	Disasters can generate many types of debris, including hazardous materials such as fuel, oil, paint, and industrial chemicals. Extreme caution is required to handle and dispose of these materials.
Heavy Equipment	Heavy equipment operators must remain vigilant always to potential hazards, including power lines, other vehicles, and staff.
Structural Collapse	High wind and flood waters can destabilize objects such as trees, equipment, and buildings, potentially leading to collapse. Care should be taken while operating around such structures.

To mitigate the effects of these hazards, field personnel should use safety gear and appropriate supplies when operating in the field, such as the following:

- Appropriate clothing, footwear, and gloves
- Eye and ear protection
- Hardhat
- Respiratory protection
- Sunscreen, lip balm, insect repellant, water

Appendix 19
Contracting Considerations

Contract Requirements

1. FEMA encourages jurisdictions to pre-qualify debris contractors prior to an event to ensure a competitive process and to establish reasonable pricing.

2. Pre-qualification should adequately define in the scope of work all potential debris types, anticipated haul distances, and size of events for which the contract may be activated.

3. Debris management contracts may be established for various debris management functions (e.g., debris removal, monitoring).

4. Debris removal and monitoring contracts must meet rules for federal grants as provided in Title 44 Code of Federal Regulations (CFR) § 13.36 to be eligible for reimbursement under the FEMA Public Assistance Program. Federal regulations under 44 CFR § 13.36 require that debris contracts include the following:
   a. Competitive bidding process;
   b. Clear and definitive scope of work;
   c. Qualified bidders (e.g., documented licenses, financial records, proof of insurance, and bonding, as applicable);
   d. Reasonable costs as established through the competitive bidding process;
   e. Compliance with all Municipal, County, State, and federal requirements, laws, and policies;
   f. Clear documentation of the process/rationale followed in making procurement decisions; and
   g. Steps taken to ensure opportunities to award contracts to minority, women-owned, and Labor Surplus Area businesses and firms whenever possible.

5. At the risk of jeopardizing reimbursement through the FEMA Public Assistance Program, the following considerations should be built into all debris management contracts:
   a. Debris removal or monitoring contract must not be awarded on a sole-source basis.
   b. Legal representative must thoroughly review any contract (including one provided by a contractor) prior to approval.
   c. Only FEMA has authority to make final eligibility determinations. The contractor is not permitted to make eligibility determinations.
   d. FEMA does not certify, credential, or recommend contractors. Do not accept any contractor's claim that it is "FEMA certified."
   e. Request State and/or federal technical assistance prior to awarding a contract for debris management site operations to gain consensus of the necessity and ensure reimbursement.
   f. Do not "piggyback" or use a contract awarded by another entity.
   g. Contracts should have variable mobilization costs depending on the size of the debris work that may be encountered. Costs should be the same whether the contract is awarded pre-event or post-event.
   h. Errors in volume calculations must not result in markups.
   i. Miscellaneous items and/or contract contingencies of any kind, including "unknowns" are not permissible.

6. FEMA will review debris contracts, if requested. However, review does not constitute approval.

7. The remainder of this section describes recommendations for debris removal and debris monitoring contracts, including the following:
   a. Contract provisions to include
   b. Information to request from vendors in Requests for Bids
   c. Scope of work requirements
   d. Removal Contract Provisions
   e. All debris removal contracts, whether developed in advance of or following a debris-generating event, must contain the following provisions:
   f. Payment based on unit prices, either volume (cubic yards) or weight (tons)
   g. Payment based on time and materials costs limited to work performed during the first 70 hours of actual work following a disaster event
   h. Payment only made for debris FEMA determines to be eligible
   i. Invoices submitted regularly and for no more than 30-day periods
   j. Termination for Convenience clause allowing contract termination at any time for any reason
   k. Time limit on the period of performance for work to be performed
   l. Subcontract plan, including a clear description of the percentage of work the contractor may subcontract out and a list of subcontractors the contractor plans to use
   m. Only mechanical equipment used to load and reasonably compact debris into trucks and trailers
   n. Provision of a safe working environment by the contractor
   o. Contract amendments and modifications must be made in writing
   p. Adequate payment, performance bonds, and insurance coverage must be obtained by the contractor

Removal Request for Bids

Bid requests developed by the County should request the following information from prospective debris removal vendors as part of the bid package:

- Experience: Describe previously conducted debris removal operations associated with hurricanes, storms, tornadoes, or other natural or manmade disasters, specifically those more than 500,000 cubic yards.
- Public Assistance expertise: Experience navigating FEMA public assistance eligibility rules and debris management guidelines.
- Organizational chart: Overview the organization, including a description of the firm, capabilities, experience, contact information, website, and additional resources. List proposed points of contact, including relevant training, professional experience, and professional certifications.
- Existing contracts: List existing contracts, particularly those within the Mid-Atlantic region, Pennsylvania, and Clarion County.
- References: Provide at least three references—this may include existing contracts and/or past clients—that can speak to successful completion of debris removal projects more than 500,000 cubic yards.
- Mobilization and operations plan.
- Subcontractors: List all proposed subcontractors, including the primary operating location for each.
- Anti-Collusion Statement

- Equipment and resource list: Submit a list of on-site and off-site equipment that will be available at the collection site or facility. The list should include all fire prevention, safety, personal protective equipment, and other equipment that the contractor determines suitable or necessary for the project.
- Spill and fire prevention plan: Submit spill prevention and fire prevention plans tailored to on-site activities at a debris management site.
- Contingency plan: Submit a contingency plan and provide a description of notification procedures to the participants of on-site emergencies and evacuation of the participants in case of an emergency on-site.
- Employee training and medical monitoring: Submit a detailed training outline of each position involved in debris removal and debris management site operations. Contractor shall also submit information regarding employee medical monitoring requirements.
- Description of safety record: Submit a list of all warning notifications, violations, and/or citations received from pertinent federal and/or State agencies in the past three years.
- Third-party certification: Submit a listing of all third-party certifications (e.g., ISO 9000 Series, ISO 14000 Series).

Removal Scope of Work

Scopes of work developed by the County for debris removal operations should include the following requirements as appropriate:

- Emergency road clearance: All designated roadways cleared within 70 hours of notice to proceed.
- Debris removal: Contractor is responsible for removing debris up to the point where remaining debris can be described as light litter and additional collection can be facilitated by sweeping or raking.
- Construction and demolition debris removal: Pick up and transport eligible construction and demolition debris from right-of-way to debris management site or another approved disposal site.
- Vegetative debris removal: Collect and transport eligible disaster debris from right-of-way to debris management site or approved disposal site
- Hazardous leaning trees and hanging limbs: Remove all eligible hazardous trees six inches or greater in diameter, measured four feet from the base of the tree or chest height, and eligible hazardous hanging limbs two inches or greater in diameter in the right-of-way.
- Hazardous stumps: Remove all hazardous uprooted stumps greater than twenty-four inches in diameter (measured from the base of the tree) in which over 50 percent of the tree crown is damaged or broken and heartwood is exposed; 50 percent of the root ball is exposed; and the stump poses and immediate threat to public health, safety, or welfare.
- White goods: Collect and transport white goods from the right-of-way to debris management site or approved disposal site.
- Electronic waste: Collect and transport eligible electronics from the right-of-way to debris management site or approved disposal site.
- Health and hazardous waste: Remove, transport, and dispose of household hazardous waste.
- Abandoned vessels and vehicles: Collect and transport eligible vessels and vehicles to approved staging area.
- Animal carcasses: Collect and transport dead animal carcasses to approve staging area.
- Other debris removal work: Neither contractor nor any subcontractor shall solicit work from private citizens nor others to be performed in the designated work areas during the term of this contract.

- Debris ownership: Debris in the right-of-way and debris management sites shall be the property of the County until final disposal.
- Non-RACM structures: Decommission, demolish, and dispose of eligible non-regulated asbestos-containing material (non-RACM) structures on private property.
- RACM structures: Include asbestos-containing material testing, decommissioning, demolition, debris removal, and site remediation.
- Debris management site management and operations: Manage and operate debris management sites for the acceptance, management, segregating, staging, and reduction of disaster debris. Site operation includes the provision of site security.
- Debris site tower specifications: Provide as many towers as required by the County at each disposal site. Towers shall be constructed at a minimum height of ten feet from surrounding grade to finished floor level, have a minimum 8x8 feet of usable floor area, be covered by a roof with two feet overhangs on all sides, and be provided with railings and stairway. The platform shall be enclosed, starting from platform floor level and extending up four feet on all sides.
- Traffic control: Mitigate effects of operations on local traffic to the extent practical, including establishing traffic controls in work areas, debris management site, and debris collection sites.
- Haul reduced debris to final disposal site: Load and transport reduced eligible material to debris management site or approved disposal site. This includes provision of sufficient site towers and certified scales.
- Work hours: Work will only be performed during daylight hours. No work will be performed at night or on holidays unless approved by the County.
- Equipment: Equipment must comply with all State and federal regulations. Trucks and equipment must be numbered and certified by the County (or designee) prior to debris collection.
- Damage to public or private property: Property damaged because of contractor or subcontractor operations shall be repaired or replaced by the contractor at their expense.
- Utilities: Trees and other debris may be blocked or entangled with overhead power, telephone, and television cables. The contractor will coordinate with the utility owners to arrange for the removal of debris without damage to the utility lines.
- Environmental protection: Comply with all Municipal, County, State, and federal regulations concerning environmental protection. Ensure that noise and dust pollution is minimized. Follow approved dust abatement procedures.

Monitoring Contract Provisions

All debris monitoring contracts, whether developed in advance of or following a debris-generating event, must contain the following provisions (in addition to provisions outlined for debris removal):

- Contracts must be competitively bid.
- Debris monitors should not be employed by or affiliated with the debris removal contractor. There must be no conflict of interest between the monitoring contractor and the debris removal contractor.
- Debris monitoring contracts typically cover time and materials only and must contain a not-to-exceed clause. The level of monitoring and overhead claimed must be consistent with the level of effort required to effectively monitor the debris removal operations. Rates per hour must not be considered excessive or outside of the reasonable cost range.
- Contract should include a requirement that the contractor provide a safe working environment, including properly constructed monitoring towers.

- Contractor must use a load-ticket system to record the specific location (e.g. street address, GPS coordinates) of debris is collection as well as the amount picked up, hauled, reduced, and disposed of.
- Debris monitors should be trained and possess skills adequate to fulfill the duties of the job. Labor rates should be commensurate with the skill level required by the job function. Note: professional engineers and qualifications are not required to perform monitoring duties.
- The contractor should demonstrate that all personnel who will be conducting debris monitoring operations are familiar with FEMA debris removal eligibility criteria.
- Establish standard conversion factors to address differences between hand loading and mechanical loading.

Monitoring Request for Bids

Bid requests developed by the County should request the following information from prospective debris monitoring vendors as part of the bid package:

- Experience: Describe previously conducted debris monitoring operations associated with hurricanes, storms, tornadoes, or other natural or manmade disasters, specifically those more than 500,000 cubic yards.
- Public Assistance expertise: Experience navigating FEMA public assistance eligibility rules and debris management guidelines.
- Organizational chart: Overview of the organization, including a description of the firm, capabilities, experience, contact information, website, and additional resources. List proposed points of contact, including relevant training, professional experience, and professional certifications.
- Existing contracts: List existing contracts, particularly those within the Mid-Atlantic region, Pennsylvania, and County.
- References: Provide at least three references—this may include existing contracts and/or past clients—that can speak to successful completion of debris monitoring projects more than 500,000 cubic yards.
- Mobilization and operations plan.
- Subcontractors: List all proposed subcontractors, including the primary operating location for each.
- Anti-Collusion Statement.
- Equipment and resource list: Submit a list of on-site and off-site equipment that will be available at the collection site or facility. The list should include all fire prevention, safety, personal protective equipment, and other equipment that the contractor determines suitable or necessary for the project.
- Employee training and medical monitoring: Submit a detailed training outline of each position involved in debris removal and debris management site operations. Contractor shall also submit information regarding employee medical monitoring requirements.
- Description of safety record: Submit a list of all warning notifications, violations, and/or citations received from pertinent federal and/or State agencies in the past three years.
- Third-party certification: Submit a listing of all third-party certifications (e.g., ISO 9000 Series, ISO 14000 Series).

Monitoring Scope of Work

Scopes of work developed by the County for debris monitoring operations should include the following requirements as appropriate:

- Pre-Landfall Coordination Process. Provide a plan to activate monitoring staff prior to impact, and include steps for coordinating with the County.

- Project Management Checklist. Provide a detailed plan describing monitoring operation management during all phases.
- Damage Assessment. Provide a management process to conduct damage assessment within the County, if requested to assist.
- Debris Estimation. Provide a management process to conduct debris estimation within the County, if requested to assist.
- Debris Clearance Phase Assistance. Provide a plan to monitor debris clearance activities, including tracking all labor and equipment, maintaining maps and databases to track progress, and maintaining all documentation.
- Debris Vehicle Certification. Provide a detailed plan for the vehicle certification process, including mobile applications to certify all vehicles per FEMA guidelines, vehicles placards and notations to discourage fraudulent activities, photographs of vehicles/drivers, and periodic spot checks and recertification of trucks.
- Debris Management Site Monitoring. Provide a detailed plan to coordinate with County on need for debris management site locations, permitting, approval, etc. Provide steps to assist in obtaining emergency permits from all authorities, as well as conduct environmental and disposal monitoring.
- Documentation. Provide a list of documentation methods used, including electronic and paper load tickets, monitor logs, incident reports, daily logs, photos, and QA/QC of field tickets.
- Contractor Equipment. Provide a full list of equipment available to assist the County with all monitoring activities as well as damage assessment and debris estimation.
- Disposal Site Managers/Supervisors. Provide a detailed plan to deploy staff to debris disposal locations.
- Public Drop-Off Operations. Provide a plan to monitor any public drop-off locations that might be used by the County.
- Daily Field Monitor Operations. Provide a detailed plan to deploy staff to monitor all field operations, including periodic spot-checks of vehicles, equipment, and personnel.
- Debris Removal Monitoring. Provide a detailed plan to deploy staff into the field to monitor debris removal operations.
- Private Property Debris Removal. Provide a plan to assist the County with private property debris removal monitoring operations to ensure compliance with FEMA guidelines and all Municipal, County, State, and federal regulations.

Appendix 20
Monitoring Considerations

Monitoring Tools
To be eligible for Public Assistance, FEMA recommends use of each of the following three tools for monitoring debris removal contracts regardless of the type (e.g., unit cost, lump sum, and time-and-materials contracts): Debris monitor reports, Truck certification and Load ticket system

Debris Monitor Reports
Monitors should use common debris monitoring reports to ensure consistency regardless of the department or contractor performs the work. Example reports include the following:

- Load Ticket. Primary debris-tracking document used to track debris from the point of origin to disposal.
- Tower Monitoring Log. The document tower personnel use to record all vehicles that entered and exited a debris management site, including date, time, vehicle information, and the amount and type of debris brought to the site.
- Roving Monitor Report. Report used to document any issues observed by field monitors, including violations by contractors such as picking up ineligible debris or altering a vehicle's weight.
- Daily Issue Log. Consolidated report of all issues observed by field monitors.
- Truck Certification Form. Certification form ensures that a truck was properly registered for debris operations in the County. Contains all information about the driver, vehicle, capacity, and other key identifying information.

Debris monitoring reports should be used during the response phase (up to 70 hours). At a minimum, monitoring documentation must capture the following:

- Actual labor hours worked
- Actual equipment hours operated
- Type and specification of equipment used

Truck Certification
Unit Price Contracts must require all trucks to receive a volumetric measurement and certification prior to use for debris hauling.

The debris hauler will determine at which staging areas to conduct truck certification. At a minimum, the debris monitor will document the following for each vehicle:

- Vehicle make, model, and plate numbers
- Prime contractor and subcontractor (if applicable) as well as driver responsible for truck operation
- Sketch and/or diagram of the loading box
- Sketch and/or diagram of vehicle additions (e.g., sideboards, bed extensions) and deductions (e.g., dog box, missing tailgate) to loading box
- Volume of the truck bed in cubic yards or empty truck weight (also called "tare weight")
- A uniquely assigned truck number for tracking purposes
- Photographs of the truck that capture the driver, loading box, license plate, and additions and deductions
- Placards clearly labeling the unique truck number, truck capacity, prime contractor name and sub-contractor name (if applicable)

Load Ticket System
Debris haulers should use a load ticket system to track debris from the original collection point to the disposal location. Load tickets are the primary debris-tracking document in this system. These enable haulers to document the eligible scope of work, verify hauling activities, and may be used for billing purposes (if a contractor has been hired).

Debris monitors should be stationed at each point of the operation (e.g., collection, temporary staging, and/or final disposition) to issue load tickets to vehicle drivers.

- The collection monitor creates the load ticket and keeps a copy.
- The vehicle operator keeps two copies for billing purposes.
- The monitor stationed at the temporary storage location or landfill completes the transaction.

Load tickets are typically carbon-copy paper tickets. However, computer-based tracking tools may be used to reduce human error and expedite funding.

- In computer-based systems, the collection monitor gathers the same information as in a traditional paper load ticket system and inputs this information into a handheld digital device.
- The collection monitor then gives the hauler the information in a digital format. The monitor, stationed at the temporary storage location or landfill, downloads the information, and completes the transaction. The monitor, stationed at the debris management site or landfill, can then print a ticket for the hauler's billing purposes.

Equipment Issues
Trucks that will be used for debris hauling are evaluated for capacity during the truck certification (discussed above). The most typical unit measurement for vegetative and construction and demolition debris is the cubic yard. Measurement in tons is also permitted. Regardless, a consistent countywide approach must be used.

Contractors should use appropriate equipment to load debris efficiently so that the maximum level of compaction can be achieved to facilitate expeditious removal of debris from the public rights-of-way. Ideally, debris should be machine-loaded into trucks and trailers.

Equipment limitations impact the maximum loading capacity of some vehicles. The following is a list of truck conditions and the eligible capacities.

- Hand-loaded trucks and trailers cannot achieve compaction levels comparable to mechanically loaded vehicles. This effectively reduces the capacity of the hand-loaded truck or trailer in comparison to a truck or trailer that is loaded mechanically. Therefore, FEMA only reimburses 50 percent of the debris monitor's observed capacity percentage for a hand-loaded truck or trailer (e.g., a hand-loaded truck or trailer that appears to be 100 percent full should be recorded as 50 percent).
- A truck with no tailgate or no solid tailgate cannot be compacted to its full capacity. Therefore, FEMA will reimburse a maximum of 85 percent of the certified truck capacity.

Monitoring Tips
Monitors should be aware of issues that could impact reimbursement under the Public Assistance Program. Many of these are outlined in the table below.

Issue	Considerations
Inaccurate Truck Capacities	Trucks should be measured prior to commencing operations. Load capacities should be documented by truck number. Periodically, trucks should be pulled out of operation and re-measured.
Trucks Not Fully Loaded	Do not accept the contention that loads are higher in the middle and if leveled would fill the truck. Monitors should verify the validity of such statements.
Trucks Lightly Loaded	Trucks arrive loaded with treetop(s) showing extensive voids in the load. Trucks need to be loaded to their full capacity with front end loaders or other similar equipment.
Trucks Overloaded	Trucks cannot receive credit for more than the measured capacity of the truck or trailer bed even if material is above the sideboards. If a truck is measured to carry 18 cubic yards, it cannot receive credit for more than 18 cubic yards. However, it can receive credit for less if not fully loaded or lightly loaded as described above.
Changing Truck Numbers	Trucks should be listed by an assigned vehicle number and capacity. There have been occasions where truck or trailer numbers with a smaller carrying capacity have been inadvertently or fraudulently changed to one with a larger capacity. For instance, a truck certified for 20 cubic yards may have a number for a truck that can carry 30 cubic yards. This can be detected if trucks are periodically re-measured and/or State license plate numbers are recorded in addition to a description of the truck. Maintain truck and trailer certifications with photos at the debris management site tower to help mitigate such activities.
Reduced Truck Capacity or Increased Truck Weight	There have been occasions where trucks have had heavy steel grating welded two to three feet above the bed after being measured, thus reducing the capacity or inflating the weight of a load. This can be detected by periodically re-measuring the truck bed or recertifying the truck tare weight.
Wet Debris When Paid by Weight	Contractors have added excessive water to debris loads to increase the weight when being paid by the ton, increasing the cost to the County. This can be detected during monitoring if there is excessive water dripping from the truck bed or by inspecting the truck bed immediately after unloading. Monitors should periodically recertify the truck tare weight.
Multiple Counting of the Same Load	Trucks have been reported driving through the disposal site without unloading, then re-entering with the same load. This can be detected by observing the time of departure and time of arrival recorded on the driver's load ticket. This may also indicate problems with the applicant's debris monitors at the loading or unloading site. The debris monitors at the unloading area must ensure the truck is empty before it leaves the debris management site.

Picking up Ineligible Debris	Contractors have been noted to sweep areas for abandoned cars and white goods, clean up illegal dump sites, remove cut trees from subdivisions under development, and remove/cut trees from off the rights-of-way in rural areas. These types of actions are difficult to detect unless debris monitors are observing the pick-up process. Monitors should have a good understanding of eligible debris and any established limits imposed on picking up specific debris types.
Private and Gated Communities	Private and gated communities are considered private property. Removal of debris from these areas is generally the legal responsibility of the individual homeowners or the Homeowner's Association and is ineligible for reimbursement through Public Assistance. A private or a gated community includes any community where a gate, guard, or other mechanism restricts access to the community. Communities may bring their debris to the public right-of-way for pickup, but debris removal directly from within these communities is ineligible.

Appendix 21
Temporary Debris Storage and Reduction (TDSR) Site

1) TDSR SITE SETUP AND CLOSEOUT GUIDE

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

The following is a baseline data checklist which can be used to evaluate a site before a Contractor(s) begins operations and used during and after to ensure that site conditions are properly documented. A reproducible TDSR Site Baseline Checklist can be found in this plan's checklists.

BEFORE ACTIVITIES BEGIN:

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

AFTER ACTIVITIES BEGIN:

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

PROGRESSIVE UPDATES:

- ☐ Update aerial photographs and/or video.
- ☐ Update sketches or maps of site layout.
- ☐ Update quality assurance reports, fuel spill reports, etc.

2) TDSR SITE OPERATIONS

Lined temporary storage areas should be established for household hazardous waste, fuels, and other materials that may contaminate soils or groundwater. Plastic liners should be placed under stationary equipment such as generators and mobile lighting units. These actions should be included as a requirement in the contract scope of work. If the site is also an equipment storage area, fueling and equipment repair should be monitored to prevent and mitigate spills of petroleum products and hydraulic fluids.

Be aware of and lessen the effects of operations that might irritate occupants of neighboring areas; establish a "buffer zone" to abate concerns over vectors, dust, noise and traffic. Consider onsite traffic patterns and segregate materials based on planned volume reduction methods.

Operations that modify the landscape, such as subsoil compaction and over excavation of soils when loading debris for final disposal/recycling, will adversely affect landscape restoration.

Debris removal/disposal/recycling should be viewed as a multi-staged operation with continuous volume reduction. There should be no significant accumulation of debris at temporary storage sites; instead debris should be constantly flowing to roll-offs, grinders, or recycled with the residue and mixed construction and demolition materials going to County-designated facilities.

3) TDSR SITE CLOSEOUT INSPECTION

Each TDSR will eventually be emptied of all materials and be restored to its previous condition and use. The Contractor is required to remove, dispose and recycle all mixed debris, construction and demolition debris, and debris residue approved by County-designated facilities. Appropriate Inspectors will monitor all closeout activities to ensure that the Contractor complies with the Debris Removal, Disposal and Recycling Contract. Additional measure may be necessary to meet County, PA DEP, and US EPA environmental requirements because of the nature of the TDSR operation.

4) TDSR SITE CLOSEOUT PLANNING

The Contractor must assure the County that all TDSR sites will be properly remediated. There will be significant costs associated with this operation as well as scrutiny by the local media and environmental conservation advocates. Site remediation will go smoothly if baseline data collection and site operations procedures are followed correctly.

5) TDSR SITE CLOSEOUT STEPS

1. Contractor responsible for removing all debris from the site.
2. Contractor conducts an environmental assessment with County official and landowner.
3. Contractor develops remediation plan.
4. Remediation plan reviewed by the County official, landowner and appropriate environmental agency (PA DEP/US EPA).
5. Remediation plan approved by the appropriate environmental agency.
6. Contractor executes plan.
7. Contractor obtains acceptance from the County, appropriate environmental agency, and the landowner.

6) TDSR SITE REMEDIATION

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

SOIL:

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

GROUNDWATER:

The monitoring of the groundwater should be done to determine the probable effects of rainfall leaching through the stockpile areas.

7) TDSR SITE CLOSEOUT COORDINATION

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

- Coordinate with local and State officials responsible for construction, real estate, contracting, project management, and legal counsel regarding requirements and support for implementation of a site remediation plan.
- Establish an independent testing and monitoring program. The Contractor is responsible for environmental restoration of both public and privately-owned sites. The Contractor will also remove all debris from the sites for final disposal/recycling at County-designated disposal facilities prior to closure.
- Reference appropriate and applicable environmental regulations.
- Prioritize site closures.
- Schedule closeout activities.
- Determine separate protocols for soil and groundwater testing.
- Develop decision criteria for certifying satisfactory closures based on limited baseline information.
- Develop administrative procedures and contractual arrangements for closure phase.
- Inform local and State environmental agencies regarding acceptability of program and established requirements.
- Designate approving authority to review and evaluate Contractor closure activities and progress.
- Retain staff during closure phase to develop site-specific remediation for sites, as necessary, based on information obtained from the closure checklist show below:
  - ☐ Site number and location.
  - ☐ Date closure is completed.
  - ☐ Household hazardous waste removed.
  - ☐ Contractor equipment and temporary structures removed.
  - ☐ Contractor petroleum spills remediate.
  - ☐ Comparison of baseline information to conditions after the Contractor has vacated to temporary site.
  - ☐ Appendices:
    - Closure documents.
    - Contracting status reports.
    - Contract.
    - Testing results.
    - Correspondence.
    - Narrative responses.

8) TDSR SITE CLOSEOUT

Once the site is no longer needed, it should be closed in accordance with the following guidelines. Closeout or pre-approval of a TDSR site should be accomplished within **30-days** of receiving the last load of debris. Closeout is not considered complete, until the following occurs:

- All processed and unprocessed organic material and inert debris shall be removed to a State-permitted, County-designated waste disposal facility.
- Tires must be recycled or disposed of at a State-permitted scrap tire processing facility or collection site.
- White goods (appliances) and other scrap metal should be separated for recycling.

- All other materials, unrecoverable metals, insulation, wallboard, plastics, roofing material, painted wood, and other material from demolished building structures that is not inert debris as well as inert debris that is mixed with such materials shall be removed to a properly County-designated construction and demolition disposal or recycling facility.

9) TDSR SITE RE-APPROVAL

Sites that were approved as TDSR's will require re-approval for long-term storage, continuing reduction processing, and permanent disposal if the site does not have closure in accordance to State and Federal guidelines. The sites will be managed and monitored by PA DEP regulations to prevent threats to the environment or public health and safety.

Appendix 22
Temporary Construction and Demolition Staging/Transfer Site Guide

1) GENERAL

The following guidelines should be considered when establishing a staging or transfer site for construction and demolition debris disposal and recycling. These guidelines apply only to sites for the staging or transferring of construction and demolition debris. Example materials include: roofing material, shingles, carpet, insulation, wallboard, treated and painted lumber, etc. Arrangements should be made to screen out unsuitable materials such as regular municipal waste (household trash), white goods, asbestos containing materials, or household hazardous waste.

2) SELECTING TEMPORARY STAGING AND TRANSFER SITES

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

- Sites should be located outside of identifiable or known floodplain or flood prone areas. Due to heavy rain or snow melt that result in saturated conditions; flooding may occur more frequently than expected.
- Unloading areas for incoming construction and demolition debris material should be at a minimum of 100 feet from all surface waters, such as small creeks, streams, ponds, wetlands, etc.
- Storage areas for incoming construction and demolition debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwelling, commercial or public structures or water supply wells.
- Materials separated from the incoming construction and demolition debris (e.g. white goods, scrap metal, etc.) shall be at least 50 feet from the site property lines. Other non-transferable debris (e.g. municipal waste, larger containers of fluids, household hazardous waste, etc.) shall be placed in containers and transported to appropriate facilities as soon as possible.
- Sites that have identified wetlands should be avoided. Once areas are identified, the areas should be flagged and a 100-foot buffer shall be maintained for all on-going activities at the site.
- Sites bisected by overhead power transmission lines need careful consideration due to large dump trucks/trailers to haul debris and underground utilities need to be identified due to the potential disturbance by truck and equipment traffic and possible site grading.
- Sites shall have an attendant(s) during operating hours to minimize the acceptance of unapproved materials and to provide directions to haulers and private citizens bringing in debris.
- Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or large equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks.

- When possible, signage should be installed to inform haulers and the public on the types of waste accepted, hours of operation, and who to contact in case of after hours' emergencies.
- Final written approval is required to consider any TDSR site to be closed. Closure of processing and/or recycling sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by PA DEP may be required. If conditions at the site become injurious to public health, safety and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closure of the sites shall be in accordance with the closure and restoration of TDSR guidelines.

3) **CONSTRUCTION & DEMOLITION TREATMENT, PROCESSING, AND RECYCLING**

Management of construction and demolition debris and source separated materials to be recycled shall be in accordance with the following additional conditions:

- Contact the PA DEP for information on managing asbestos containing materials or materials that are considered regulated asbestos containing materials.
- Sites should be located outside of identifiable or known floodplain or flood prone areas. Due to heavy rain or snow melt that result in saturated conditions; flooding may occur more frequently than expected.
- Storage areas for incoming construction and demolition debris material should be at a minimum of 100 feet from all surface waters, such as small creeks, streams, ponds, wetlands, etc.
- Storage areas for incoming debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwelling, commercial or public structures or water supply wells.
- Sites that have identified wetlands should be avoided. Once areas are identified, the areas should be flagged and a 100-foot buffer shall be maintained for all on-going activities at the site.
- Sites bisected by overhead power transmission lines and underground utilities need careful consideration due to large dump trucks/trailers used to haul debris.
- Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or large equipment when the facility is closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.
- When possible, post signage with operating hours and information about what types of waste is acceptable. Also, include information as to whether the facility is only open to commercial haulers or the public.
- Final written approval is required to consider any TDSR site to be closed. Closure of processing and/or recycling sites shall be within 6 months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by PA DEP may be required. If conditions at the site become injurious to public health, safety and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closure of the sites shall be in accordance with the closure and restoration of TDSR guidelines.

Appendix 23
Organic Temporary Storage and Reduction Site Guidelines

1) GENERAL

When preparing temporary facilities for handling debris resulting from the cleanup efforts due to natural disaster damage, the following guidelines should be considered when establishing an Organic TDSR.

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

The two methods of managing organic and land clearing disaster debris is chipping or grinding for use in landscape mulch, compost preparation, etc.

2) CHIPPING AND GRINDING SITES

Locating sites for chipping and grinding of organic and land clearing debris will require a detailed evaluation of the potential sites and possible monitoring on future dates to see if the site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site. The following guidelines are presented in locating a site for chipping and grinding and considered ***minimum*** standards for selecting a site:

- Sites should be located outside of identifiable or known floodplain or flood prone areas. Due to heavy rain or snow melt that result in saturated conditions; flooding may occur more frequently than expected.
- Storage areas for incoming construction and demolition debris material should be at a minimum of 100 feet from all surface waters, such as small creeks, streams, ponds, wetlands, etc.
- Storage areas for incoming debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwelling, commercial or public structures or water supply wells.
- Sites that have identified wetlands should be avoided. Once areas are identified, the areas should be flagged and a 100-foot buffer shall be maintained for all on-going activities at the site.
- Sites bisected by overhead power transmission lines and underground utilities need careful consideration due to large dump trucks/trailers used to haul debris.
- Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or large equipment when the facility is closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.
- When possible, post signage with operating hours and information about what types of waste is acceptable. Also, include information as to whether the facility is only open to commercial haulers or the public.

- Final written approval is required to consider any TDSR site to be closed. Closure of processing and/or recycling sites shall be within 6 months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by PA DEP may be required. If conditions at the site become injurious to public health, safety and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closure of the sites shall be in accordance with the closure and restoration of TDSR guidelines.

3) REDUCING THE POTENTIAL FOR SPONTANEOUS COMBUSTION GUIDE

Microorganisms can very quickly begin to decompose the organic material when in a pile. The microorganisms generate heat and volatile gases as s result of the decomposition process. Temperatures in these piles can easily rise to more than 160 degrees Fahrenheit; spontaneous combustion can occur in this situation.

Spontaneous combustion is more likely to occur in larger piles of organic debris because of the greater possibility of volatile gases building up in the piles and being ignited by the high temperatures. If wind rows can be maintained 5'-6' high and 8'-10' wide, volatile gases have a better chance of escaping the piles and the possibility of spontaneous combustion is reduced.

Turning piles when temperatures reach 160 degrees can also reduce the potential for spontaneous combustion. Pile turning provides an opportunity for gases to escape and for the contents of the pile to cool. Adding moisture during turning will increase cooling. Controlling the amount of nitrogen-bearing (green) wastes in piles will also help reduce the risk of fire. The less nitrogen within the piles, the slower the decomposition process and consequently the less heat generated and gases released.

Large piles should be kept away from wooded areas and structures and should be accessible to fire fighting equipment (if a fire were to occur). Efforts should be made to avoid driving or operating heavy equipment on large piles because the compaction will increase the amount of heat build-up, which in turn would increase the possibility of spontaneous combustion.

Appendix 24
County and Municipality Plan Adoption Chart

JURISDICTION	ADOPTED COUNTY PLAN (YES / NO)	DATE OF ADOPTION
Clarion County	Yes	2/28/17
Ashland Township	Yes	3/9/17
Beaver Township	Yes	3/6/17
Brady Township	Yes	7/12/17
Callensburg Borough	Yes	3/7/17
Clarion Borough	Yes	4/4/17
Clarion Township	Yes	3/13/17
East Brady Borough	Yes	3/7/17
Elk Township	Yes	3/13/17
Farmington Township	Yes	5/5/17
Foxburg Borough	Yes	3/13/17
Hawthorn Borough	Yes	4/4/17
Highland Township	Yes	3/14/17
Knox Borough	Yes	5/1/17
Knox Township	Yes	3/13/17
Licking Township	Yes	3/8/17
Limestone Township	Yes	4/11/17
Madison Township	No	
Millcreek Township	Yes	3/8/17
Monroe Township	Yes	4/4/17
New Bethlehem Borough	Yes	3/21/17
Paint Township	Yes	3/20/17
Perry Township	Yes	3/8/17
Piney Township	Yes	3/8/17
Porter Township	Yes	6/12/17
Redbank Township	Yes	6/13/17
Richland Township	Yes	3/14/17
Rimersburg Borough	Yes	5/1/17
Salem Township	Yes	3/6/17
Shippenville Borough	Yes	4/4/17
Sligo Borough	Yes	4/4/17
St. Petersburg Borough	Yes	3/7/17
Strattanville Borough	Yes	3/8/17
Toby Township	No	
Washington Township	Yes	3/9/17
Clarion University	Yes	3/15/17

Appendix 25

PROMULGATION

THIS PLAN IS PROMULGATED AS THE CLARION COUNTY DEBRIS MANAGEMENT PLAN. THIS PLAN IS DESIGNED TO COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS AND PROVIDES THE POLICIES AND PROCEDURES TO BE FOLLOWED IN DEALING WITH DEBRIS AFTER NATURAL OR HUMAN CAUSED EVENTS OR DISASTERS.

PROMULGATED THIS 28th DAY OF February 2017

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Theodore W. Tharan, Commissioner

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Wayne R. Brosius, Commissioner

_____
C. Edward Heasley, Commissioner

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Carol Clinger, Chief Clerk

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Randall Stahlman, EMA Coordinator